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EXPORT DATE:03 Mar 2024

Al-somaiday, H.M., Moudhaffer, M.M.A., Alsamydai, M.J.

Comparing the shear bond strength with acrylic teeth, hardness, surface roughness and cost-benefit of three different denture base materials

(2018) Biomedical and Pharmacology Journal, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062989224&doi=10.13005%2fbpj%2f1600&partnerID=40&md5=40db650ff79a89420b214b2793326545)[85062989224&doi=10.13005%2fbpj%2f1600&partnerID=40&md5=40db650ff79a89420b214b2793326545](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062989224&doi=10.13005%2fbpj%2f1600&partnerID=40&md5=40db650ff79a89420b214b2793326545)

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ABSTRACT: One of the major problem affecting the denture function is the detachment of the artificial teeth from denture as a result to the higher chewing capacity that will rise the risk of artificial teeth displacement. Displacement of the teeth may precede by changing in the material properties affecting the denture function that is why surface roughness and hardness considered as a predictor for the material behaviors and performance. Replacing a denture may cause a burden to the patients, hence, the material and fabrication coasts of dentures should be considered as one of the major factors affecting the selection of the denture base material, as in some cases a base material with impressive propertied limitedly used because of its expenses. [1] In this study, shear bond strength with acrylic teeth, hardness, surface roughness and the net benefits, associated with alternatives for achieving defined treatment objective, were evaluated by comparing some properties of three different denture base materials with the cost of each one in Iraq. A total of (90) specimens of polycarbonate, injectable acrylic and conventional heat cured acrylic were fabricated according to manufacturer's instructions and divided into (3) groups, (30) specimens for each testing group i.e. the shear bond strength with acrylic teeth, shore D hardness and surface roughness (10 specimens for each testing material). the total cost of each specimens group was collected and calculated to evaluate the overall cost benefit of each material. Highly significant differences (Pd" 0.01) between all the (3) experimental materials were noticed after analyzing each test's results with descriptive statistical analysis, one-way ANOVA and post-hoc LSD, except for the shore D hardness whereas a non-significant differences(P> 0.05) between heat cured and injectable acrylic was found. The heat cured acrylic has the highest mean value of the shear bond strength with acrylic teeth (516.1 N) followed by the injectable acrylic with (329.9 N) mean value while the lowest mean value was for the Polycarbonate (180.1 N). Furthermore, the injectable acrylic has the highest mean value in shore D hardness (91.96), followed by the heat cured acrylic (91.5), then Polycarbonate (82.94). As for surface roughness, the Polycarbonate has the highest mean value (0.31703) followed by the injectable acrylic (0.2129), then the heat cured acrylic (0.10367). Finally, Polycarbonate has the highest mean value of the specimens' cost in Iraq (10.022 US dollar /specimens), followed by the injectable acrylic (8.695 US dollar /specimens) then the heat cured acrylic (3.243 US dollar /specimens). All thermoplastic materials included in this study (Injectable acrylic and Polycarbonate) exhibited higher cost with lower properties in comparison with heat cured acrylic material for the selected tests. This is an Open Access article licensed under a Creative Commons license: Attribution 4.0 International (CC-BY). Published by Oriental Scientific Publishing Company © 2018

Al-Madi, N.A., Maria, K.A., Maria, E.A., Al-Madi, M.A.

A structured-population human community based genetic algorithm (HCBGA) in a comparison with both the standard genetic algorithm (SGA) and the cellular genetic algorithm (CGA)

(2018) ICIC Express Letters, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062657706&doi=10.24507%2f12.12.1267&partnerID=40&md5=5dc089aa7b508d66b9c4734013007754)[85062657706&doi=10.24507%2f12.12.1267&partnerID=40&md5=5dc089aa7b508d66b9c4734013007754](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062657706&doi=10.24507%2f12.12.1267&partnerID=40&md5=5dc089aa7b508d66b9c4734013007754)

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ABSTRACT: The structured populations in genetic algorithms are found to be proven to be superior in their performances in comparison with the Standard Genetic Algorithm (SGA) since they can control two opposite processes, that is, the exploration and exploitation in the search space. Previous studies do not use the genes information of the individuals. Hence, the structure of the sub-populations that are based on this information might help achieve better performances and more efficient searching strategies. The Human Community Based Genetic Algorithm (HCBGA) is considered an improved genetic algorithm, which is mainly based on social constraints. While using the knapsack as a maximizing test bed, a study on the behavior of the Standard Genetic Algorithm (SGA), the Cellular Genetic Algorithm (CGA) and the Human Community Based Genetic Algorithm (HCBGA) models is performed in terms of the quality of the solutions being found. Tests show that the HCBGA outperforms the SGA and the CGA in terms of finding the maximum optimal solution. Further, the HCBGA produces stable results after

performing an approximate number of 100 generations under improved constraints. Finally, it can be inferred from the obtained results that the mean values of the HCBGA converge toward either the global maxima or the global minima. © 2018, ICIC International. All rights reserved.

Abul-Futouh, H., El-khateeb, M., Görls, H., Weigand, W.

[FeFe]-hydrogenase H-cluster mimics mediated by mixed (S, Se) and (S, Te) bridging moieties: Insight into molecular structures and electrochemical characteristics

(2018) Heteroatom Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055664293&doi=10.1002%2fhc.21446&partnerID=40&md5=febe81d9e98465c2419980998150d133)

[85055664293&doi=10.1002%2fhc.21446&partnerID=40&md5=febe81d9e98465c2419980998150d133](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055664293&doi=10.1002%2fhc.21446&partnerID=40&md5=febe81d9e98465c2419980998150d133)

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ABSTRACT: Two synthetic models of the active site of [FeFe]-hydrogenase containing mixed (S, Se) and (S, Te) bridges have been synthesized and characterized. These complexes [Fe₂(CO)₆{μ-S(CH₂)₄E-μ}]

(E = Se (1), Te (2)) are obtained in moderate yields from the reaction of Fe₃(CO)₁₂ with 1,2-thiaselenane or 1,2-thiatellurane. They have been characterized by spectroscopic techniques (IR, ¹H-, ¹³C{¹H}-, ⁷⁷Se{¹H}-, ¹²⁵Te{¹H}-NMR, and MS) and elemental analysis. The structures of [Fe₂(CO)₆{μ-S(CH₂)₄Se-μ}] and [Fe₂(CO)₆{μ-S(CH₂)₄Te-μ}] are determined by X-ray structure determination and show the expected butterfly geometry. Moreover, the influence of the mixed chalcogen atoms on the redox properties and the catalytic behavior of 1 and 2 are studied using cyclic voltammetry. © 2018 Wiley Periodicals, Inc.

Shattnawi, K.K., Alomari, M., Al-Sheyab, N., Bani Salameh, A.

The relationship between plasma ferritin levels and body mass index among adolescents

(2018) Scientific Reports, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055079191&doi=10.1038%2fs41598-018-33534-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055079191&doi=10.1038%2fs41598-018-33534-4&partnerID=40&md5=07e252725bbffdd221d25125411418fa)

[4&partnerID=40&md5=07e252725bbffdd221d25125411418fa](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055079191&doi=10.1038%2fs41598-018-33534-4&partnerID=40&md5=07e252725bbffdd221d25125411418fa)

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ABSTRACT: Circulatory Ferritin concentration varies with age, sex, and body composition. Studies that determine the relationship of different body weight measurements with plasma ferritin concentration in adolescents are lacking. A descriptive cross-sectional design was utilized. Data collection

involved self-reporting demographics, blood samples, and body composition measures for a sample of 814 healthy Jordanian adolescents. Ferritin deficiency was observed in 55.8% of the study population. Simple linear regression showed that BMI, gender, location, and smoking status 2.5%, 3.9%, 0.4%, and 0.4%, respectively, associated positively with plasma ferritin level ($p < 0.05$). After controlling

for gender, location, and smoking status, additional hierarchical multiple linear regression showed that BMI explained 2.2% of plasma ferritin ($p < 0.000$). However, the obesity-stratified hierarchical multiple linear regression, showed that BMI explained 2.1% of plasma ferritin in the overweight and obese (HI) adolescents ($p = 0.02$), but not in the under and normal weight (LO) adolescents ($p = 0.91$). After controlling for gender, location, and smoking status, the ANCOVA showed that plasma ferritin level was greater ($p < 0.000$) in the HI (19.00 ± 13.6) versus the LO (15.20 ± 10.4) obesity group. Our results indicated that normal ferritin level among obese people does not necessarily indicate normal iron storage. © 2018, The Author(s).

Abu Sharour, L., Subih, M., Yehia, D., Suleiman, K., Salameh, A.B., Al Kaladeh, M.

Teaching module for improving oncology nurses' knowledge and self-confidence about central line catheters caring, complications, and application: A pretest-posttest quasi-experimental design

(2018) Journal of Vascular Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85052132755&doi=10.1016%2fj.jvn.2018.07.005&partnerID=40&md5=4837a7b9e2176c2330d40e87c862b3ec)

[85052132755&doi=10.1016%2fj.jvn.2018.07.005&partnerID=40&md5=4837a7b9e2176c2330d40e87c862b3ec](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85052132755&doi=10.1016%2fj.jvn.2018.07.005&partnerID=40&md5=4837a7b9e2176c2330d40e87c862b3ec)

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ABSTRACT: The aim of the present study was to assess the effectiveness of implementing an educational module based on the Centers for Disease Control and Prevention guidelines on the nurses' knowledge and self-confidence regarding central line catheters (CVCs) caring, complications, and application. A pretest-posttest quasi-experimental design was used. A sample of 100 oncology nurses from oncology units participated in two groups, experimental group (N = 50) and control group (N = 50). The

participants completed knowledge test and self-confidence scale before and after the educational program. The results showed that there was a significant difference between the experimental and control groups regarding knowledge related to CVC guidelines and management after the interventional sessions ($t = -7.85$, $P = .001$). The mean and standard deviation for experimental group were 15.95 (5.45) and 7.35 (2.73) for the control group. Furthermore, the results showed significant difference ($t = -22.20$, $P = .001$) between the experimental group ($M = 61.50$, $SD = 14.20$) and the control group ($M = 35.50$, $SD = 7.20$) regarding self-confidence in managing CVCs. It is concluded that using educational program strengthens nurses' skills, improves safety, and increases opportunity to learn, and thus, it will increase the self-confidence. © 2018 Society for Vascular Nursing. Published by Elsevier Inc. All rights reserved.

Ata, S.A., Abu-Dari, K.I., Tutunji, M.F., Mubarak, M.S.

Reversing the adverse biochemical effects in lead-intoxicated rats by N,N'- bis[(1,2-didehydro-1-hydroxy-2-thioxopyrid-4-yl)-carbonyl]- L-lysine

(2018) Journal of Trace Elements in Medicine and Biology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048756977&doi=10.1016%2fj.jtemb.2018.06.008&partnerID=40&md5=a31e6e6342945c687753fb711d8001ae)

[85048756977&doi=10.1016%2fj.jtemb.2018.06.008&partnerID=40&md5=a31e6e6342945c687753fb711d8001ae](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048756977&doi=10.1016%2fj.jtemb.2018.06.008&partnerID=40&md5=a31e6e6342945c687753fb711d8001ae)

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Department of Chemistry, Faculty of Science, The University of Jordan, Amman, 11942, Jordan

ABSTRACT: N,N'-Bis[(1,2-didehydro-1-hydroxy-2-thioxopyrid-4-yl)-carbonyl]- L-lysine (HTPL) is a novel newly synthesized compound intended to be used for the chelation of lead in intoxicated animals.

Subchronic lead intoxication experiments were carried out on Wistar male rats; these rats were intoxicated with lead and then treated with HTPL. Results were compared with those obtained with known compounds used for lead chelation therapy, such as disodium ethylnediaminetetraacetic acid (CaNa2EDTA) and meso-2,3-dimercaptosuccinic acid (DMSA), using different routes of administration.

Biological samples of whole blood and urine were collected and analyzed for urinary proporphyrins, δ -aminolevulinic acid dehydratase, and zinc protoporphyrin. Results revealed that HTPL can remarkably reverse the toxic effects of lead intoxication at biochemical levels. Additionally, results showed that this agent is as good or even more potent than calcium disodium ethylnediaminetetraacetic acid (CaNa2EDTA) and meso-2,3-dimercaptosuccinic acid (DMSA) in reversing the toxic effect of lead. More importantly, HTPL was found effective when administrated intraperitoneally and orally. © 2018 Elsevier GmbH

Mahmoud, N.N., Alkilany, A.M., Khalil, E.A., Al-Bakri, A.G.

Nano-Photothermal ablation effect of Hydrophilic and Hydrophobic Functionalized Gold Nanorods on Staphylococcus aureus and Propionibacterium acnes

(2018) Scientific Reports, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046679833&doi=10.1038%2fs41598-018-24837-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046679833&doi=10.1038%2fs41598-018-24837-7&partnerID=40&md5=170be31b04c216694f5dac3bdefffe1f)

[7&partnerID=40&md5=170be31b04c216694f5dac3bdefffe1f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046679833&doi=10.1038%2fs41598-018-24837-7&partnerID=40&md5=170be31b04c216694f5dac3bdefffe1f)
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ABSTRACT: The potential photothermal bactericidal activity of hydrophilic functionalized poly ethylene glycol (PEG)-gold nanorods (GNR) and hydrophobic functionalized polystyrene (PS)-GNR was evaluated towards strains of Staphylococcus aureus (*S. aureus*) and Propionibacterium acnes (*P. acnes*) by measuring the percentage reduction of bacterial viable count upon GNR excitation with a near infra-red (NIR) laser beam. Our results suggest that functionalized GNR had a minimal bactericidal activity against *S. aureus* and *P. acnes* ($\leq 85\%$, i.e. $\leq 1 \log_{10}$ cycle reduction of bacterial viable count). However, the local heat generated upon exciting the functionalized GNR with NIR laser beam has a significant photothermal ablation effect ($\geq 99.99\%$, i.e. $\geq 4 \log_{10}$ cycles reduction of bacterial viable count). Such photothermolysis effect could potentiate the antibacterial activity of GNR, which may call for minimum concentration and side effects of these nanotherapeutics. © 2018 The Author(s).

Al-Ghabeesh, S.H., Alshraifeen, A.A., Saifan, A.R., Bashayreh, I.H., Alnuaimi, K.M., Masalha, H.A.

Spirituality in the Lives of Patients with End-Stage Renal Disease: A Systematic Review

(2018) Journal of Religion and Health, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045620668&doi=10.1007%2fs10943-018-0622-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045620668&doi=10.1007%2fs10943-018-0622-2&partnerID=40&md5=ea257e16bc5e4161c0d92c6147fe606e)

[2&partnerID=40&md5=ea257e16bc5e4161c0d92c6147fe606e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045620668&doi=10.1007%2fs10943-018-0622-2&partnerID=40&md5=ea257e16bc5e4161c0d92c6147fe606e)
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Faculty of Nursing, Philadelphia University, Jarash, Amman, Jordan;

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ABSTRACT: The aim of this systematic review was to answer these questions: What does spirituality means to patients with end-stage renal disease (ESRD)? And are there associations between spirituality and the health outcomes and general well-being of patients with ESRD? Thirty-three studies met the review criteria. Meaning of spirituality for patients with ESRD and spirituality in the lives of patients with ESRD were the main themes emerged. There is growing evidence that suggests a positive relationship between spirituality and the health outcomes and well-being of ESRD patients. However, the evidence is incomplete and there is a need for further research to enhance our understanding of the role of spirituality in improving the health outcomes and well-being of ESRD patients. © 2018, Springer Science+Business Media, LLC, part of Springer Nature.

Alzu'Bi, S., Hawashin, B., Eibes, M., Al-Ayyoub, M.

A Novel Recommender System Based on Apriori Algorithm for Requirements Engineering

(2018) 2018 5th International Conference on Social Networks Analysis, Management and Security, SNAMS 2018, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060016606&doi=10.1109%2fSNAMS.2018.8554909&partnerID=40&md5=2ce5a9cdcede7e4f71df0f268a1fc5f2)

[85060016606&doi=10.1109%2fSNAMS.2018.8554909&partnerID=40&md5=2ce5a9cdcede7e4f71df0f268a1fc5f2](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060016606&doi=10.1109%2fSNAMS.2018.8554909&partnerID=40&md5=2ce5a9cdcede7e4f71df0f268a1fc5f2)

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ABSTRACT: Even though requirement gathering is an important step in the construction of any project, it imposes tedious work on the side of the system administrator. Recently, with the advent of data mining methods, many opportunities for improvements on the requirement gathering process have become available, one of the which is the use of recommender systems. Recommendation systems for requirements engineering can be used to provide the right information at the right time to requirements engineers. In this work, we propose a novel efficient recommender system based on Apriori algorithm for user requirements. Such recommender system would improve the accuracy of the obtained requirements and produce more comprehensive results. Furthermore, it would provide interesting information that can be used by various parties. Experimental work showed that our recommender system is efficient in term of execution time and can be widely implemented. In details, the system needed 11-21 seconds to execute when the number of users was 2000-4000. © 2018 IEEE.

Alzu'Bi, S., Al-Qatawneh, S., Alsmirat, M.

Transferable HMM Trained Matrices for Accelerating Statistical Segmentation Time

(2018) 2018 5th International Conference on Social Networks Analysis, Management and Security, SNAMS 2018, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060011546&doi=10.1109%2fSNAMS.2018.8554487&partnerID=40&md5=7e992768264966268d7a09419fdeadb5)

[85060011546&doi=10.1109%2fSNAMS.2018.8554487&partnerID=40&md5=7e992768264966268d7a09419fdeadb5](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060011546&doi=10.1109%2fSNAMS.2018.8554487&partnerID=40&md5=7e992768264966268d7a09419fdeadb5)

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ABSTRACT: Segmentation problem has been solved in the last decade, many techniques have been implemented to discover this issue. Many problems arise during the segmentation process including the acceptable error rate, low quality assessment, and time complexity. A variety of acceleration techniques have been applied to speed up the segmentation time and achieve a segmented result in real time. GPU and parallel processing using hardware have been employed efficiently here, but still limited in 3D images segmentation. Hidden Markov Model (HMM) is one of the best statistical segmentation techniques that played a significant rule recently. The problem associated with HMM is the time complexity due to the training steps. This issue has been resolved using different accelerator but still not efficient with 3D volumes. In this research, we propose a methodology for transferring the trained matrices of HMM from image to another skipping the training time for the rest of the 3D volume. One HMM train is generated and generalized to the whole volume. An accurate segmentation results have been achieved in less processing time. And fixed class belongings for the pixels have been achieved without any class membership variations. Which will increase the possibility of segmenting medical images using HMMs on GPUs instead of CPUs. © 2018 IEEE.

Hamed, R.

Physiological parameters of the gastrointestinal fluid impact the dissolution behavior of the BCS class IIa drug valsartan

(2018) Pharmaceutical Development and Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85058404592&doi=10.1080%2f10837450.2018.1536996&partnerID=40&md5=e49368158b8ffb1c0bb55bfb2d1906a9

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ABSTRACT: The objective of this study was to investigate the effect of the physiological parameters (pH, buffer capacity, and ionic strength) of the gastrointestinal (GI) fluid on the dissolution behavior of the class II weakly acidic (BCS class IIa) drug valsartan. A series of in vitro dissolution studies was carried out on Diovan® immediate release tablets using media that cover the physiological range of pH (1.2–7.8), buffer capacity (0–0.047 M/ΔpH), and ionic strength (0–0.4 mol/L) of the GI fluid during fasted and fed states using the conventional USP II apparatus. Valsartan exhibited pH- and buffer capacity-dependent dissolution behavior, where valsartan release was slow and incomplete in media simulating gastric fluid with low pH, and fast and complete in media simulating intestinal fluid with high pH. In addition, the rate of valsartan release increased with increasing the buffer capacity of the dissolution medium. In water and NaCl solutions, valsartan release was incomplete and the dissolution profiles were similar regardless of the ionic strength of the medium, indicating an ionic strength-independent dissolution behavior. These results highlight the significant effect of the physiological parameters of the GI fluid on the dissolution behavior of BCS class IIa drugs. © 2018, © 2018 Informa UK Limited, trading as Taylor & Francis Group.

Al-Blewi, F.F., Rezki, N., Al-Sodies, S.A., Bardaweel, S.K., Sabbah, D.A., Messali, M., Aouad, M.R. Novel amphiphilic pyridinium ionic liquids-supported Schiff bases: Ultrasound assisted synthesis, molecular docking and anticancer evaluation (2018) Chemistry Central Journal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057275928&doi=10.1186%2fs13065-018-0489-z&partnerID=40&md5=5393533d180ae5e4c17c208ddc1e835d>

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ABSTRACT: Background: Pyridinium Schiff bases and ionic liquids have attracted increasing interest in medicinal chemistry. Results: A library of 32 cationic fluorinated pyridinium hydrazone-based amphiphiles tethering fluorinated counteranions was synthesized by alkylation of 4-fluoropyridine hydrazone with various long alkyl iodide exploiting lead quaternization and metathesis strategies. All compounds were assessed for their anticancer inhibition activity towards different cancer cell lines and the results revealed that increasing the length of the hydrophobic chain of the synthesized analogues appears to significantly enhance their anticancer activities. Substantial increase in caspase-3 activity was demonstrated upon treatment with the most potent compounds, namely 8, 28, 29 and 32 suggesting an apoptotic cellular death pathway. Conclusions: Quantum-polarized ligand docking studies against phosphoinositide 3-kinase α displayed that compounds 2-6 bind to the kinase site and form H-bond with S774, K802, H917 and D933. © 2018 The Author(s).

Elhajji, F.D., Al-Taani, G.M., Anani, L., Al-Masri, S., Abdalaziz, H., Qabba'H, S.H., Al Bawab, A.Q., Scott, M., Farren, D., Gilmore, F., Versporten, A., Goossens, H., Aldeyab, M.A.

Comparative point prevalence survey of antimicrobial consumption between a hospital in Northern Ireland and a hospital in Jordan

(2018) BMC Health Services Research, .

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ABSTRACT: Background: To assess antimicrobial prescribing in a Northern Ireland hospital (Antrim Area Hospital (AAH)) and compare them with those of a hospital in Jordan (Specialty Hospital). Methods:

Using the Global-PPS approach, the present study surveyed patients admitted to the hospital in 2015, the prescribed antibiotics, and a set of quality control indicators related to antibiotics. Results: Ultimately, 444 and 112 inpatients in the AAH and the Specialty Hospital, respectively, were surveyed. For the medical group, 165 inpatients were prescribed 239 antibiotics in the AAH, while 44 patients in the Specialty Hospital were prescribed 65 antibiotics. In relation to the surgical group, 34 inpatients treated for infection were prescribed 66 antibiotics in the AAH, while 41 patients in the Specialty Hospital treated for infection were prescribed 56 antibiotics. For the medical patients, the most frequently prescribed antibiotics in the AAH were a combination of penicillins (18.8%) and penicillins with extended spectrum (18.8%). For the surgical patients, the most frequently prescribed antibiotics in the AAH were imidazole derivatives (24.2%). For the medical and surgical patients in the Specialty Hospital, the most frequently prescribed antibiotics were third-generation cephalosporins (26.2 and 37.5%, respectively). In medical patients, compliance to guidelines was 92.2% in the Specialty Hospital compared to 72.0% in the AAH ($p < 0.001$). In surgical patients, compliance to guidelines was 92.7% in the Specialty Hospital compared to 81.8% in the AAH ($p = 0.012$). Conclusions: The present study highlighted differences in the utilisation of antimicrobials between two hospitals in two distinct regions and benchmarked antibiotic prescriptions across two hospitals. © 2018 The Author(s).

Rjoub, M., Saleh, A., Hakooz, N., Imraish, A., Jarrar, Y., Zihlif, M.
Allelic frequency of PON1 Q192R, CYP2C19*2 and CYP2C19*17 among Jordanian patients taking clopidogrel (2018) Tropical Journal of Pharmaceutical Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057996606&doi=10.4314%2ftjpr.v17i11.24&partnerID=40&md5=49644b73a6e98fb80936e4dadb6fb164)

[85057996606&doi=10.4314%2ftjpr.v17i11.24&partnerID=40&md5=49644b73a6e98fb80936e4dadb6fb164](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057996606&doi=10.4314%2ftjpr.v17i11.24&partnerID=40&md5=49644b73a6e98fb80936e4dadb6fb164)

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Department of Biology, Faculty of Science, The University of Jordan, Amman, Jordan;

Department of Pharmacy, College of Pharmacy, AlZaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Purpose: To investigate the influence of allelic frequencies of PON1 Q192R, CYP2C19*2 and CYP2C19*17 genetic polymorphisms on the response to clopidogrel among Jordanian patients. Methods: Polymorphisms in CYP2C19 were assessed among 148 patients using PCR-RFLP assay. Results: The CYP2C19*2, CYP2C19*17, and PON1 Q192R allele frequencies were 9.8, 28.72 and 28.7 %, respectively. On the genotyping side, the frequencies of CYP2C19*1/1* and CYP2C19*1/2* were 80.4 and 19.6 %, respectively, but none of the patients had CYP2C19*2/2* genotype. The genotype frequencies CYP2C19*17 were 47.97, 46.62 and 5.41 % for wild-type C-C, heterozygote C-T, and the mutant T-T, respectively. PON1 genotype was 42.7 % for QQ, and 57.8 % for QR. None of the patients had RR genotype. Conclusion: Relative to other populations, the observed allelic frequencies are consistent with the values reported for Caucasian and Middle Eastern populations. © Pharmacotherapy Group, Faculty of Pharmacy, University of Benin, Benin City, 300001 Nigeria and 2018 The authors.

Malak, M.Z., Tawalbeh, L.I., Abu Sharour, L.M.

Predictors of quality of life among older patients with cancer during treatment

(2018) Journal of Research in Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055642090&doi=10.1177%2f1744987118785939&partnerID=40&md5=eacbb55f472ed7661686b7cd9c834a9b)

[85055642090&doi=10.1177%2f1744987118785939&partnerID=40&md5=eacbb55f472ed7661686b7cd9c834a9b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055642090&doi=10.1177%2f1744987118785939&partnerID=40&md5=eacbb55f472ed7661686b7cd9c834a9b)

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, Jordan;

Faculty of Nursing, Al-AlBayt University, Jordan

ABSTRACT: Background: Improving quality of life in older patients with cancer has become an important goal of healthcare providers. Aims: The purpose of this study was to identify the predictors of quality of life among older patients with cancer, aged 60 years and over during the treatment period. Methods: A descriptive correlational study was conducted among 150 patients. The Functional Assessment of Cancer Therapy Scale, Herth Hope Index and Hospital Anxiety and Depression Scale were used. Results: The results showed that the total quality-of-life mean score was 58.50 (SD = 7.44), indicating low overall quality of life. The social-family well-being subscale had the highest mean (20.50, SD = 3.79) among all subscales of quality of life, while the emotional well-being subscale had the lowest mean (8.06, SD = 4.23). Hope and educational level had statistically significant positive relationships with all subscales of quality of life. However, anxiety was associated negatively with physical, social-family and functional well-being subscales, but positively with the emotional well-being subscale. Anxiety, income, marital status, health insurance, duration of treatment, educational level, gender and hope were identified as predictors of quality-of-life subscales. Conclusions: The results could help to develop specific programmes that may improve quality of life among older patients with cancer during treatment. © The Author(s) 2018.

Hamici, Z.

Towards Genetic Cryptography for Biomedical Wireless Sensor Networks Gateways

(2018) IEEE Journal of Biomedical and Health Informatics, .

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85050721088&doi=10.1109%2fJBHI.2018.2860980&partnerID=40&md5=bd86045cfa136a6d954ac7388562b10f

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ABSTRACT: The integration of wireless sensor networks into Internet of things, led to a new generation of sensor nodes, directly connected to remote servers, for signal processing and decision making. The migration of data processing from the local node, achieved by decoupling the node hardware from the required processing capabilities, is only possible through implementation of network virtualization. The virtualization which brings new services that are executed remotely has led to security challenges, yet to be resolved, due to the increasing amount of data being continually exchanged between the sensor node hub and remote servers. In this regard, we introduce a novel genetic algorithm for data security with a powerful security architecture that performs one-time key, single block enciphering instead of a block chaining or weak stream enciphering. The algorithm architecture produces variable (stealthy) keys and data that adopt the white noise statistical behavior, therefore, having high immunity to cryptanalysis. The algorithm combines gene fusion and horizontal gene transfer inspired from the spread of antibiotic resistance in bacteria. A salt extracted from the data block hash value adds the stealthy-key feature to the cipher. In fact, the avalanche effect for a block of encrypted sensors data of 16×16 B achieves an average of 98% with a single bit flipped in the data. An application in biomedical WSN/IoT with simulation and experimental results is presented. © 2013 IEEE.

Hamed, R., Al Baraghthi, T., Sunoqrot, S.

Correlation between the viscoelastic properties of the gel layer of swollen HPMC matrix tablets and their in vitro drug release

(2018) Pharmaceutical Development and Technology, .

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84996508876&doi=10.1080%2f10837450.2016.1257022&partnerID=40&md5=9b5f4c5f102e3820788f040bd6b7686d

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Drug release from hydroxypropyl methylcellulose (HPMC) hydrophilic matrix tablets is controlled by drug diffusion through the gel layer of the matrix-forming polymer upon hydration, matrix erosion or combination of diffusion and erosion mechanisms. In this study, the relationship between viscoelastic properties of the gel layer of swollen intact matrix tablets and drug release was investigated. Two sets of quetiapine fumarate (QF) matrix tablets were prepared using the high viscosity grade HPMC K4M at low (70 mg/tablet) and high (170 mg/tablet) polymer concentrations. Viscoelastic studies using a controlled stress rheometer were performed on swollen matrices following hydration in the dissolution medium for predetermined time intervals. The gel layer of swollen tablets exhibited predominantly elastic behavior. Results from the in vitro release study showed that drug release was strongly influenced by the viscoelastic properties of the gel layer of K4M tablets, which was further corroborated by results from water uptake studies conducted on intact tablets. The results provide evidence that the viscoelastic properties of the gel layer can be exploited to guide the selection of an appropriate matrix-forming polymer, to better understand the rate of drug release from matrix tablets in vitro and to develop hydrophilic controlled-release formulations. © 2016, © 2016 Informa UK Limited, trading as Taylor & Francis Group.

Alabwaini, N., Aldaaqe, A., Jaber, T., Abdallah, M., Tamimi, A.

Using Program Slicing to Detect the Dead Code

(2018) 2018 8th International Conference on Computer Science and Information Technology, CSIT 2018, .

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AFFILIATIONS: Faculty of Science and IT, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Program code may have useless statements of code. These useless statements called dead code. The dead code affects the code quality negatively. In this research, a new model has been introduced to identify the dead code in a program and remove it. The decomposition slicing technique is used to identify the live code, and refactoring techniques can also help in tide up the code design. As a result, the proposed model succeed to remove the dead code of a program. However, still need some extra work to increase the accuracy of identifying the live code. © 2018 IEEE.

Hourani, H., Abdallah, M.

Cloud Computing: Legal and Security Issues

(2018) 2018 8th International Conference on Computer Science and Information Technology, CSIT 2018, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056719448&doi=10.1109%2fCSIT.2018.8486161&partnerID=40&md5=7055a9a1dfd2a0dd563f7a8edaa794f3)

85056719448&doi=10.1109%2fCSIT.2018.8486161&partnerID=40&md5=7055a9a1dfd2a0dd563f7a8edaa794f3

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ABSTRACT: Cloud Computing is a new era that helps organizations to move fast and adopts different services that accelerate building and hosting their services and reach customers and third parties quickly. However, there are challenges related to Cloud Computing that the Services Providers must consider and implement. This paper highlights the Cloud Computing Legal, Contractual and Security challenges. In addition, it gives some suggested solutions for some of the highlighted key challenges. © 2018 IEEE.

Abul-Futouh, H., Skabeev, A., Botteri, D., Zagranyski, Y., Görls, H., Weigand, W., Peneva, K. Toward a Tunable Synthetic [FeFe]-Hydrogenase H-Cluster Mimic Mediated by Perylene Monoimide Model Complexes: Insight into Molecular Structures and Electrochemical Characteristics (2018) *Organometallics*, .

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[85054387139&doi=10.1021%2fac.organo.8b00450&partnerID=40&md5=77999d8c37cfbf30036ec624089f5ae1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054387139&doi=10.1021%2fac.organo.8b00450&partnerID=40&md5=77999d8c37cfbf30036ec624089f5ae1)

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ABSTRACT: The nature of the bridging dithiolate has an important role on tuning the physical and electrochemical properties of the synthetic H-cluster mimics of [FeFe]-hydrogenase and still of significant concern to scientists. In this report we describe the synthetic models of the active site of [FeFe]-hydrogenase containing perylene monoimide of peri-substituted disulfides as bridging linker. The resulting complexes were characterized by ¹H and ¹³C{¹H} NMR and IR spectroscopic techniques, mass spectrometry, and elemental analysis as well as X-ray analysis of complex 2a. The purpose of this work was to investigate the influence of the perylene-linker on the redox potentials of the complexes and their catalytic ability in the presence of acetic acid (AcOH) by applying cyclic voltammetry. Moreover, we compare these results with different diiron hexacarbonyl complexes previously reported in the literature. As a result, we have found that the presence of the rylene-linker provides further stability for the reduced species and shifted its reduction potentials to more positive values. © 2018 American Chemical Society.

Bani Baker, M., Elektorowicz, M., Hanna, A.

Electrokinetic nondestructive in-situ technique for rehabilitation of liners damaged by fuels (2018) *Journal of Hazardous Materials*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050943248&doi=10.1016%2fj.jhazmat.2018.07.113&partnerID=40&md5=f34ae0e1633bcc8c65be753f02e76694)

[85050943248&doi=10.1016%2fj.jhazmat.2018.07.113&partnerID=40&md5=f34ae0e1633bcc8c65be753f02e76694](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050943248&doi=10.1016%2fj.jhazmat.2018.07.113&partnerID=40&md5=f34ae0e1633bcc8c65be753f02e76694)

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ABSTRACT: Underground Storage Tanks (UGST) are often used to store hydrocarbon products and fuels. Liners under such tanks are normally formed to prevent leaching or/and overflow to groundwater. Similar protection is required in case of waste fuels, which are discharged to disposal sites (e.g. ponds, landfill). Thus, a successful protection depends on the liner formation, which might undergo destruction due to leaching. This paper presents the results of experimental investigation to examine the serviceability of liner against leachate infiltration. In order to simulate the behavior of sand-bentonite liners affected by alternative fuels (ethanol and biofuel), the leaching column tests were applied and the hydraulic conductivity was used as an indicator of the effectiveness of the rehabilitation process. Furthermore, the silicate grout solution and pretreatment with surfactant under the effect of electrokinetic phenomena to pre-wash the biofuel residuals in liner were investigated. Silica grout formulations were developed and adequate curing periods were established for electro-silicatization process. Results showed that hydraulic conductivity was reduced fourfold for the case of using three-step electro-rehabilitation for alternative fuels under pressure of 40 kPa, and reduced threefold in the case of 100 kPa pressure on liner. © 2018 Elsevier B.V.

Al Bawab, A.Q., Alqahtani, F., McElnay, J.

Health care apps reported in newspapers: Content analysis

(2018) *JMIR mHealth and uHealth*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060333183&doi=10.2196%2f10237&partnerID=40&md5=326491dbaad596b01fa6de241b582468)

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ABSTRACT: Background: Newspapers are considered one of the most viewed and influential media sources in both the United Kingdom and United States. However, information about how newspapers portray health care apps to the readers has been lacking. Objective: This study investigated the reporting on health care apps in newspapers published in the United Kingdom and United States. Methods: The Nexis UK database was used to identify and select relevant articles. Systematic content analysis of the articles that met the inclusion criteria (articles of any format that contained reference to health care apps or medical apps) within the highest circulated newspapers in the United Kingdom and United States over a period of 10 years (2006-2015) was conducted. Interrater reliability of coding was established using a 10% sample of the chosen articles. Results: A total of 220 (151 UK and 69 US) relevant newspaper articles were retrieved. Health care apps were most frequently reported on in the Daily Mail and The Guardian (UK newspapers) and in the New York Times and the Washington Post (US newspapers). An exponential rise in published scientific articles (PubMed) on health care-related apps was noted during the study period. A total of 26.4% (58/220) and 19.1% (42/220) of the retrieved newspaper articles appeared in the features and main news sections, respectively. General information about health care apps was the main theme covered by the newspapers (45.9%, 101/220). Most of the articles represented a societal point of view (72.3%, 159/220). The main focus of the articles was on general health matters (48.2%, 106/220) and specific disease matters (36.8%, 81/220). Diabetes was the most frequently mentioned disease in the articles. A high proportion (91.4%, 201/220) of the articles mentioned benefits of using health care apps mainly for personalized care, whereas 24.1% (53/220) of the articles commented on related risks such as anxiety and confidentiality issues. Almost half (45.9%, 101/220) of the articles mentioned potential facilitators to the use of apps; less than 10% (16/220) discussed barriers. Most of the articles (83.6%, 184/220) were judged as having balanced judgment on the present topic and more than half (60.0%, 132/220) of the articles were judged to be of generally low quality. Conclusions: Health care apps were not widely reported in newspaper articles in the United Kingdom and United States over the study period; however, there appeared to be much more recent interest. Characteristically, the articles focused more frequently on societal impact and on general health rather than on disease-specific apps. © Abdel Qader Al Bawab, Fahad AlQahtani, James McElnay.

Hawashin, B., Mansour, A., Kanan, T., Fotouhi, F.

An efficient cold start solution based on group interests for recommender systems
(2018) ACM International Conference Proceeding Series, .

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ABSTRACT: This paper proposes an efficient solution for the cold start problem in recommender systems. This problem occurs with new users who do not have sufficient information in their records. This would cause the recommender system to fail in providing recommendations to these users. This problem is one of the common and important problems in recommender systems. Although some solutions have been proposed to solve it in the literature, these solutions would not work properly in some scenarios because they do not concentrate on finding the actual interests of the users and the hidden motives behind their behavior. Our proposed solution uses the hidden interests of the group to which the target user belongs to provide recommendations for that user. The experiments show that our proposed solution is efficient in terms of searching time and space consumption. © 2018 Association for Computing Machinery. ACM

Sunoqrot, S., Al-Shalabi, E., Messersmith, P.B.

Facile synthesis and surface modification of bioinspired nanoparticles from quercetin for drug delivery

(2018) Biomaterials Science, .

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[85054008152&doi=10.1039%2f3279996.3280022&partnerID=40&md5=34bae54c7e37dfb480d9ddccd7a06330](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054008152&doi=10.1039%2f3279996.3280022&partnerID=40&md5=34bae54c7e37dfb480d9ddccd7a06330)

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ABSTRACT: Nanoparticle-mediated drug delivery has demonstrated great potential to treat various diseases especially cancer. However, there is an unmet need for the scalable synthesis of multifunctional nanoparticles to meet the complex challenges of drug delivery. Here we show that we can synthesize nanoparticles from the polyphenol quercetin, which can be conveniently functionalized with ligands and drug molecules by simple mixing under ambient conditions. Nanoparticles (~30-40 nm in diameter) were formed by oxidative self-polymerization of quercetin in alkaline buffer (pH 9). The reactivity of oxidized polyphenols was exploited to immobilize amine-terminated methoxy poly(ethylene glycol) on the nanoparticles' surface for steric stability, followed by loading with doxorubicin as a model drug. Surface modification of the nanoparticles was confirmed by X-ray Photoelectron Spectroscopy. An antioxidant assay showed that the nanoparticles retained some antioxidant activity. The nanoparticles were readily internalized by KB cells via an endo-lysosomal pathway. Doxorubicin-loaded nanoparticles showed a drug loading of $35.6 \pm 4.9\%$ w/w with a loading efficiency of $88.9 \pm 12.4\%$, sustained drug release, and potent cytotoxicity in vitro. Our findings demonstrate a promising new application for naturally occurring polyphenols as a renewable source of drug delivery nanocarriers that can be synthesized at low cost with minimal equipment. © 2018 The Royal Society of Chemistry.

Alqirem, R.M., Alnaimi, H.M., Shuhaiber, A.

A best-practice model of university-students relationship development: An empirical study (2018) International Journal of Knowledge Management, .

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[85053276163&doi=10.4018%2fIJKM.2018100104&partnerID=40&md5=406c83161e230e5b14b9a962e5fd2141](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85053276163&doi=10.4018%2fIJKM.2018100104&partnerID=40&md5=406c83161e230e5b14b9a962e5fd2141)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Jordan, Jordan, Jordan;

Imam Abdulrahman Bin Faisal University, Amman, Saudi Arabia;

Zayed University, Abu Dhabi, United Arab Emirates

ABSTRACT: A university-student relationship has been viewed as a key to the success and continuity of private universities. Although keeping students loyal is a critical objective of relationship marketing, there is a limited theoretical and practical knowledge on which antecedents could be used to achieve this aim. The essence of this research is the development of a more comprehensive model of university-student relationship that could reflect a best practice, on the basis of a review of the literature, and the empirical investigation of this model by using a mixed method of qualitative (focus groups) and quantitative (surveys) approach. By sampling students in one private Jordanian university, results reveal that relationship strength and students' satisfaction can impact students' loyalty towards their universities. In addition, three relational bonds (financial, social and structural) can influence students' satisfaction. Finally, the study indicates academic and in-practice implications within the education sector, and suggests some future research guidelines. © 2018, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

Khan, H., Sabbah, D.A., Zafar, M., Mubarak, M.S.

Molecular modeling studies of coruscanone (A) core nucleus as potential antifungal agents

(2018) Life Sciences, .

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[85051627387&doi=10.1016%2fj.lfs.2018.07.059&partnerID=40&md5=01ba99d7e6951a2b8f12dc03756dc9dc](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85051627387&doi=10.1016%2fj.lfs.2018.07.059&partnerID=40&md5=01ba99d7e6951a2b8f12dc03756dc9dc)

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ABSTRACT: Fungal diseases could be serious and, in some cases, life-threatening. Considering the limited availability of antifungal agents in use, and the emergence of multi drug resistance (MDR) in fungal infections, there is a pressing need for the development of novel broad spectrum antifungal drugs with better efficacy. Coruscanone A analogues, natural derivatives which target the fungal lanosterol enzyme, were docked against lanosterol 14 α -demethylase (CYP51A1) that converts lanosterol to 4,4-dimethylcholesta-8,14,24-trien-3 β -ol in the ergosterol biosynthesis pathway in order to stabilize the plasma membrane of the fungal species, and hence can be targeted for an effective antifungal therapy. For this purpose, we have employed Glide docking, using MAESTRO to predict binding modes of these Coruscanone (A) analogs to the enzyme. Results showed that some of these compounds were potent inhibitors of this enzyme compared to fluconazole (the known ligand of the enzyme that was used as control in the study) as evidenced by their docking scores and binding interactions. In conclusion, these finding may be helpful in the design of new effective and potent antifungal inhibitors. © 2018 Elsevier Inc.

Hamed, R., AbuRezeq, A., Tarawneh, O.

Development of hydrogels, oleogels, and bigels as local drug delivery systems for periodontitis

(2018) Drug Development and Industrial Pharmacy, .

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85046699587&doi=10.1080%2f03639045.2018.1464021&partnerID=40&md5=04d17f7f908cbb0d2f2d0e26bb9cfdad

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Periodontal disease is a chronic inflammation of gum and tissues that surround and support the teeth. Nonsteroidal anti-inflammatory drugs (NSAIDs) can be used in the treatment of periodontitis to ease swelling and inflammation. One approach of treating periodontitis is loading the NSAIDs in local drug delivery systems. Therefore, the objective of this study was to investigate the local delivery of the NSAIDs model drug ibuprofen to treat periodontitis using different types of gel formulations (hydrogel, oleogel, and bigel). Gel formulations were characterized in terms of their rheological properties (flow behavior, viscoelastic, and bioadhesive properties) using a controlled-stress rheometer. The in vitro drug release of ibuprofen from gel formulations was investigated using Franz diffusion cells. Gels exhibited more solid-like (elastic) behavior. The viscosity and viscoelastic properties were in the order of oleogel > bigel > hydrogel, respectively. In bioadhesion study, mucin dispersion/plain ibuprofen-hydrogel mixture showed a frequency-dependent interaction of $\Delta G' = -31$ and $\Delta G' = + 53$ Pa at 1 and 10 rad/s, respectively. A strong positive interaction ($\Delta G' = + 6000$ and $+130,667$ Pa at 1 and 10 rad/s, respectively) was found in mucin dispersion/plain ibuprofen-oleogel mixture. The extent of the negative interaction increased in mucin dispersion/plain ibuprofen-bigel mixture ($\Delta G' = -59,000$ and $-79,375$ Pa at 1 and 10 rad/s, respectively). After 6 h, ibuprofen release from hydrogel, oleogel, and bigel was 59.5 ± 2.2 , 80.6 ± 3.9 , and $94.6 \pm 3.2\%$, respectively. Results showed that the rheological and bioadhesive properties and in vitro drug release were influenced by the type of gel formulations. © 2018, © 2018 Informa UK Limited, trading as Taylor & Francis Group.

Badinjki, T.

Mary barton: Sins of the upper classes are visited on the lower

(2018) IUP Journal of English Studies, .

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85062260906&partnerID=40&md5=9792f5f68fd879a3e18d66edca880162

AFFILIATIONS: Department of English, Al-Zaytoonah University, Queen Alia Airport St 594, Amman, 11733, Jordan

ABSTRACT: This paper surveys the deplorable conditions of the poor in the early years of the nineteenth century, the change in the social structure and the emergence of new classes as results of the industrial revolution and the factory system which fostered what came to be known as the great social evil. Elizabeth Gaskell was one of those who tried to lift a corner of the veil of secrecy that shrouded the existence of the social ills of her time. In Mary Barton, she commixes the feeling of hostility between the workers and the employers and the stark wretched living conditions of the working class with the attempted seduction of Mary and the ruin of her aunt Esther to embody her belief that the sins of the upper classes are visited on the lower. The paper tries also to answer the accusations of lack of unity which could be viewed as a weakness and to show how Gaskell's clever concoction of the tale of industrial conflict and the story of feigned love and attempted seduction reflects her originality and makes Mary Barton an admirable and remarkable book. © 2018 IUP. All Rights Reserved.

Al Asfar, J., Alkhalil, S., Sakhrieh, A., Al-Domeri, H.

2-D numerical modeling of flame behavior under electric field effect

(2018) International Journal of Heat and Technology, .

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85054316235&doi=10.18280%2fijht.360342&partnerID=40&md5=6f66b5b2cb0b63cac7399ebd119b59b1

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ABSTRACT: In this work, premixed turbulent combustion of methane under the effect of the electric field was simulated using Ansys /Fluent with Gri-mech 1.2. The simulation included Ionic species and NO formation. The combustion simulation without electric field was done first to validate the mathematical model for laminar combustion. It was found that flame conic shape and adiabatic flame temperature agree with the results of previously published work. The combustion simulation of the flame under electric field effect, includes modeling of the electric field equation, which was implemented in Fluent using user-defined sources (UDS) coupled with user-defined functions (UDFs). It was found that H₃O⁺ and CHO⁺ species are consumed immediately after their production as a result of electric field effect. On the other hand, the flame stability was enhanced. Emitted pollutants were minimized with a little reduction in CO concentration, which agrees with previously published experimental work. © 2018 International Information and Engineering Technology Association. All Rights Reserved.

Al-Hawatmah, Z., Shaban, O.S.

Social accounting & social responsibility reporting in the Jordanian industrial companies listed in amman stock exchange market [Socijalno računovodstvo i izvješćivanje o društvenoj odgovornosti u Jordanskim korporacijama na ammanskoj burzi]

(2018) Ekonomski Pregled, .

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85054056648&doi=10.32910%2fep.69.4.6&partnerID=40&md5=12d736f40982a0697cb8090a106a74a4

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ABSTRACT: This study examines practice of social accounting and the reporting of social responsibility in the industrial Jordanian companies listed in Amman Stock Exchange. As operations of industrial companies have significant impact on the society, they should be accountable to the environment, and members of societies in which they operate. The method adopted to figure out the state of current social accounting and reporting practices was carried out by analyzing the annual reports of 30 randomly selected Jordanian industrial companies for the year 2016. The study found that 73% of industrial companies in Jordan are disclosing their activities of social responsibility in the annual reports. This study also found that 50% of these companies use the director's reports as the main outlet for disclosing their activities related to social responsibility, 36% companies use the corporate social responsibility report and finally 14% are use the notes or schedule to financial statement to inform general people about their commitment to social responsibility. The study recommended that as there are many types and techniques of reporting, the Jordanian securities commission, as a government regulatory entity, should work on establishing uniformity for disclosing social accounting reports, and the outlet for such disclosure should be clearly specified. © 2018, Hrvatsko Drustvo Ekonomista. All Rights reserved.

Abu Sharour, L.

Oncology nurses' knowledge about central line catheter: Caring, complications, and applications among cancer patients—A cross-sectional study

(2018) Journal of Vascular Nursing, .

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85046376620&doi=10.1016%2fj.jvn.2018.04.002&partnerID=40&md5=b382497e112c3831382abf696672cf90

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ABSTRACT: The aim of the present study was to assess the oncology nurses' knowledge about central line catheters and their care, complications, and applications. A descriptive cross-sectional design was used. A sample of 150 nurses from oncology units participated. A knowledge-based test consisting of 50 multiple choice questions was used to test the nurses' knowledge level. The results showed that overall satisfactory level of nurses' knowledge was 50% (75 nurses). The results indicated that there was a significant difference in the nurses' knowledge according to their academic qualification level ($\chi^2 = 7.256$; $P = .03$). In addition, the results showed that there was a significant difference in nurses' knowledge about central line catheters and their care, complications, and applications according to their experience length ($\chi^2 = 17.321$; $P = .000$). Expert nurses were more knowledgeable compared with nurses with less experience. Based on these results, continuing education through conducting educational programs is recommended to keep the nurses aware about recent evidence-based practices. © 2018 Society for Vascular Nursing

Harb, M.K., Alshurafa, H., El-khateeb, M., Al-Zuheiri, A., Görls, H., Abul-Futouh, H., Weigand, W. [FeFe]-Hydrogenase Models Containing Long Diselenolato Linkers

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85052595489&doi=10.1002%2fslct.201801704&partnerID=40&md5=3457bf68fb7e584d8cfcba85e7be4a76

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ABSTRACT: Reactions of $\text{Fe}_3(\text{CO})_{12}$ with cyclic diselenides or diselenocyanatoalkanes produced two different products, namely the dinuclear $[\text{Fe}_2(\text{CO})_6\{\mu-(\text{SeCH}_2)_2(\text{CH}_2)_n\}]$ ($n = 5$ (1 a), 6 (1 b), 7 (1 c), 8 (1 d)) and the tetranuclear models $[\text{Fe}_2(\text{CO})_6\{\mu-(\text{SeCH}_2)_2(\text{CH}_2)_n\}]_2$ ($n = 5$ (2 a), 6 (2 b), 7 (2 c), 8 (2 d)). The resulting complexes were fully characterized by a variety of analytical techniques (NMR spectroscopy, elemental analysis, mass spectrometry) and by X-ray structure determination of complexes 1 c, 1 d, 2 c and 2 d. Furthermore, we investigated the redox properties and the catalytic behaviour of complexes 1 a-d in the presence of acetic acid (AcOH) as a source of protons. © 2018 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Hamici, Z.

Towards data-centric genetic cryptography for telemonitoring and ambient assisted living systems (2018) 2018 13th System of Systems Engineering Conference, SoSE 2018, .

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85052315290&doi=10.1109%2fSYSOSE.2018.8428768&partnerID=40&md5=9bef164b93715944bbbed28a7a4147c9f

AFFILIATIONS: Electrical Engineering Department, Al-Zaytoonah University of Jordan, ZUJ, Amman, Jordan

ABSTRACT: The integration of wireless sensor networks into Internet of things, led to a new generation of sensor nodes, directly connected to remote servers, for signal processing and decision making. The migration of data processing from local node, achieved by decoupling the node hardware from the required processing capabilities, is only possible through implementations of network softwarization. The softwarization which brings, new services that are executed remotely has led to security challenges, yet to be resolved, due to the increasing amount of data being continually exchanged between the sensor node-hub and the remote servers. In this regard we introduce a novel genetic algorithm for data security with a powerful security architecture that performs one-time key, single block enciphering instead of a block chaining or weak stream enciphering. The algorithm architecture produces variable (stealthy) keys and data that adopts white noise statistical behavior, therefore, having high immunity to cryptanalysis. The algorithm combines gene fusion and Horizontal Gene Transfer inspired from the spread of antibiotic resistance in bacteria. A Salt extracted from the data block hash-value adds the stealthy-key feature to the cipher. An application in eHealth tele-monitoring with WSN/IoT is described. © 2018 IEEE.

Alia, M.A., Hnaif, A.A., Abdalla, A.M., Abu Maria, E.M.

An improved authentication scheme based on graphical passwords

(2018) ICIC Express Letters, .

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85050641483&doi=10.24507%2fificel.12.08.775&partnerID=40&md5=c20e651c9486d1e77c9533d3924618e1

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This paper presents a new password scheme that employs graphical user interface for password entry. The password consists of multiple graphical objects that are integrated to form one picture. The main advantage of this approach is making user authentication more user-friendly where it is often easier to remember a scene than an alphanumeric password. The user creates the password scene by selecting from the available shapes where the selection process is combined with the selected objects to create the actual password. The scene created by the user is transformed into an alphanumeric password where the number of combinations used in creating this alphanumeric password from the given objects of the scene prevents brute-force attacks. These combinations include the choice of objects to use, the number of times each object is selected, the order of object selection, and object sizes. Other factors, such as colors and object location within the scene, could be added. Compared to entering alphanumeric passwords, these factors increase the security against shoulder-surfing attacks where an attacker tries to obtain the password either by directly looking over the victim's shoulder or by recording the whole login process. The alphanumeric password generated from the graphical password is not displayed and it is encrypted to prevent attacks on it. Implementation results and analysis of this scheme showed it to be secure and easy to use. © 2018, ICIC International. All rights reserved.

Maria, K.A., Jaber, K.M., Ibrahim, M.N.

A new model for Arabic multi-document text summarization

(2018) International Journal of Innovative Computing, Information and Control, .

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85050560258&doi=10.24507%2fijicic.14.04.1443&partnerID=40&md5=6e1a52fc0eae4167d2c2fc8a36830d1c

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ABSTRACT: Nowadays, the amount of Arabic documents has increased significantly in different domains, such as news articles, emails, business summary, biomedicine, web sites and social media documents. Some databases have increased in its size to terabyte. Multi-document summarization is the method of creating a summary of a group of interrelated documents. Therefore, the rise of the desire for Arabic multi documents text summarization (at the instant rates possible, coherent, grammatical and meaningful sentences) is increased. Recently, many efforts on multi-document text summarization that is related to the English language have been performed. Arabic multi-document summarization is remained on its early stages. Consequently, the researchers in this paper propose an Arabic Multi-Document Text Summarization (AMD-TS) model based on parallel computing techniques. This model of Arabic text summarization could effectively and rapidly summarize Arabic multi-documents in real time. A conceptual framework is proposed based on published researches dealing with text summarization techniques of different languages. The proposed model creates an accurate, coherent and

complete Arabic multi-document text summarization model. The dataset that is used in the investigation stage is derived from different domains, such as education, sports and politics. This dataset contains texts of various sizes. The experiments are then designed to be on specific domain (news articles domain). In order to increase the summarization process efficiency and performance, the researchers in this paper use parallel computing. The model covers the deficiency of Arabic Automatic Summarization Systems (ASS) by enhancing the final summary. © 2018 ISSN.

Petersen, H.H., Al-Sabi, M.N.S., Enemark, H.L., Kapel, C.M.O., Jørgensen, J.A., Chriél, M. *Echinococcus multilocularis* in Denmark 2012–2015: high local prevalence in red foxes (2018) *Parasitology Research*, .

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Department of Plant and Environmental Sciences, Faculty of Science, Section for Organismal Biology, University of Copenhagen, Thorvaldsensvej 40, Frederiksberg C, 1871, Denmark

ABSTRACT: In Western Europe, the *Echinococcus multilocularis* lifecycle is predominantly sylvatic, typically involving red foxes (*Vulpes vulpes*) as the main definitive hosts with *Microtus* spp. and *Arvicola* spp. as intermediate hosts. During a 4-year surveillance study (2012–2015), Danish red foxes and raccoon dogs ($n = 1345$) were examined for *E. multilocularis*. Moreover, 134 insectivores and rodents collected in South Jutland during spring and summer 2016 were examined for the presence of metacestodes. The sedimentation and counting technique and molecular typing were used to identify *E. multilocularis* infections in the carnivores, while the rodent livers were examined macro- and microscopically for parasite lesions. Following morphological identification of *E. multilocularis* adult worms, the identity was verified by sequence analysis of the 12S rRNA gene in most cases ($n = 13$). *Echinococcus multilocularis* infection was demonstrated in 19 red foxes (*Vulpes vulpes*) originating from only two specific areas of South Jutland, namely Højer and Grindsted, and in two raccoon dogs (*Nyctereutes procyonoides*), originating from Højer. In Højer, 28.5% (CI 95% 11.7–45.3) of the examined red foxes were *E. multilocularis* positive per year. Moreover, positive red foxes were identified each year from 2012 to 2015, while *E. multilocularis* positive red foxes were only identified in Grindsted in 2013 (4.0%) and 2014 (6.4%). In contrast, all collected rodents were negative for *E. multilocularis*. We conclude that *E. multilocularis* is locally endemic in South Jutland with a high local prevalence in Højer. © 2018, Springer-Verlag GmbH Germany, part of Springer Nature.

Baker, M.I.B., Abendeh, R.M., Obaidat, T.A.S.

Employing natural bentonite clay as partial replacement of mineral filler in asphalt mixtures (2018) *Journal of Materials in Civil Engineering*, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047569809&doi=10.1061%2f28ASCE%29MT.1943-5533.0002375&partnerID=40&md5=3760fdbf94c50811040bec6ed87067ee>

AFFILIATIONS: Dept. of Civil and Infrastructure Engineering, Al-Zaytoonah Univ. of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This study aimed to investigate the performance of asphalt mixtures after natural bentonite clay partial replacement of mineral filler portion of aggregates. Different bentonite contents were used to replace the mineral filler by total weight of its portion of total aggregates, namely, 5, 10, 15, and 20%; additional bentonite contents were conducted for the stability test, namely, 25 and 30%. Marshall stability, flow, bulk density, hydraulic conductivity, and indirect tensile strength (ITS) tests were performed. Results showed that replacing mineral filler by natural bentonite clay in asphalt mixtures leads to the increase of density and stability, which increased to 11.57 kN for mixtures containing 15% bentonite (compared with 9.17 kN for the control specimen), with 23% loss when soaked with water for 24 h. Results indicate an increase in both flow and ITS values and reduction in hydraulic conductivity of the modified mixtures compared with control specimens. © 2018 American Society of Civil Engineers.

Zaid Alkilani, A., Hamed, R., Al-Marabeh, S., Kamal, A., Abu-Huwaij, R., Hamad, I.

Nanoemulsion-based film formulation for transdermal delivery of carvedilol

(2018) *Journal of Drug Delivery Science and Technology*, .

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Department of Pharmacy, Faculty of Pharmacy & Medical Health Sciences, Al-Ahliyya Amman University, Amman, Jordan;

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ABSTRACT: The objective of the present study was to investigate an oil in water nanoemulsion-loaded film as a transdermal delivery vehicle for the poorly-soluble drug, carvedilol. An optimized carvedilol-loaded nanoemulsion containing 10% w/w oil phase, 50% w/w surfactant: cosurfactant and 40% water was selected based on various parameters, including nanoemulsion mean droplet size, clarity, stability, and flowability, and this was then incorporated into the film. Carvedilol-loaded nanoemulsion films were prepared from 55% w/w hydroxypropyl methylcellulose (HPMC), 23% w/w chitosan, 5% w/w isopropanol and 17%w/w carvedilol-loaded nanoemulsion at a concentration of 25 mg/ml. Films were characterized for weight variation, thickness, moisture content and drug-excipient incompatibility. In addition, the in-vitro release of carvedilol from these films was determined using Franz diffusion cells and compared to control film prepared from aqueous blends containing 55% w/w HPMC, 23% w/w chitosan, 5% w/w isopropanol and 17%w/w polyethylene glycol (PEG 400) in which carvedilol was dissolved in PEG 400 at the same concentration of 25 mg/ml. Significant increases in the steady state flux (J_{ss}), permeability coefficient (p) and flux enhancement ratio were observed in the nanoemulsion-based film ($p < 0.05$), when compared to the control film. These results suggest that nanoemulsion could be used as a potential vehicle for improved transdermal delivery of carvedilol. © 2018

Lynggaard, C., Woolsey, I.D., Al-Sabi, M.N.S., Bertram, N., Jensen, P.M.

Parasites in *Myodes glareolus* and their association with diet assessed by stable isotope analysis (2018) International Journal for Parasitology: Parasites and Wildlife, .

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ABSTRACT: Vertebrates are hosts to numerous parasites, belonging to many different taxa. These parasites differ in transmission, being through either direct contact, a faecal-oral route, ingestion of particular food items, vertical or sexual transmission, or by a vector. Assessing the impact of diet on parasitism can be difficult because analysis of faecal and stomach content are uncertain and labourious; and as with molecular methods, do not provide diet information over a longer period of time. We here explored whether the analysis of stable isotopes in hair provides insight into the impact of diet and the presence of parasites in the rodent *Myodes glareolus*. Twenty-one animals were examined for parasites and their hair analysed for stable isotopes (C and N). A positive correlation between $\delta^{15}N$ and one species of intestinal parasite was observed in females. Furthermore, several ectoparasites were negatively correlated with $\delta^{15}N$, indicating that infections are further associated with foraging habits (size and layout of the home range, length and timing of foraging, interaction with other rodents, etc.) that set the rodents in direct contact with infected hosts. Although a limited number of animals were included, it seemed that the isotope values allowed for identification of the association between diet and parasite occurrence in this rodent. We therefore propose that this method is useful in providing further insight into host biology, feeding preferences and potential exposure to parasites species, contributing to the understanding of the complex relationship between hosts and parasites. © 2018 The Authors

Abdalla, A.M., Osman, M.S., Alshawabkah, H., Rumman, O., Mherat, M.

A Review of Nonlinear Image-Denoising Techniques

(2018) Proceedings of the 2nd World Conference on Smart Trends in Systems, Security and Sustainability, WorldS4 2018, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062082140&doi=10.1109%2fWorldS4.2018.8611606&partnerID=40&md5=64ab41f71e9861f267e85fd23d008a41)

[85062082140&doi=10.1109%2fWorldS4.2018.8611606&partnerID=40&md5=64ab41f71e9861f267e85fd23d008a41](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062082140&doi=10.1109%2fWorldS4.2018.8611606&partnerID=40&md5=64ab41f71e9861f267e85fd23d008a41)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper discusses different nonlinear techniques for removing noise from images; i.e., image denoising. These techniques differ in terms of algorithm design, purpose, effectiveness, and efficiency. In this paper, different denoising techniques are described briefly where their advantages and disadvantages are discussed. The performances of these techniques are analyzed and

compared according to different implementations using statistical methods. Finally, the paper infers when each denoising method is most effective what type of noise each method can handle effectively. © 2018 IEEE.

Ismail, S., Ahmad, A., Awad, M., Jawad, M.A.

Evaluating Cache Power Dissipation Across Different Process Technologies

(2018) Proceedings of IEEE/ACS International Conference on Computer Systems and Applications, AICCSA,

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061897847&doi=10.1109%2fAICCSA.2018.8612877&partnerID=40&md5=f008adbef2d765e0ff21f70e8ab0ac9)

[85061897847&doi=10.1109%2fAICCSA.2018.8612877&partnerID=40&md5=f008adbef2d765e0ff21f70e8ab0ac9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061897847&doi=10.1109%2fAICCSA.2018.8612877&partnerID=40&md5=f008adbef2d765e0ff21f70e8ab0ac9)

AFFILIATIONS: Department of Computer Science and Engineering, American University of Ras Al Khaimah, Ras Al Khaimah, United Arab Emirates;

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ABSTRACT: Dynamic power dissipation due to signal transitions is the primary power dissipation source, while static power will become increasingly significant in upcoming processors. Dynamic power is directly related to the activity of the circuits, and static power depends on the amount of powered-on transistors and their physical characteristics. Thus, large circuits are usually the primary source of static power. Caches are generally the largest structures in the processor, so they are the most important sources of the static power dissipation. It is also known that increasing cache associativity and/or size to reduce the miss ratio and enhance the performance has an impact on static power and access time. On the other hand, a low access time is desired for the performance. Power and performance also depend on the number of cache ports. In this paper, CACTI 6.0 is used to evaluate cache power dissipation combined with nanometer models of various cache configurations. Cache power dissipation is focused on to show how much power cache consumes, and what fraction can be attributed to dynamic (switching) and static (leakage) currents. Where chip fabrication technology shrank from 130nm to 32nm over the last decade, in this paper, we explore a three-dimensional cache design space by studying caches with different sizes (32kB to 256kB), associativity (direct-mapped to 16-way) and process technologies (90nm, 65nm, 45nm, and 32nm). © 2018 IEEE.

Al Barmawi, M., Al Hadid, L., Alqudah, H., Al Hadid, W., Shamoun, S.

Measuring the Quality of Life among Head-and/or-Neck Cancer Patients with Oral Mucositis Using the Functional Assessment of Cancer Therapy-General in Jordan

(2018) Asia-Pacific Journal of Oncology Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056713997&doi=10.4103%2fapjon.apjon_14_18&partnerID=40&md5=c9e579b8341e62d70426b24b8503ba9b)

[85056713997&doi=10.4103%2fapjon.apjon_14_18&partnerID=40&md5=c9e579b8341e62d70426b24b8503ba9b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056713997&doi=10.4103%2fapjon.apjon_14_18&partnerID=40&md5=c9e579b8341e62d70426b24b8503ba9b)

AFFILIATIONS: Department of Nursing, Faculty of Nursing, Alzaytoonah University of Jordan (ZUJ), Ma'an, Jordan;

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Department of Dentistry Al Zarqa Hospital, Ministry of Health, Amman, Jordan;

Department of Clinical Oncology and Radiation Therapy, Al-Bashir Hospital, Ministry of Health, Amman, Jordan

ABSTRACT: Objective: Quality of life (QOL) in cancer patients can be influenced by the presence of medical conditions, such as oral mucositis (OM). There is still limited knowledge about this issue among patients in Jordan, and this could be related to the absence of research instruments testing QOL among cancer patients with OM. This study measured the QOL among cancer patients using the Functional Assessment of Cancer Therapy-General (FACT-G), Arabic version. Methods: This was a cross-sectional study on 118 head-and/or-neck cancer patients with OM in Jordan. Data were submitted to measures of normality, reliability, and validity using exploratory factor analysis. The study also measured QOL among the study sample. Results: FACT-G demonstrated good internal consistency reliability and validity. Factor analysis indicated the presence of four factors explained by 24 items representing a valid FACT-G, Arabic version. Scores reflected low QOL compared to reported normative values in the literature. The values used to compare findings from this study were extracted from international literature; no similar values were present in published literature. Conclusions: FACT-G, Arabic version, is valid and reliable when applied to this study population. Further testing is recommended, which would include the establishment of normative values. © 2018 Medknow. All rights reserved.

Yaseen, S.G., Al-Janaydab, S., Alc, N.A.

Leadership styles, absorptive capacity and firm's innovation

(2018) International Journal of Knowledge Management, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85053043404&doi=10.4018%2fIJKM.2018070106&partnerID=40&md5=fbff7622720d86e6589c78340dabd818)

[85053043404&doi=10.4018%2fIJKM.2018070106&partnerID=40&md5=fbff7622720d86e6589c78340dabd818](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85053043404&doi=10.4018%2fIJKM.2018070106&partnerID=40&md5=fbff7622720d86e6589c78340dabd818)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The aim of this article is to investigate the relationship between leadership styles, absorptive capacity and firm's innovation in the Jordanian Pharmaceutical sector. It is a knowledge-intensive industry and one where effective leadership has been very substantial. Findings reveal that transformational leadership style and transactional leadership style are antecedents to absorptive capacity and a firm's innovation. The results confirm a significant and direct relationship between both leadership styles and firm innovation, and indirectly through absorptive capacity. Overall, the research's findings provide valuable insights for managers to foster absorptive capacity and innovation of their firms. Copyright © 2018, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

Almansour, M.I., Jarrar, Y.B., Jarrar, B.M.

In vivo investigation on the chronic hepatotoxicity induced by sertraline

(2018) Environmental Toxicology and Pharmacology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85048492267&doi=10.1016%2fj.etap.2018.05.021&partnerID=40&md5=1df86e99d3cdf4576f3e47ce0db28974

AFFILIATIONS: Zoology Department, College of Science, King Saud University, Saudi Arabia;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Jordan;

Department of Biological Sciences, College of Science, Jerash University, Jordan

ABSTRACT: Although sertraline is widely prescribed as relatively safe antidepressant drug, hepatic toxicity was reported in some patients with sertraline treatment. The present study was conducted to investigate the morphometric, hepatotoxicity, and change in gene expression of drug metabolizing enzymes. Male healthy adult rabbits (*Oryctolagus cuniculus*) ranging from 1050 to 1100 g were exposed to oral daily doses of sertraline (0, 1, 2, 4, 8 mg/kg) for 9 weeks. The animals were subjected to morphometric, hepatohistological, histochemical and quantitative real-time polymerase chain reaction analyses. Sertraline chronic exposure induced morphometric changes and provoked histological and histochemical alterations including: hepatocytes hydropic degeneration, necrosis, nuclear alteration, sinusoidal dilation, bile duct hyperplasia, inflammatory cells infiltration, portal vessel congestion, Kupffer cells hyperplasia, portal fibrosis and glycogen depletion. In addition, the gene expression of drug and arachidonic acid metabolizing enzymes were reduced significantly (p value <0.05). The most affected genes were *cyp4a12*, *ephx2*, *cyp2d9* and *cyp1a2*, demonstrating 5 folds or more down-regulation. These findings suggest that chronic sertraline treatment induced toxic histological alterations in the hepatic tissues and reduced the gene expression of drug metabolizing enzymes. Patients on chronic sertraline treatment may be on risk of hepatotoxicity with reduced capacity to metabolize drugs and fatty acids. © 2018 Elsevier B.V.

Al-Hujran, O., Al-Lozi, E.M., Al-Debei, M.M., Maqableh, M.

Challenges of cloud computing adoption from the TOE framework perspective

(2018) International Journal of e-Business Research, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85048450129&doi=10.4018%2fIJEBR.2018070105&partnerID=40&md5=03ea5e8231a1440ef7be38d484b74ee

AFFILIATIONS: Princess Sumaya University for Technology, Amman, Jordan;

Al-Zaytoonah University of Jordan, Amman, Jordan;

University of Jordan, Amman, Jordan

ABSTRACT: Cloud computing can be classified as a third-generation computing platform which refers to ondemand delivery of computing infrastructure and services via a network, usually the Internet. Cloud computing promises to provide several advantages to its adopters such as: cost advantage, availability, scalability, flexibility, reduced time to market and dynamic access to computational resources. Notwithstanding the numerous advantages of cloud computing, its implementation and adoption in developing countries is still limited and surrounded by variety of issues. Hence, the main objective of this article is to identify the main challenges facing the utilization of these services in developing countries, particularly Jordan. To achieve the above-mentioned objective, six in-depth interviews with ICT officials and experts in the domain of cloud computing were used as the main data collection method. The challenges of cloud computing adoption emerged in this study are classified into technological, organizational and environmental factors. © Copyright 2018, IGI Global.

Hamad, N.A., Quiam, F.M., Jaber, K.M.

Methods and evaluations of decision tree algorithms on GPUs: An overview

(2018) ICIC Express Letters, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85048058347&doi=10.24507%2fificel.12.07.723&partnerID=40&md5=f3ba6bc7452b27b81f8477c0d2f8d17e

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: Biological data is currently being exponentially increasing and causing an essential issue when meaningful information is required to be extracted from massive DNA-protein databases. Various

methods related to bioinformatics computations have been used to extract, search, integrate, and analyze biological data in efficient ways. In particular, the decision tree approach is one of the common approaches applied in processing biological data. However, when dealing with massive datasets, the time needed to build the decision tree will increase. Therefore, parallel computing is used to accelerate the construction of the decision tree. This paper provides an overview and background of the state of the art of Graphics Processing Unit (GPU) parallel computing approaches and other parallel computing approaches that are being used to build a decision tree. © 2018, ICIC International. All right reserved.

Al Omoush, K.S.

Web-based collaborative systems and harvesting the collective intelligence in business organizations (2018) International Journal on Semantic Web and Information Systems, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047756032&doi=10.4018%2fIJSWIS.2018070102&partnerID=40&md5=1a4941c8dab406e40430465d861e2eb4)

[85047756032&doi=10.4018%2fIJSWIS.2018070102&partnerID=40&md5=1a4941c8dab406e40430465d861e2eb4](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047756032&doi=10.4018%2fIJSWIS.2018070102&partnerID=40&md5=1a4941c8dab406e40430465d861e2eb4)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The major purpose of this article is to empirically explore the role of web-based collaborative systems in harvesting the dimensions of collective intelligence and the expected outcomes. A questionnaire survey was developed to collect data from 29 firms across all industries with a sample of 239 respondents. Structural Equation Modeling, using Smart PLS was conducted to analyze the data. The results indicated that web-based collaborative systems play a significant role in harvesting the dimensions of collective intelligence, including collective cognition, shared memory, collective problem solving, knowledge sharing, and collective learning. The results also revealed the significant impact of web-based collective intelligence on the sense and response capability and on the quality and morality of organizations' decisions. In addition, the article reveals the significant impacts of BI tools and relationship quality on the role of web-based CI in achieving the expected outcomes. Copyright © 2018, IGI Global.

Alokush, B., Abdallah, M., Alrifaae, M., Salah, M.

A proposed java static slicing approach

(2018) Indonesian Journal of Electrical Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047166833&doi=10.11591%2fijeecs.v11.i1.pp308-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047166833&doi=10.11591%2fijeecs.v11.i1.pp308-317&partnerID=40&md5=2dda6af1d979abf615211cfa57079515)

[317&partnerID=40&md5=2dda6af1d979abf615211cfa57079515](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047166833&doi=10.11591%2fijeecs.v11.i1.pp308-317&partnerID=40&md5=2dda6af1d979abf615211cfa57079515)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Program slicing is to abstract a part of source code depending on the point of interest. It used widely in maintenance, debugging and testing. There are many slicing techniques such as static, dynamic, and amorphous. In this paper, we choose to develop a new approach applying static slicing on Java programs. The new approach simplifies the data dependency using arrays. A new Tool called Java Multi-Slicing Tool (JavaMST) has been introduced to apply this approach. JavaMST presents new ways to slice any simple java code segment, it allows you to extract the variables and its direct and indirect dependencies from the code, using backward, forward or both slicing techniques to produce the needed code. This tool is a simple tool designed to deal with simple java code segments. JavaMST can be run under any operating system and does not require a specialized platforms or plug-ins. Therefore, it is useful to be used for educational purposes. © 2018 Institute of Advanced Engineering and Science. All rights reserved.

Alasmari, F., Bell, R.L., Rao, P.S.S., Hammad, A.M., Sari, Y.

Peri-adolescent drinking of ethanol and/or nicotine modulates astroglial glutamate transporters and metabotropic glutamate receptor-1 in female alcohol-preferring rats

(2018) Pharmacology Biochemistry and Behavior, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047088365&doi=10.1016%2fj.pbb.2018.05.006&partnerID=40&md5=5892de717ce769bdf660979f63525f95)

[85047088365&doi=10.1016%2fj.pbb.2018.05.006&partnerID=40&md5=5892de717ce769bdf660979f63525f95](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047088365&doi=10.1016%2fj.pbb.2018.05.006&partnerID=40&md5=5892de717ce769bdf660979f63525f95)

AFFILIATIONS: University of Toledo, College of Pharmacy and Pharmaceutical Sciences, Department of Pharmacology and Experimental Therapeutics, Toledo, OH 43614, United States; Department of Psychiatry, Institute of Psychiatric Research, Indiana University School of Medicine, Indianapolis, IN 46202, United States;

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ABSTRACT: Impairment in glutamate neurotransmission mediates the development of dependence upon nicotine (NIC) and ethanol (EtOH). Previous work indicates that continuous access to EtOH or phasic exposure to NIC reduces expression of the glutamate transporter-1 (GLT-1) and cystine/glutamate antiporter (xCT) but not the glutamate/aspartate transporter (GLAST). Additionally, metabotropic glutamate receptors (mGluRs) expression was affected following exposure to EtOH or NIC. However, little is known about the effects of EtOH and NIC co-consumption on GLT-1, xCT, GLAST, and mGluR1 expression. In this study, peri-adolescent female alcohol preferring (P) rats were given binge-like

access to water, sucrose (SUC), SUC-NIC, EtOH, or EtOH-NIC for four weeks. The present study determined the effects of these reinforcers on GLT-1, xCT, GLAST, and mGluR1 expression in the nucleus accumbens (NAc), hippocampus (HIP) and prefrontal cortex (PFC). GLT-1 and xCT expression were decreased in the NAc following both SUC-NIC and EtOH-NIC. In addition, only xCT expression was downregulated in the HIP in both of these latter groups. Also, glutathione peroxidase (GPx) activity in the HIP was reduced following SUC, SUC-NIC, EtOH, and EtOH-NIC consumption. Similar to previous work, GLAST expression was not altered in any brain region by any of the reinforcers. However, mGluR1 expression was increased in the NAc in the SUC-NIC, EtOH, and EtOH-NIC groups. These results indicate that peri-adolescent binge-like drinking of EtOH or SUC with or without NIC may exert differential effects on astroglial glutamate transporters and receptors. Our data further parallel some of the previous findings observed in adult rats. © 2018

Hamed, R., Alnadi, S.H.

Transfer Behavior of the Weakly Acidic BCS Class II Drug Valsartan from the Stomach to the Small Intestine During Fasted and Fed States

(2018) AAPS PharmSciTech, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046550372&doi=10.1208%2fs12249-018-1028-x&partnerID=40&md5=6361b0c8be9ba1784c69ce13ff03c122>

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: The objective of this study was to investigate the transfer behavior of the weakly acidic BCS class II drug valsartan from the stomach to the small intestine during fasted and fed states. An in vitro transfer model previously introduced by Kostewicz et al. (J Pharm Pharmacol 56(1):43-51, 2004) based on a syringe pump and a USP paddle apparatus was used to determine the concentration profiles of valsartan in the small intestine. Donor phases of simulated gastric fluid during fasted (FaSSGF) and fed (FeSSGF) states were used to predisperse Diovan® tablets (160 mg valsartan). The initial concentrations of valsartan in FaSSGF and FeSSGF were 6.2 and 91.8%, respectively. Valsartan dispersions were then transferred to acceptor phases that simulate intestinal fluid and cover the physiological properties (pH, buffer capacity, and ionic strength) of the gastrointestinal fluid at a flow rate of 2 mL/min. The pH measurements were reported at time intervals corresponded to those of the transfer experiments to investigate the effect of percent dissolved of valsartan in the donor phase on lowering the pH of the acceptor phases. The f2 similarity test was used to compare the concentration profiles in the acceptor phases. In fasted state, the concentration of valsartan in the acceptor phases ranged between 33.1 and 89.4% after 240 min. Whereas in fed state, valsartan was fully dissolved in all acceptor phases within a range of 94.5-104.9% after 240 min. Therefore, the transfer model provides a useful screen for the concentrations of valsartan in the small intestine during fasted and fed states. © 2018, American Association of Pharmaceutical Scientists.

Alsakarneh, A., Alnaqbi, S., Alkaabi, M., Alnaqbi, R., Alnaqbi, M., Alkaabi, A., Tabaza, T.

Experimental analysis of the holding-force of the jamming grippers

(2018) 2018 Advances in Science and Engineering Technology International Conferences, ASET 2018, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049932613&doi=10.1109%2fICASET.2018.8376880&partnerID=40&md5=11a0fb875869b49b136d691e4525ce0f)

[85049932613&doi=10.1109%2fICASET.2018.8376880&partnerID=40&md5=11a0fb875869b49b136d691e4525ce0f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049932613&doi=10.1109%2fICASET.2018.8376880&partnerID=40&md5=11a0fb875869b49b136d691e4525ce0f)

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ABSTRACT: Recently, jamming grippers have been widely used in industry as they are capable to grip unacquainted objects. The distinctive properties of jamming grippers have been obtained from the nature of the granular materials in rigid and flowing states. However, the optimum materials properties to be used is still an open question to be answered. In the proposed, a jamming gripper holding-force is investigated experimentally for different materials, granular-size and water-contents. The design of experiment (DoE) is utilized, 23 full factorial design, to determine the relationship of each of the parameters with the gripper holding-force, and any interaction between the design parameters. The materials water-contents was found to be the most determinist factor, followed by the granular-size for the same material. Less water-contents and large granular-size resulted the highest holding-force of the gripper. No interaction between the design factors was reported. The proposed study is extendable to study other granular materials properties. © 2018 IEEE.

Al-Dahoud, A., Doghmane, R., Fezari, M., Boukari, K.

Failure detection on wireless sensor network based on comparative study

(2018) International Conference on Recent Innovations in Signal Processing and Embedded Systems, RISE 2017, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049793897&doi=10.1109%2fRISE.2017.8378140&partnerID=40&md5=555c000d54695a445b676d4f30944e2c)

[85049793897&doi=10.1109%2fRISE.2017.8378140&partnerID=40&md5=555c000d54695a445b676d4f30944e2c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049793897&doi=10.1109%2fRISE.2017.8378140&partnerID=40&md5=555c000d54695a445b676d4f30944e2c)

AFFILIATIONS: Faculty of IT, Al-Zaytoonah University of Jordan, Amman, Jordan;
Laboratory of Automatic and Signals, Annaba Badji Mokhtar Annaba University, Annaba, Algeria
ABSTRACT: In this paper, we present a comparative study on the main faults in a Wireless Sensor Networks (WSN) system. The applications using this new technology have recently been increased due to its huge capacity to connect both the physical and the virtual worlds. WSNs allow assessing locations, which are technically hard to reach by robots or human. With Cloud computing added to the WSN, we expect to see a world covered with trillions of connected devices that sense and share data information with each other. However, many parts of the deployments experience high rates of failure due to node's damage, sensor's damage, RF communication and usually power failure. In this paper, we mentioned existing research works that deal with failure detection in the WSN. Eventually, we presented a comparative case-study of model-based approaches used for failure detection. We also mentioned popular simulation environments used for WSNs. And finally, we showed a case-based simulation using NS-2. This work can be a good survey on Wireless Sensor Network main failures. © 2017 IEEE.

Ghazzoul, N.

Topic sentence coaching: Keys to unlock intricacy of academic writing

(2018) *Pertanika Journal of Social Sciences and Humanities*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049336653&partnerID=40&md5=c695d6ab109d286c464b20bc2a56ade8)

[85049336653&partnerID=40&md5=c695d6ab109d286c464b20bc2a56ade8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049336653&partnerID=40&md5=c695d6ab109d286c464b20bc2a56ade8)

AFFILIATIONS: Department Of English, Faculty of Arts, Al-Zaytoonah University, Amman, 11733, Jordan

ABSTRACT: Academic writing is at the centre of teaching in higher education, fulfilling a variety of functions, including asking students to produce paragraphs, essays, or sit written exams. This paper argues that the current writing provision in most departments of English in the Arab world should be viewed as offering more practical support in the writing process. To that end, 100 argumentative essays were collected, from English-writing classes at the Department of English at Al-Zaytoonah University in Jordan, to study the role of the topic sentence and the thesis statement in ensuring paragraph unity, topic unity, and text organisation. A detailed qualitative data analysis was undertaken, supported by quantitative analysis to account for the frequencies of the writing breakdowns. The results showed that most of the students failed to write effective topic sentences or thesis statements that relate directly to the posed question. They also failed to introduce ideas for the subsequent discussion. Additionally, most of them introduced undeniable and broad opening sentences that were globally related to the text; consequently, they failed in sustaining topic unity, paragraph unity, and text organisation. The paper suggests that academic staff should be more involved in practical writing courses to help students handle the specificity of academic writing requirements. It is expected that the study will inspire re-designing the writing syllabuses. © Universiti Putra Malaysia Press.

Al-Sabi, M.N.S., Rääf, L., Osterman-Lind, E., Uhlhorn, H., Kapel, C.M.O.

Gastrointestinal helminths of gray wolves (*Canis lupus lupus*) from Sweden

(2018) *Parasitology Research*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046843840&doi=10.1007%2fs00436-018-5881-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046843840&doi=10.1007%2fs00436-018-5881-z&partnerID=40&md5=8651b54ae0ad96f72315e8e6ceae6d6d)

[z&partnerID=40&md5=8651b54ae0ad96f72315e8e6ceae6d6d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046843840&doi=10.1007%2fs00436-018-5881-z&partnerID=40&md5=8651b54ae0ad96f72315e8e6ceae6d6d)

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ABSTRACT: As the Scandinavian wolf population is limited in size, it is only rarely subject to systematic studies on its disease biology, especially gastrointestinal parasites. Therefore, this study aims to describe the prevalence of gastrointestinal helminths of gray wolves hunted on a limited license as a part of a wildlife management program. Helminths of 20 wolves were examined post mortem by macroscopy and coprology. Intestinal worms of five species were recovered from 18 wolves (90%): *Uncinaria stenocephala* (90%), *Taenia* spp. (45%), *Alaria alata* (25%), and *Mesocestoides* spp. (5%). Of the taeniid specimens typed by multiplex PCR and sequencing of the *cox1* gene, 25% belonged to *Taenia hydatigena* and 25% to *Taenia krabbei*. The overall species diversity was low compared to findings from wolves of the northern hemisphere. Fecal eggs of *Eucoleus boehmi* were detected in 12 wolves (60%). Fecal metastrongylid larvae were found in seven individuals (39%), but PCR analyses specific for *Angiostrongylus vasorum* were negative. The wolves were in good body condition suggesting that the parasite infestation had no negative impact on the general health of the examined wolves. Although some of the recovered parasite species have zoonotic or veterinary impact, it is not likely that the spare wolf population pose substantial threat to human or veterinary health. © 2018,

Springer-Verlag GmbH Germany, part of Springer Nature.

Abooraig, R., Al-Zu'bi, S., Kanan, T., Hawashin, B., Al Ayoub, M., Hmeidi, I.
Automatic categorization of Arabic articles based on their political orientation
(2018) Digital Investigation, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046124862&doi=10.1016%2fj.diin.2018.04.003&partnerID=40&md5=55b02ee095717f998753a0316866bce0)

[85046124862&doi=10.1016%2fj.diin.2018.04.003&partnerID=40&md5=55b02ee095717f998753a0316866bce0](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046124862&doi=10.1016%2fj.diin.2018.04.003&partnerID=40&md5=55b02ee095717f998753a0316866bce0)

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ABSTRACT: The ability to automatically determine the political orientation of an article can be of great benefit in many areas from academia to security. However, this problem has been largely understudied for Arabic texts in the literature. The contribution of this work lies in two aspects. First, collecting and manually labeling a corpus of articles and comments from different political orientations in the Arab world and making different versions of it. Second, studying the performance of various feature reduction methods and various classifiers on these synthesized datasets. The two most popular feature extraction approaches for such a problem were compared, namely the Traditional Text Categorization (TC) approach and the Stylometric Features approach (SF). Although the experimental results show the superiority of the TC approach over the SF approach, the results also indicate that the latter approach can be significantly improved by adding new and more discriminating features. The experimental results also show that the feature selection techniques reduce the accuracies of the considered classifiers under the TC and SF approaches in general. The only exception is the Partition Membership (PM) technique which has an opposite effect. The highest accuracies are obtained when PM feature selection method is used with the Support Vector Machine (SVM) classifier. © 2018 Elsevier Ltd

Subih, M., Al-Kalaldeh, M., Salami, I., Al-Hadid, L., Abu-Sharour, L.

Predictors of uncertainty among postdischarge coronary artery bypass graft patients in Jordan
(2018) Journal of Vascular Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039424967&doi=10.1016%2fj.jvn.2017.11.001&partnerID=40&md5=a717aa129b304600bce4ccecfc1e4bd3)

[85039424967&doi=10.1016%2fj.jvn.2017.11.001&partnerID=40&md5=a717aa129b304600bce4ccecfc1e4bd3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039424967&doi=10.1016%2fj.jvn.2017.11.001&partnerID=40&md5=a717aa129b304600bce4ccecfc1e4bd3)

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ABSTRACT: Uncertainty impacts negatively on adaptation and disease outcomes. During recovery, coronary artery bypass graft (CABG) patients experience uncertainty, symptom distress, and learning needs. This study aimed to examine predictors associated with uncertainty among CABG patients. This cross-sectional correlational study recruited CABG patients conveniently from out-patient clinics 1 month after discharge. Participants completed a self-administered questionnaire which included: demographic questionnaire, Mishel's Uncertainty of Illness Scale, Cardiac Symptoms Survey, and Cardiac Patients Learning Needs. A total of 161 participants completed the study questionnaires. Participants showed a moderate level of uncertainty, less cardiac symptom distress, and high learning needs. Uncertainty was significantly correlated with learning needs while less correlated with symptom distress. Hierarchical multiple regression revealed that gender, employment status, education level, and learning needs are factors associated with uncertainty among CABG patients. It was concluded that symptom distress does not necessarily induce uncertainty. Intensive care professionals should undertake individual's characteristics to anticipate uncertainty. © 2017 Society for Vascular Nursing, Inc.

Barani, H., Jaradat, Y., Huang, H., Li, Z., Misra, S.

Effect of sink location and redundancy on multi-sink wireless sensor networks: A capacity and delay analysis
(2018) IET Communications, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046106800&doi=10.1049%2fiet-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046106800&doi=10.1049%2fiet-com.2017.1040&partnerID=40&md5=6f6adfcac0c3927d052b7930d36a3fa95)

[com.2017.1040&partnerID=40&md5=6f6adfcac0c3927d052b7930d36a3fa95](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046106800&doi=10.1049%2fiet-com.2017.1040&partnerID=40&md5=6f6adfcac0c3927d052b7930d36a3fa95)

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ABSTRACT: Wireless network applications such as intelligent buildings and disaster relief operations use large-scale platforms. In these networks using multiple sinks reduce packet loss. However, finding the optimum locations for the sinks has not been fully studied yet. Therefore, the authors sought to investigate whether the location of sinks can affect network parameters, such as capacity and delay. In this study, two schemes named popular-location scheme and random scheme are designed based on sink location. In the popular-location scheme, the sinks (base stations) are located around the popular points (most visited locations) according to the location popularity rule. However, in the random scheme, sinks are distributed randomly. The authors considered a cell-partitioned network to manage the signal interference between cells. The authors' results demonstrated that there is a trade-off between capacity and delay in both schemes. Additionally, the effect of packet redundancy on capacity and delay was investigated. Furthermore, by utilising the popularity rule, the network capacity and average delay improved significantly. Moreover, the authors' results indicate that packet redundancy does not affect the capacity, but it improves the delay. © 2018, The Institution of Engineering and Technology.

Al-Qatawneh, S.M., AlQatawneh, O.M.

Exploring the use of light and colour to detract and enhance the plot of 3D rendered scenes
(2018) International Journal of Innovation, Creativity and Change, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048070739&partnerID=40&md5=d3fe523098f2e6cb91780da4266f2b0f>

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ABSTRACT: Lighting and colour play an essential role in the 3D rendered scene. Besides its roles in illuminating the objects, it helps create the mood, directs the audience eye, creates visual interest and most importantly, creates an illusion of believability in the mind of the viewers that help them engage with the scene. Whereas lighting has a depth to reveal the 3D impression, so it can be out from the background; unfortunately, it is hard to obtain a good lighting due to many concerns that influence the lighting results, such as the light source, its direction, and intensity. This work intends to illustrate how to use a lighting base as ambient displays, combine it with its initial function, to define what forms of interaction are best suited to pass on a message and create a secure emotional connection between the audience and the scene. Different variations of light and colour were applied to the rendered scene to quantify the saturation of the independent factors as well as to observe their effects to work out whether the variations can change the connected emotions and plot of the original scene. The experiments were conducted on 400 participants. As a result, it became evident that the light and colour does control the feelings of the viewers, both elements are complex and varied enough to require further investigation into how they should be monitored. Moreover, the process of lighting is influenced by the taste of the designer. © 2018 International Journal of Innovation, Creativity and Change.

Hamadneh, L., Al-Majawleh, M., Jarrar, Y., Shraim, S., Hasan, M., Abu-Irmaileh, B.

Culturing conditions highly affect DNA methylation and gene expression levels in MCF7 breast cancer cell line

(2018) In Vitro Cellular and Developmental Biology - Animal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045121091&doi=10.1007%2fs11626-018-0245-7&partnerID=40&md5=4564b34bc9b9f91c364714c93212a21f>

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ABSTRACT: The levels of DNA methylation and their role in gene expression are key factors that could affect diagnosis, prognosis, and treatment options of different diseases. In this study, the methylation levels of 22 genes that are mostly correlated to breast cancer were determined using EpiTect methyl II PCR array. This analysis was performed to determine the effect of cells' passage number and the use of antibiotics in the culturing media on gene methylation levels in MCF7 cell line. DNA methylation levels of PTGS2, ADAM23, HIC1, and PYCARD were found to be significantly different among different passages. While the DNA methylation levels of CCNA1, RASSF1, and THBS1 were found to be affected by the use of 1% of penicillin/streptomycin in the culture media. Gene expression analysis after demethylation using 5-Aza-2'-deoxycytidine showed that the gene expression levels of the hypermethylated genes varied between different passage numbers. This study shows that the presence of antibiotic within cultured media and cell line's passage number could greatly affect the methylation levels that need to be considered in future studies on cell lines. © 2018, The Society for In Vitro Biology.

Al-Qtaitat, M.A., El-Abadelah, M.M., Sabbah, D.A., Bardaweel, S., Sweidan, K., Sabri, S.S., Mubarak,

M.S.

Synthesis, characterization, and bioactivity of new bisamidrazone derivatives as possible anticancer agents

(2018) Medicinal Chemistry Research, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042609688&doi=10.1007%2fs00044-018-2158-0&partnerID=40&md5=8d51a03e56fd3ccc3927ede45a56173c>

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ABSTRACT: A novel series of new di-(N-piperazin-1-yl)amidrazones and related congeners (3a-s) was synthesized by reaction of N',N''-(biphenyl-4,4'-diyl)-bis(2-oxopropanehydrazonoyl chloride) (2) with a selected set of secondary amines in basic media. Structures of the newly synthesized compounds were confirmed by elemental analysis and by various spectroscopic techniques such as ¹H NMR, ¹³C NMR, 2D-NMR, and ESI-HRMS spectral data. Prepared compounds have been screened for antitumor activity against different cancer cell lines including breast cancer (MCF-7), colon cancer (Caco-2), and Leukemia (K562) cell lines using the tetrazolium dye 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) cell viability assay. Although with varying degrees, a significant growth inhibitory and cytotoxic effect was observed on all three cancer cell lines. Compounds 3a, 3b, 3c, 3d, and 3m, showed significant growth inhibitory and cytotoxic effect against the aforementioned cancer cell lines. Glide docking studies against PI3K α demonstrated that some structural analogues accommodate PI3K α kinase domain and bind to Ser774, Ala775, Glu798, Lys802, Tyr836, Val851, Asn853, Thr856, Gln859, Ser919, and Asp933. Additionally, part of the backbones of prepared compounds fit the pharmacophoric features of PI3K α active inhibitors. © 2018, Springer Science+Business Media, LLC, part of Springer Nature.

Mahmoud, N.N., Harfouche, M., Alkilany, A.M., Al-Bakri, A.G., El-Qirem, R.A., Shraim, S.A., Khalil, E.A.

Synchrotron-based X-ray fluorescence study of gold nanorods and skin elements distribution into excised human skin layers

(2018) Colloids and Surfaces B: Biointerfaces, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042177216&doi=10.1016%2fj.colsurfb.2018.02.021&partnerID=40&md5=074b395f5e743b71dfbfd4c17f876764>

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ABSTRACT: Understanding the distribution of nanoparticles in skin layers is fundamentally important and essential for developing nanoparticle-based dermal drug delivery systems. In the present study, we provide insights into the distribution of gold nanorods (GNRs) functionalized with hydrophobic or hydrophilic ligands in human skin layers using synchrotron X-ray fluorescence (SR-XRF) spectroscopy, confocal microscopy, and transmission electron microscopy. The results confirmed the important role that the surface chemistry of GNRs plays in their penetration into the skin; the GNRs coated with polyethylene glycol were distributed into the skin layers to a greater extent than the GNRs coated with hydrophobic polystyrene thiol. In addition, SR-XRF analysis revealed that the spatial distribution of endogenous elements (phosphorus and sulfur) in skin layers demonstrated a significant "anti-correlation" relationship with that of GNRs. These results suggest possible association (via adsorption) between the GNRs and these two elements localized in skin, which can be valuable for understanding the penetration mechanism of gold nanoparticles into the skin. © 2018 Elsevier B.V.

Al-Qerem, W., Ling, J.

Pulmonary function tests in Egyptian schoolchildren in rural and urban areas [Tests de la fonction pulmonaire chez des écoliers égyptiens en milieu rural et urbain]

(2018) Eastern Mediterranean Health Journal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049798309&doi=10.26719%2f2018.24.4.325&partnerID=40&md5=0af2b2b5076748a0e01aac6ce5a3891b>

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ABSTRACT: Background: Previous studies have shown a negative association between urban environments and pulmonary function. Objectives: This longitudinal study examined the effect of an urban environment on pulmonary function tests of children by comparing children from an urban and a rural

area in Egypt. The effect of other factors on pulmonary function, including obesity, breastfeeding and parental atopy, was also examined. Methods: Children aged 7-12 years from rural Shibin El-Kom and urban Cairo were enrolled in the study. Forced expiratory volume in the first second (FEV1), forced vital capacity (FVC), forced expiratory rate and peak expiratory flow rate (PEFR) were measured 5 times over a period of 2 years, at 6-monthly intervals. Factorial repeated measures analysis of variance was used to evaluate the differences in the rate of change in FEV1 predicted%, FVC predicted% and PEFR between the children in Cairo and Shibin El-Kom. Generalized linear mixed models were used to analyse factors associated with pulmonary function test results. Results: Generalized linear regression showed that living in Cairo decreased log(FVC), log(FEV1) and log(PEFR). Significant differences were found in the changes occurring between the 2 locations in the last 3 visits; children in Cairo showed a smaller increase in pulmonary function. Conclusions: Differences in pulmonary function in the 2 locations increased significantly with time, indicating a negative effect on lung function of living in urban Cairo. The findings could be used to help in the development of policies in Egypt and other developing countries to improve respiratory health, including promoting breastfeeding and reducing outdoor air pollution. © World Health Organization (WHO) 2018. Some rights reserved.

Alkhatib, A.A.A., Alia, M., Hnaif, A., Yousef, S.

A novel method for localising a randomly distributed wireless sensor network

(2018) International Journal of System Assurance Engineering and Management, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045966112&doi=10.1007%2fs13198-017-0670-0&partnerID=40&md5=9ef9910403b6069c9841aab908ca5520>

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ABSTRACT: Wireless sensor networks are dependent on sending and receiving signals; the system will not be capable of functioning if communication between sensors is not established. Localisation is one of the most important functions in this technology to localise nodes, events or the data source. In this study, we present a new method for outdoor randomly distributed nodes with no need for any excess devices, such as GPS devices or directional antennas or ultrasonic sensors. The method is based on using only the simple node component to provide the node and event position and has the ability to adapt mobility and scalability without affecting network functionality. All of the results are based on an ideal environment. © 2017, The Society for Reliability Engineering, Quality and Operations Management (SREQOM), India and The Division of Operation and Maintenance, Lulea University of Technology, Sweden.

Al Khalil, S., Abu Shaban, N.

Design and evaluation of performance of solar air heater

(2018) International Journal of Mechanical Engineering and Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045956239&partnerID=40&md5=df3df9ba350b9e377db484a24e5dbaac>

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ABSTRACT: In this paper, two Solar Air heaters (SAH) were designed, constructed and tested. The absorber plate of the first one was made of black painted wood, while the second one was made of black painted Aluminum sheet. Their performance were investigated and compared with each other under Jordanian climate. The experimental work was conducted under variable tilt angle and inlet velocity into the heater. In general, it was found that, the wood heater has higher efficiency that that of the metal one. The maximum efficiency for both the wood and metal air heaters were found to be 94.6 and 87.6 respectively. These efficiencies were found a tilted angle of 22 degree and inlet air velocity of 1.8 m/sec © IAEME Publication

Mosleh, S.M., Alja'afreh, M., Alnajar, M.K., Subih, M.

The prevalence and predictors of emotional distress and social difficulties among surviving cancer patients in Jordan

(2018) European Journal of Oncology Nursing, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041609704&doi=10.1016%2fj.ejon.2018.01.006&partnerID=40&md5=15209402c02ebf58b4d0392831a71ae7>

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ABSTRACT: Purpose: This study examines the prevalence and degree of emotional distress, anxiety and depression, and social difficulties and their effect on cancer patients' quality of life (QoL). It describes the characteristics of patients who are at high risk of emotional distress. Methods: A

descriptive cross-sectional design was used. A total of 226 patients with cancer completed the Hospital Anxiety and Depression scale (HAD), social difficulties inventory, comfort scale and EORTC-QoL-C30. Anxiety and depression were identified using the internationally recognized cut-off points of HAD-A ≥ 8 and HAD-D ≥ 8 . Adjusted odd ratio was calculated using socio-demographic and clinical factors. Results: Both anxiety and depression were common among Jordanian cancer patients, although depression was the main emotional problem with a higher prevalence than anxiety (67.6% vs. 43%). Patients with anxiety or depression were more likely to have lower QoL scores and higher scores for complaints about symptoms. They were more likely to have social difficulties in everyday life. The results of logistic regression indicated that a high depression score was predicted by older age, a poor QoL total score, and a high social difficulty score. A high anxiety score was predicted by advanced cancer stage, in female patients, hospital readmission and a poor QoL total score. Conclusion: The significant level of emotional distress among cancer patients highlighted the importance of early assessment and identification of patients at greater risk of emotional distress, those with an advanced stage of cancer, having a poor quality of life and serious social difficulties. © 2018 Elsevier Ltd

Malak, M.Z., Khalifeh, A.H.

Anxiety and depression among school students in Jordan: Prevalence, risk factors, and predictors (2018) Perspectives in Psychiatric Care, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020725293&doi=10.1111%2fppc.12229&partnerID=40&md5=0731fcf31506fb1389e4be82926055bf)

[85020725293&doi=10.1111%2fppc.12229&partnerID=40&md5=0731fcf31506fb1389e4be82926055bf](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020725293&doi=10.1111%2fppc.12229&partnerID=40&md5=0731fcf31506fb1389e4be82926055bf)

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ABSTRACT: Purpose: This study aimed to assess the prevalence of anxiety and depression, examine their relationships with sociodemographic factors and Internet addiction, and identify their main predictors among Jordanian school students aged 12–18 years. Design and Methods: A descriptive correlational study was conducted on a random sample of 800 students from 10 public schools in Amman. Symptom Checklist-anxiety, Center for Epidemiological Studies Depression Scale for Children, and Young's Internet Addiction Tool were used for the purpose. Findings: Overall, 42.1 and 73.8% of the students were experiencing anxiety and depression. Risk factors for both problems were school class and Internet addiction, with the latter being the main predictor. Practice Implications: Increasing students' and stakeholders' awareness of mental illnesses and health programs and developing counseling centers to meet the students' needs are necessary. © 2017 Wiley Periodicals, Inc

Jaber, K.M., Alia, O.M., Shuaib, M.M.

P-HS-SFM: a parallel harmony search algorithm for the reproduction of experimental data in the continuous microscopic crowd dynamic models

(2018) Journal of Experimental and Theoretical Artificial Intelligence, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040993623&doi=10.1080%2f0952813X.2017.1421267&partnerID=40&md5=d820d0c9c2b909f407e0b0ecad51efc8)

[85040993623&doi=10.1080%2f0952813X.2017.1421267&partnerID=40&md5=d820d0c9c2b909f407e0b0ecad51efc8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040993623&doi=10.1080%2f0952813X.2017.1421267&partnerID=40&md5=d820d0c9c2b909f407e0b0ecad51efc8)

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ABSTRACT: Finding the optimal parameters that can reproduce experimental data (such as the velocity-density relation and the specific flow rate) is a very important component of the validation and calibration of microscopic crowd dynamic models. Heavy computational demand during parameter search is a known limitation that exists in a previously developed model known as the Harmony Search-Based Social Force Model (HS-SFM). In this paper, a parallel-based mechanism is proposed to reduce the computational time and memory resource utilisation required to find these parameters. More specifically, two MATLAB-based multicore techniques (parfor and create independent jobs) using shared memory are developed by taking advantage of the multithreading capabilities of parallel computing, resulting in a new framework called the Parallel Harmony Search-Based Social Force Model (P-HS-SFM). The experimental results show that the parfor-based P-HS-SFM achieved a better computational time of about 26 h, an efficiency improvement of $\approx 54\%$ and a speedup factor of 2.196 times in comparison with the HS-SFM sequential processor. The performance of the P-HS-SFM using the create independent jobs approach is also comparable to parfor with a computational time of 26.8 h, an efficiency improvement of about 30% and a speedup of 2.137 times. © 2018 Informa UK Limited, trading as Taylor & Francis Group.

Asassfeh, M.R., Qataweh, M., Al Azzeh, F.M.

Performance evaluation of blowfish algorithm on supercomputer IMAN1

(2018) International Journal of Computer Networks and Communications, .

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85047415708&doi=10.5121%2fijcnc.2018.10205&partnerID=40&md5=81a0fdf3fd263f7d09ee4b27b30ab347

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ABSTRACT: Cryptographic applications are becoming increasingly more important in today's world of data exchange, big volumes of data need to be transferred safely from one location to another at high speed. In this paper, the parallel implementation of blowfish cryptography algorithm is evaluated and compared in terms of running time, speed up and parallel efficiency. The parallel implementation of blowfish is implemented using message passing interface (MPI) library, and the results have been conducted using IMAN1 Supercomputer. The experimental results show that the runtime of blowfish algorithm is decreased as the number of processors is increased. Moreover, when the number of processors is 2, 4, and 8, parallel efficiency achieves up to 99%, 98%, and 66%, respectively. © AIRCC.

Sweidan, K., Elayan, M., Sabbah, D., Idrees, G., Arafat, T.

Study of forced degradation behavior of amisulpride by LC-MS and NMR and development of a stability-indicating method

(2018) Current Pharmaceutical Analysis, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042789588&doi=10.2174%2f1573412913666170822162009&partnerID=40&md5=80dbc35f4fc118ec68408d1b8d87414e)

85042789588&doi=10.2174%2f1573412913666170822162009&partnerID=40&md5=80dbc35f4fc118ec68408d1b8d87414e

AFFILIATIONS: Department of Chemistry, The University of Jordan, Amman, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

Faculty of Pharmacy and Medical Sciences, University of Petra, Amman, Jordan

ABSTRACT: Introduction: A simple, isocratic High Performance Liquid Chromatography (HPLC) method has been modified for the qualitative and quantitative analyses of amisulpride related substances. This method is based on using of RP-C8 (250 × 4.6 mm) column and a mixture of phosphate buffer and methanol as mobile phase. Materials and Methods: Various forced degradation studies were conducted to establish an impurity profile for amisulpride raw material and in the tablet formula. Four degradation products were produced upon exposing amisulpride to different degradation conditions (acidic, basic, oxidative, photolytic, aqueous and thermal); three of them were already identified by British Pharmacopeia (BP). Conclusion: The fourth new significant degradant was observed only under acidic degradation of amisulpride (4 ml of 4 M hydrochloric acid solution at 70 °C for 5 hrs). Its structure was characterized using LC-MS and NMR (1H NMR, 13C NMR and DEPT) techniques. Excipient components, examined in this study, have no effect towards producing any extra new degradation products. © 2018 Bentham Science Publishers.

Al Hadid, L.A., Al-Rajabi, O., AlBarmawi, M., Yousef Sayyah, N.S., Toqan, L.M.

Exploring factors that influence students' attitudes toward midwifery in Jordan: Measuring psychometric properties of a newly developed tool

(2018) Nurse Education in Practice, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042197790&doi=10.1016%2fj.nepr.2018.02.005&partnerID=40&md5=5730833cab6a77915500f8c9554ef9ef)

85042197790&doi=10.1016%2fj.nepr.2018.02.005&partnerID=40&md5=5730833cab6a77915500f8c9554ef9ef

AFFILIATIONS: Al Hussein Bin Talal University, Aisha Bint Al Hussein College of Nursing and Health Sciences, Nursing Department, PO Box 20, Ma'an, Jordan;

Rufaidah Al-Aslamiah College for Nursing and Midwifery, Ministry of Health Amman, Jordan;

Clinical Department, Al Zaytoonah University (ZUJ), Faculty of Nursing, Amman, Jordan;

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ABSTRACT: Students' professional choice to proceed in midwifery is influenced by many factors. This study validated an instrument developed to assess students' attitudes toward midwifery in Jordan. It also addressed the motivating and de-motivating factors influencing students' decision concerning joining and continuing in midwifery. A descriptive, cross-section study was conducted on a convenience sample of 374 midwifery students representing private, governmental, and military midwifery colleges. The researchers developed the study questionnaire through conducting a comprehensive literature review, organizing common themes and consulting experts. Exploratory factor analysis and tests of normality and reliability, including Cronbach's Alpha and Bartlett's test, were used in the analysis. The result was three factors were explained by 23 items. They were as follows: professional knowledge, professional motivation factors, and de-motivating professional factors. The first 8 items explained nearly 61% of the variance. Cronbach's Alpha was 0.834 with a range of 0.835-0.839. The Spearman-Brown coefficient was 0.81 and Guttman Split-Half coefficient was 0.83. Issues of reliability and validity require a repetitive process of testing under a range of circumstances to ensure both stability and representation of the construct. However, addressing factors found to have impact of students' decisions is crucial to improve retention of high quality students. © 2018

Al-Khateeb, G.G., Al-Suleiman Obaidat, T.I., Khedaywi, T.S., Elayan, M.S.
Studying rutting performance of Superpave asphalt mixtures using unconfined dynamic creep and simple performance tests

(2018) Road Materials and Pavement Design, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85002412676&doi=10.1080%2f14680629.2016.1261722&partnerID=40&md5=a11c92e444feed13d1c5ddb8995c324)

85002412676&doi=10.1080%2f14680629.2016.1261722&partnerID=40&md5=a11c92e444feed13d1c5ddb8995c324
AFFILIATIONS: Department of Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan;

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Department of Civil and Environmental Engineering, University of Sharjah, Sharjah, United Arab Emirates;

Al-Zaytoonah Private University of Jordan, Amman, 11733, Jordan

ABSTRACT: This study aimed at evaluating asphalt mixtures for rutting using two test procedures. The first procedure was the dynamic creep test, which was performed using the 5-kN Pneumatic Universal Testing Machine (UTM-5P). The second procedure was the flow number test which was performed by the Superpave Simple Performance Tester (SPT), currently known as the Asphalt Mixture Performance Tester (AMPT). Test specimens were prepared using crushed limestone aggregate and 60/70-penetration-grade asphalt binder having a performance grade (PG) of 64-10. Two aggregate gradations were used and compared in this study: a gradation passing above the restricted zone (ARZ) representing a fine gradation, and another gradation passing below the restricted zone (BRZ) representing a coarse gradation. Asphalt mixtures were compacted using the Superpave Gyrotory Compactor (SGC). The SGC samples were then cored and sawed to produce fabricated test specimens of the desired height (150 mm) and diameter (100 mm). Specimens were tested at four temperature levels: 40°C, 50°C, 55°C, and 60°C. For comparison purposes, identical test parameters were used for both tests including: specimen dimensions, load frequency, load and rest periods, contact stress, and deviator stress. Test results were analysed to investigate the permanent deformation behaviour of the asphalt mixture with the temperature. The results for fine-graded mixtures and coarse-graded mixtures were analysed and compared. A comparison between the two test procedures was made based on the test results. The analysis and comparison were made based on the number of cycles at failure, the strain at failure, the number of cycles to reach 1.5% strain, and the strain at 1000 cycles. Both one-way ANOVA and two-way ANOVA procedures were used in the comparison. Results showed that a significant difference between ARZ asphalt mixtures and BRZ asphalt mixtures in the measured properties existed. The significance level was found to be strongly related to the test temperature. Results also showed that the flow number test and the dynamic creep test results had different behaviour with test temperature and sometimes opposite behaviour. The significance of the difference was also found to have an interaction with the test temperature. Based on the results and the comparison, it was clear that the SPT flow number test showed better accuracy and reproducibility of test results. The flow number test results also showed better fitting and no departures from the expected trend, unlike the dynamic creep test results. © 2016 Informa UK Limited, trading as Taylor & Francis Group.

Petersen, H.H., Al-Sabi, M.N.S., Larsen, G., Jensen, T.K., Chriél, M.

First report of *Taenia ovis* infection in Danish sheep (*Ovis aries*)

(2018) Veterinary Parasitology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039458298&doi=10.1016%2fj.vetpar.2017.12.011&partnerID=40&md5=91328a8a15a71950c1d4d8a95c0337cb)

85039458298&doi=10.1016%2fj.vetpar.2017.12.011&partnerID=40&md5=91328a8a15a71950c1d4d8a95c0337cb

AFFILIATIONS: Section for Diagnostics and Scientific Advice, National Veterinary Institute, Technical University of Denmark, Kemitovet, 2800 Kgs., Lyngby, Denmark;

Department of Pharmacology, Faculty of Pharmacology, Al-Zaytoonah University of Jordan, Queen Alia Airport St. 594 Queen Alia Airport St. 594, P.O. Box: 11733 P.O. Box: 11733, Amman, Jordan

ABSTRACT: We report *Taenia ovis* infection in Danish sheep for the first time. In spring 2016, the metacystode stage of *T. ovis* was at slaughter observed in heart muscles, diaphragm and skeletal muscles from approx. a third of all sheep from one specific farm localised in South Jutland. The diagnosis was confirmed by molecular typing of the mitochondrial cytochrome c oxidase I (cox1) gene. Three newly imported dogs were suspected but the definitive host was unidentifiable. The finding is not regulated in the meat control procedures. However, infected meat is usually condemned due to aesthetic reasons causing economic losses. Thus, finding of *T. ovis* is of concern to sheep meat producers in the area, as the infection could have spread further on to other farms. © 2017 Elsevier B.V.

Abu Shosha, G., Al Kalaldehy, M.

Challenges of having a child with thalassaemia major: a phenomenological study

(2018) Journal of Research in Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042073495&doi=10.1177%2f1744987117724497&partnerID=40&md5=2be3ad507226efc3ee4f5fc4e4ba940d)

85042073495&doi=10.1177%2f1744987117724497&partnerID=40&md5=2be3ad507226efc3ee4f5fc4e4ba940d

AFFILIATIONS: Faculty of Nursing, Zarqa University, Jordan;
Faculty of Nursing, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Thalassaemia major is a chronic inherited illness that requires everlasting treatment with blood transfusions and chelating drug therapies. Primary caregivers, especially mothers, encounter many challenges when dealing with their affected child. This study aimed to explore challenges facing Jordanian mothers when having a child with thalassaemia major. A descriptive phenomenological approach was used. Mothers were selected purposefully from two major thalassaemia treatment clinics in Jordan. Semi-structured, face-to-face interviews were conducted and supported by a pre-prepared interview agenda. Colaizzi's process of descriptive phenomenology was used for analysing interviewees' transcripts. A total of 23 Jordanian mothers joined the study. A number of formulated meanings, categories and clusters of themes were instrumental in the emergence of three main themes: 'unprecedented psychosocial distress', 'additional financial burden' and 'deficiency of knowledge and its sources'. The study revealed that rearing a child with thalassaemia entails suffering from different forms of challenges. Psychological distress, social isolation, worries, and fear of the disease and its future consequences were reported. Mothers showed that the added financial burden resulting from frequent hospitalisation and unpaid leave was a challenge. Deficiency in knowledge, including lack of knowledge about the disease and lack of sources of knowledge, was another challenge. Health education is a highly acknowledged and valued approach to lowering distress and challenges associated with rearing a thalassaemic child. © 2017, © The Author(s) 2017.

Alsoub, R.K., Alrawashdeh, T.A., Althunibat, A.

User acceptance criteria for enterprise resource planning software systems

(2018) International Journal of Innovative Computing, Information and Control, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85041119177&doi=10.24507%2fijic.14.01.297&partnerID=40&md5=5083bbf40e698c325b581672e15e9f92

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Software Engineering Department, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: Enterprise resource planning (ERP) software systems have become progressively more vital for private and public organizations' operations, and one of the most important applications among computer information systems. However, the implementation of ERP software systems is a complex issue, as it contains different types of the end users. Therefore, this study investigated and identified several factors with focusing more on the software characteristics that contribute to shape the user acceptance of ERP software, in which the developers could pay more attention to ERP software implementation from early development stages. The research model was constructed, based on the unified theory of acceptance and use of technology (UTAUT). The findings revealed that the acceptance of ERP software is affected by performance expectancy, effort expectancy, social influence, software interoperability, software cost, and software security. © 2018 ICIC International.

Nawafleh, H.A., Al Hadid, L.A., Al Momani, M.M., Al Barmawi, M.

Measuring the psychometric properties of the Arabic version of the spirituality questionnaire among university students in South Jordan

(2018) Applied Nursing Research, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85033379314&doi=10.1016%2fj.apnr.2017.11.008&partnerID=40&md5=bfc07c86e1c517fd214ba8bc497ca030

AFFILIATIONS: Princess Aisha Bint Al Hussein College of Nursing and Health Sciences, Al Hussein Bin Talal University, Ma'an (71111), P.O. Box: 20, Jordan;

Clinical Department, Alzaytoonah University of Jordan (ZUJ), Faculty of Nursing, Nursing Department, Amman, Jordan

ABSTRACT: Spirituality has been recently recognized in many areas around the world as a factor influencing the general health and wellbeing on individuals. There is a scarcity addressing this issue in the Middle East, like many other regions. Perhaps one reason for this is related to the absence of instruments measuring spirituality. The goal of this study was to investigate the psychometric properties of the spiritual questionnaire in university students in South Jordan. Exploratory and confirmatory factor analyses were performed on data coming from a sample of university students (n = 1269). The questionnaire demonstrated validity and reliability. While the confirmatory factor analysis resulted in 29-item model, the exploratory factor analysis resulted in a 21-item model. The main factors in the model were self-awareness, importance of spiritual belief, spiritual practices, and spiritual needs. Spirituality questionnaire demonstrated good validity and reliability levels when used to measure spirituality among university students in Jordan. The 21-item model requires further testing to ensure stability over use. It is crucial in the future to test the impact of spirituality on the general health and wellbeing of adult individuals using the spirituality questionnaire and other research instruments. © 2017 Elsevier Inc.

Al Omoush, K.S., Al-Qirem, R.M., Al Hawatmah, Z.M.

The degree of e-business entrepreneurship and long-term sustainability: an institutional perspective (2018) Information Systems and e-Business Management, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014625539&doi=10.1007%2fs10257-017-0340-4&partnerID=40&md5=39801db9c6be4e9bf2284d78260d18ab>

AFFILIATIONS: Department of Business Administration, Al Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Management Information Systems, Al Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Accounting, Al Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: The purpose of this study is to develop and validate an institutional model to investigate the relationships among institutional drivers, the degree of e-business entrepreneurship, actual usage, and long-term sustainability of business organizations. A questionnaire was developed to collect data from 41 manufacturing firms with a sample of 328 respondents. Structural equation modeling using EQS was conducted to analyze the data. The results reveal a significant impact of institutional pressures on the degree of e-business entrepreneurship. The findings also reveal a direct relationship between the degree of e-business entrepreneurship and the actual usage of e-business innovations. Moreover, the degree of e-business entrepreneurship and the actual usage of e-business innovations have a direct impact on long-term sustainability. The present empirical study contributes to a better understanding of the existing theories and practices of e-business entrepreneurship and e-innovations in today's business organizations. This study also provides insights into the drivers and the role of entrepreneurship in manufacturing firms with strategies of e-business adoption and use to gain long-term sustainability. © 2017, Springer-Verlag Berlin Heidelberg.

Al-Ayyoub, M., AlZu'bi, S., Jararweh, Y., Shehab, M.A., Gupta, B.B.

Accelerating 3D medical volume segmentation using GPUs

(2018) Multimedia Tools and Applications, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85006489555&doi=10.1007%2fs11042-016-4218-0&partnerID=40&md5=80d16276473c202e191fbeca5e496901>

AFFILIATIONS: Jordan University of Science and Technology, Irbid, Jordan;

Computer Science Department, School of Science and Information Technology, Zaytoonah University of Jordan, Amman, Jordan;

National Institute of Technology Kurukshetra, Kurukshetra, India

ABSTRACT: Medical images have an undeniably integral role in the process of diagnosing and treating of a very large number of ailments. Processing such images (for different purposes) can significantly improve the efficiency and effectiveness of this process. The first step in many medical image processing applications is segmentation, which is used to extract the Region of Interest (ROI) from a given image. Due to its effectiveness, a very popular segmentation algorithm is the Fuzzy C-Means (FCM) algorithm. However, FCM takes a long processing time especially for 3D model. This problem can be solved by utilizing parallel programming using Graphics Processing Unit (GPU). In this paper, a hybrid parallel implementation of FCM for extracting volume object from medical DICOM files has been proposed. The proposed algorithm improves the performance 5× compared with the sequential version. © 2016, Springer Science+Business Media New York.

Iskandarani, M.Z.

A novel approach to analyze impact damage in composite structures using optical flow cross correlation with neural networks (N-OFCC)

(2018) Proceedings of Computing Conference 2017, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046085963&doi=10.1109%2fSAI.2017.8252160&partnerID=40&md5=91321348962b5c213f19ee711ead607b>

AFFILIATIONS: Faculty of Engineering and Technology, Department of Electrical Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Correlative intelligent approach to predicting damage level in composite structures is presented, tested and proved to be effective. Using energy flow analysis under MATLAB environment and in connection with a neural networks intelligent algorithm (Weight Elimination Algorithm-WEA) proved to be very successful in predicting level of impact damage from correlated features obtained from static images taken for samples under test. © 2017 IEEE.

Hnaif, A.A., Aldahoud, A., Alia, M.A., Al'otoum, I.S., Nazzal, D.

Multiprocessing scalable string matching algorithm for network intrusion detection system

(2018) International Journal of High Performance Systems Architecture, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85067104805&doi=10.1504%2fIJHPSA.2019.100715&partnerID=40&md5=9f6fa31762d229ad48b48fa5f0b9ba37>

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: With high increasing speed of today's computer networks which affects the performance of security issues in terms of detection speed, the traditional security tools such as firewall is insufficient to protect the networks from external threads. Intrusion detection systems (IDS) are one of the most reliable tools that can be used to monitor all the network traffic to identify unauthorised usage of computer system networks. In this paper, we have proposed a scalable string matching algorithm based on network IDS (NIDS) to enhance the speed of NIDS detection engine, which called multiprocessing scalable string matching algorithm for network intrusion detection system (MSNIDS). The MSNIDS implemented by using enhanced weighted exact matching algorithm (EWEMA) in both sequential and parallel processing. The MSNIDS based on EWEMA can be achieved more than 89% in sequential processing time compared with WEMA, and 86% in parallel processing time compared with sequential matching processing. Copyright © 2019 Inderscience Enterprises Ltd.

Al-Sraheen, D.A.-D., Al Daoud, K.A.

Does the presence of independent directors reduce the practices of earnings management? The moderating role of family ownership concentration [Je li prisutnost neovisnih direktora smanjuje prakse upravljanja plaćama? moderirajuća uloga koncentracije obiteljskog vlasništva] (2018) Ekonomski Pregled, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85065587492&doi=10.32910%2fep.69.6.2&partnerID=40&md5=39456935edd43cbcfb62b0d263163d25>

AFFILIATIONS: Faculty of Business, Al-Zaytoonah University of Jordan, Jordan;

Faculty of Economics and Administrative Sciences, Yarmouk University, Jordan

ABSTRACT: While often criticized, the independence of directors remains a crucial criterion for evaluating the effectiveness of the monitoring role of boards. This study examines the relationship between board independence and earnings management, paying attention to moderation role of family ownership concentration on this relationship using a sample of services companies listed on Amman Stock Exchange ASE. This study documented a significant and negative association between board independence and earnings management. In addition, the moderating role of family ownership concentration on this relationship was also negative. Thus, the board's monitoring function was inefficient due to the concentration of ownership. These results were obtained through using multiple and sequential regression analysis for the research data from 2013 to 2016. This study provides new ideas for future research such as examining the impacts of the migration of capitals and investors from neighbouring countries such as Syria and Iraq. © 2018, Hrvatsko Drustvo Ekonomista. All rights reserved.

Al-Kalaldeh, M., Alghabeesh, S., Suleiman, K., Abu-Sharour, L.

Assessment of nutritional status of critically ill patients using the malnutrition universal screening tool and phase angle (2018) Topics in Clinical Nutrition, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85064119565&doi=10.1097%2fTIN.000000000000136&partnerID=40&md5=c7f192ca07d4da72f47ce70f06fbeb99>

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, PO Box 694-11592, Amman, Jordan

ABSTRACT: No consensus exists on using a specific screening tool to assess malnutrition in critically ill patients. Thus, we assessed malnutrition in intensive care unit (ICU) patients by comparing similarity of results between the Malnutrition Universal Screening Tool (MUST) and Phase Angle (PhA) measured by Bioelectrical Impedance Analysis. A cross-sectional observational study of 321 patients examined their nutritional status at least 1 week after the ICU admission using MUST, PhA, and anthropometric measurements. Diagnoses and Acute Physiologic Assessment and Chronic Health Evaluation II scores were retrieved retrospectively. The mean of Acute Physiologic Assessment and Chronic Health Evaluation II score was 17.73, indicating moderate morbidity. The majority of patients (71.0%) were fed enterally while the remaining (29.0%) did not have any nutritional intervention. Although the average body mass index was normal, only 55.3% of patients received the prescribed calories up to the day of assessment (median day of assessment was 11 [interquartile range: 9-18]). The MUST and PhA results showed that patients fell consistently into 3 malnutrition levels. Hierarchical Multiple Regression revealed that MUST (risk of malnutrition) explained an additional 44.9% of the variance in PhA (β : -0.449 , $P < .001$, confidence interval: -1.25 to -0.740). Although MUST measures malnutrition subjectively, it demonstrated higher congruency with Bioelectrical Impedance Analysis in the screening of malnutrition in this sample of critically ill patients. © 2018 Wolters Kluwer Health, Inc.

Al-Qerem, W., Gassar, E.S., Hammad, A.M., Al-Qirim, R.A., Jarrar, Y.B., Ling, J., Basheti, I.A.

Assessing the application of the reference lung age equations on the jordanian population (2018) Current Respiratory Medicine Reviews, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062832106&doi=10.2174%2f1573398X15666190112151713&partnerID=40&md5=a97c2fc81d1e9b6eb9a2332d1e103904>

AFFILIATIONS: Department of Pharmacy, College of Pharmacy, Al-Zaytoonah University of Jordan, Amman,

Jordan;

Faculty of Health Sciences, Wellbeing University of Sunderland, United Kingdom;
Department of Clinical Pharmacy & Therapeutics, Faculty of Pharmacy, Applied Science Private University, Amman, Jordan

ABSTRACT: Background: Smoking is a major health-related problem in Jordan due to which an effective smoking cessation program is needed. Lung Age which emphasizes the concept of a premature aging of the lungs, is a simple notion that smokers can grasp. Employing reference lung age equations can help health care providers convince smokers to quit. In this study the applicability of reference equations was assessed in estimating lung age for the Jordanian population, to aid smoking cessation. Methods: Adult Jordanians were recruited from Al-Zaytoonah University of Jordan and from several community pharmacies, polyclinics and hospitals located in different areas in Jordan. Overall, 1767 participants of both genders from different age groups were recruited to evaluate the applicability of different reference lung equations for the Estimated Lung Age (ELA). SPSS was used to conduct all statistical analysis. Results: A paired t-test showed a significant difference ($p < 0.05$) between the Chronological Lung Age (CLA) and the ELA among the non-smokers. Similarly, some reference equations including Hansen and Morris and Temple FEF25-75 equations failed to show significant differences in ELA between different smoking status groups for women. Conclusions: Our results suggest that the current lung age equations are not reliable in predicting lung age among the Jordanian population, and thus cannot be used in smoking cessation programs. © 2018 Bentham Science Publishers.

Al-Jazzar, S.O., Aldalahmeh, S.

AOA, delay, and complex propagation factor estimation for the monostatic MIMO radar system (2018) International Journal of Antennas and Propagation, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85062631655&doi=10.1155%2f2018%2f2054271&partnerID=40&md5=6fed8f657da590103a5a1b2a46c2bf27

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: In this paper, we propose a solution to find the angle of arrival (AOA), delay, and the complex propagation factor for the monostatic multiple-input multiple-output (MIMO) radar system. In contrast to conventional iterative computationally demanding estimation schemes, we propose a closed form solution for most of the previous parameters. The solution is based on forming an approximate correlation matrix of the received signals at the MIMO radar receiver end. Then, an eigenvalue decomposition (EVD) is performed on the formed approximate correlation matrix. The AOAs of the received signals are deduced from the corresponding eigenvectors. Then, the delays are estimated from the received signal matrix properties. This is followed by forming structured matrices which will be used to find the complex propagation factors. These estimates can be used as initializations for other MIMO radar methods, such as the maximum likelihood algorithm. Simulation results show significantly low root mean square error (RMSE) for AOAs and complex propagation factors. On the other hand, our proposed method achieves zero RMSE in estimating the delays for relatively low signal-to-noise ratios (SNRs). Copyright © 2018 Saleh O. Al-Jazzar and Sami Aldalahmeh. This is an open access article distributed under the Creative Commons Attribution License

Khdair, A.I., Abu-Rumman, G., Khdair, S.I.

Evaluation the mechanical harvesting efficiency of olive with the application of fruit loosening spray

(2018) Agricultural Engineering International: CIGR Journal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0->

85062390824&partnerID=40&md5=71831a08208c84e47387c970cd4cbf27

AFFILIATIONS: Mechanical Engineering Department, Jordan University of Science and Technology, Irbid, 22110, Jordan;

Department of Civil Engineering, Isra University, Amman, 11622, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: Olive is harvested mainly by hand in the Mediterranean. This resulted in steady rising of harvesting cost due to shortage of skilled labors at harvesting time. Operation cost might be reduced and harvesting processes will be carried out on time if mechanical harvesters are used. In 2015, an experiment was performed to study the effects of mechanical harvester and use of loosening agent on harvesting productivity and efficiency. The experiment was conducted using randomized complete block with two regional olive varieties Nabali Rosie and Nabali. Harvesting productivity by hand (hand picking), pneumatic comb and branch shaker machines were evaluated. Ethrel abscission chemical was used two weeks before harvesting as an abscission and loosening agent at three concentration levels: 0, 1500 and 3000 mg L⁻¹. The results showed that harvesting techniques and Ethrel amount had significant effects on harvesting percent at $\alpha = 0.01$. The harvesting productivity increased by two and four times compared to traditional method (hand harvesting) using pneumatic comb and branch shaker machines, respectively. The fruit detachment force (FDF) was also significantly affected by abscission dosage at $\alpha = 0.01$. It was reduced from 9.35 N to 5.65 N for Nabali Rosie at Ethrel level of 3000 (mg L⁻¹). This reduction in FDF as a result of abscission application increased the removal

percentage and harvesting production of olives. The percentages of injured fruits and detached leaves were acceptable with less than 10% and 12%, respectively. © 2018, Int. Comm. of Agricultural and Biosystems Engineering. All rights reserved.

Aqel, D., Hawashin, B.

Arabic relative clauses parsing based on inductive logic programming

(2018) Recent Patents on Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061656524&doi=10.2174%2f2213275911666180904105329&partnerID=40&md5=b5c75fd99064e00bcdf4b204f0603fee)

[85061656524&doi=10.2174%2f2213275911666180904105329&partnerID=40&md5=b5c75fd99064e00bcdf4b204f0603fee](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061656524&doi=10.2174%2f2213275911666180904105329&partnerID=40&md5=b5c75fd99064e00bcdf4b204f0603fee)

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Parsing English language achieved effective results over the last few decades. However, parsing a difficult language such as Arabic represents a major challenge at the present, since it is characterized by the rich morphology and contains complex linguistic characteristics not found in other languages. Although parsing systems for Arabic have been developed recently, however, most of them do not support any deeper processing for the Arabic sentences such as providing an effective dependencies analysis to identify, for example, the relative clauses in these sentences. Objective: This paper develops a new framework and system that support the process of parsing Arabic sentences and writing well-formed Arabic relative clauses. Method: The developed framework is applied to learn the grammar rules for Arabic relative clauses based on the use of machine learning, in particular, Inductive Logic Programming (ILP). A corpus of Arabic relative sentences was generated from Quran and used in the experiments made in this research. The sentences in this corpus were firstly processed by using the Natural Language Processing (NLP) toolkit called Stanford coreNLP and then given to the ILP system ALEPH to automatically learn a grammar for Arabic relative clauses. A system was developed to extract Arabic relative clauses from Arabic sentences based on the rules produced by ALEPH. Results: An empirical evaluation of the developed system was carried out and achieved promising results with an overall accuracy of 83%. Conclusion: Our results lead to conclude that the developed system is able to perform a deeper dependency parsing for Arabic text as well as it can identify relative clauses in Arabic sentences. © 2018 Bentham Science Publishers.

Al-Sraheen, D.A.-D.O.

Does the provision of non-audit services impair auditor independence? The moderating role of audit committee financial expertise

(2018) Proceedings of the 31st International Business Information Management Association Conference, IBIMA 2018: Innovation Management and Education Excellence through Vision 2020, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060824290&partnerID=40&md5=286a6155e9288f4988e78bd2dd59a220)

[85060824290&partnerID=40&md5=286a6155e9288f4988e78bd2dd59a220](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060824290&partnerID=40&md5=286a6155e9288f4988e78bd2dd59a220)

AFFILIATIONS: Department of Accounting, Faculty of Business., Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: There is a widespread perception that the providing of non-audit services by auditors undermines auditor independence. Audit quality suffers when clients are willing to purchase future NAS from their auditor. This study was conducted in the Jordanian environment in order to protect auditor independence. A sample of industrial firms were selected. This paper provides an analysis of the relationship between NAS and auditors' independence. This study pointed out that there is a negative relationship between provision NAS and auditor independence. A sample of industrial companies listed on ASE was selected for the years 2014 to 2016 to conduct this research. This study seeks to contribute to the related literature by adding the moderating role of financial experts' members in audit committee on such negative relationship. The study documented that the financial expertise of the audit committee members has been shown to contribute positively to reducing such negative relationship. This study suggested to corporate boards to provide adequate attention when selecting members of the Audit Committee and searching for members who financial expertise to contribute in maintaining the committee oversight role and obtaining higher level of audit quality. © 2018 Elsevier Ltd. All rights reserved.

Nawafleh, S., Al-Ajlouni, M.I., Al-Tamimi, J.A., Shiab, A.Q.

Factors affecting client's intentions of use Islamic financing: Filed study in the Jordanian context (2018) Proceedings of the 31st International Business Information Management Association Conference, IBIMA 2018: Innovation Management and Education Excellence through Vision 2020, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060799939&partnerID=40&md5=66feebafe17e2f382271eed2fc04025e)

[85060799939&partnerID=40&md5=66feebafe17e2f382271eed2fc04025e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060799939&partnerID=40&md5=66feebafe17e2f382271eed2fc04025e)

AFFILIATIONS: Yarmouk University, Irbid, Jordan;
Faculty of Business, Al-Zaytoonah University of Jordan, Jordan;

Alimony Fund Organization, Jordan;

Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Islamic financing has been increasingly adopted by various kinds of consumers from the

1970s, with the global banking environment now including Islamic banking. Therefore, the willingness to use Islamic banking among consumers is important to assess. Existing research of an empirical nature is lacking on the subject, despite academic marketing papers acknowledging the significance of usage intentions related to Islamic banking. Therefore, Jordan's Islamic banking environment and consumers' intentions to adopt it are explored in this research. A self-distributed survey, which achieved 218 responses, was adopted for data collection. Additionally, linear regressions were mitigated through adopting Structural Equation Modelling. Islamic banking usage intention was found to be significantly affected by attitudes, social factors and religious identity. However, the respondents' intentions did not show the effect of awareness as significant. Given that the results are survey-based, alternative methodologies and further research is advocated. © 2018 Elsevier Ltd. All rights reserved.

Malak, M.Z., Abukamel, A.M.

Self-medication among university students: A phenomenological study

(2018) EuroMediterranean Biomedical Journal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060388971&doi=10.3269%2f1970-5492.2018.13.37&partnerID=40&md5=e5603a4d6a5dda2498648100f18b0f66>

AFFILIATIONS: Community Health Nursing, Faculty of Nursing, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Self-medication is recognized as a behavior of health management among university students.

This study aimed to describe the practices of self-medication and explore the factors influencing self-medication practices among university students built upon by the experiences of students who were concerned with this issue. A phenomenological qualitative approach was applied by using a purposive sampling method consisting of 30 university students. Semi-structured interviews were used to collect data. The results showed the most common form to be purchasing non-prescription medications. Paracetamol and medications for treating the cold and flu were the most common types of self-medication. This behavior is influenced by a previous experience of self-medication, doctors and health services, influential persons, environmental factors, attitudes towards self-medication and doctors, cost, the perception of the disease and its symptoms, and self-medication information resources. Therefore, it is necessary to develop interventions and strategies to minimize the risks and harmful effects associated with the improper use of these medications based on influencing factors. © EuroMediterranean Biomedical Journal 2018.

Kasasbeh, H.A., Mdanat, M.F., Khasawneh, R.

Corruption and FDI inflows: Evidence from a small developing economy

(2018) Asian Economic and Financial Review, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059843431&doi=10.18488%2fjournal.aefr.2018.88.1075.1085&partnerID=40&md5=bc4378a12e210c23e387321ecac6844b>

AFFILIATIONS: Department of Banking and Finance, Al-Zaytoonah University of Jordan, Jordan; Management Science Department, German Jordanian University, Jordan

ABSTRACT: This study proposes an analytical framework for examining factors affecting foreign direct investment (FDI) inflows into developing economies, taking Jordan as an example. It uses multivariate VAR analysis to address the relationships of FDI with institutional factors, economic factors, population and financial factors. It thus demonstrates the existence of a significant negative effect of corruption on FDI inflows. However, this effect is substantially alleviated by improving the quality of institutions and good governance in the country. Based on the analysis, the study proposes a number of policies that could assist in attracting FDI. Supportive policies that tend to limit corruption are more likely to enforce the rule of law and good governance, which can contribute positively to attracting FDI. © 2018 AEES Publications. All Rights Reserved.

Jarrar, Y.B., Al-Essa, L., Kilani, A., Hasan, M., Al-Qerem, W.

Alterations in the gene expression of drug and arachidonic acid-metabolizing Cyp450 in the livers of controlled and uncontrolled insulin-dependent diabetic mice

(2018) Diabetes, Metabolic Syndrome and Obesity, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058366713&doi=10.2147%2fdms0.s172664&partnerID=40&md5=d0e1d9d58b28de309052d1af627a56ff>

AFFILIATIONS: Department of Pharmacy, College of Pharmacy, Al-Zaytoonah University of Jordan, Airport street, Amman, Jordan

ABSTRACT: Background: Diabetic patients have lower capacity to metabolize drugs in comparison to normal people. Therefore, the present study aimed to investigate the alterations in gene expression of drug and arachidonic acid metabolizing cytochrome p450s (cyp450s) in the livers of controlled (CDM) and uncontrolled (UDM) insulin-dependent diabetic mice. Methods: Balb/c mice were treated with single dose of streptozocin (240 mg/kg) to induce diabetes and compared with control group, which was treated with citric buffer (pH =4.5). After 3 days, the blood glucose level was measured to confirm the induction of diabetes. Normalization of blood glucose level in diabetic mice was achieved after

0.1 mL/kg Mixtard® insulin therapy for more 5 days. Then, the mice livers were isolated to extract RNA and convert it to cDNA. The gene expression of 14 genes, which play a major role in drug and arachidonic acid metabolism, were measured using quantitative real-time polymerase chain reaction technique. Results: It was found that the gene expression was downregulated (ANOVA test, P-value <0.05) in the livers of UDM mice. The most downregulated genes were cyp4a12, cyp1a2, and slc22a1 with more than 10-fold reduction. The livers of CDM mice showed significantly (P-value <0.05) higher levels of mRNA than UDM mice, but still lower than the non-diabetic mice. Conclusion: This study concluded that hepatic gene expression of drug metabolizing and arachidonic acid-cyp450 enzymes is reduced in insulin-dependent diabetic mice, which can explain, at least in part, the variation in drug and fatty acid metabolism between normal and diabetic patients. © 2018 Jarrar et al.

Talafha, H.M.

Meta-orientalist critique in Edgar allan poe's "the thousand-and-second tale of scheherazade" (2018) International Journal of Literary Humanities, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058297043&doi=10.18848%2f2327-7912%2fCGP%2fv16i03%2f1-15&partnerID=40&md5=0b7edb1e57e10a3451bc093b6c95c9f5>

AFFILIATIONS: Department of English, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: In "The Thousand-and-Second Tale of Scheherazade," Edgar Allan Poe presents his criticism of the Orientalist discourse of his time, explaining ultimately the conditions that empowered and sustained this discourse for a long time. This authorial standpoint is traced and reconstructed in the process of three stages. First, Poe introduces an Orientalist narrator who constructs a typical Orientalized text by creating a sequel to the frame story of the "Arabian Nights." Second, the narrator's text is deconstructed in a way that renders Poe clearly dissociated from the multiple narrators within his story and attracts attention to his counter-Orientalist attitude. Third, the complex structure of the tale, composed of different narratives within a frame story, and the gaps and contradictions within these narrative levels reflect necessarily how the Orientalist discourse of Poe's time is based upon a process of simulations that makes the whole system of Orientalism devoid of any truth. © Common Ground Research Networks, Haitham M. Talafha.

Zwierzyński, P., Ahmad, H.

Seru production as an alternative to a traditional assembly line

(2018) Engineering Management in Production and Services, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056907103&doi=10.2478%2femj-2018-0017&partnerID=40&md5=c10b5a67a50fe9473e5639f4b818f277>

AFFILIATIONS: Bialystok University of Technology, Faculty of Engineering Management, Poland;

Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: The article presents the concept of seru production and a simple simulation experiment to check the application effectiveness of the seru production concept in the assembly line of finished products. The article presents the concept of seru production created by Japanese electronics manufacturing companies in the 90s. The simulation experiment showed, better results using the seru production concept compared to a traditional assembly line. Three types of production cells were used and each option turned out to be better than a traditional assembly line. © 2018 WDG. All rights reserved.

Sharour, L.A., Suleiman, K., Al-Ghabeesh, S.

Toward having safe environment in critical care units: A multisite study

(2018) Critical Care and Shock, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056889491&partnerID=40&md5=91a3bc58a33ad345f6486e9261c95>

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Objective: This study was conducted to assess the safety culture in Jordanian intensive care units. Design: The study was descriptive, cross-sectional design, and multisite. Setting: The Safety Attitude Questionnaire-Intensive Care Unit (SAQ-ICU) version was utilized. Three hundred completed questionnaires were returned from four critical care units. Results: The results offered a fundamental element for further research on safety matter in Jordanian ICUs. Many recommendations were highlighted by the Jordanian nurses in order to improve the safety culture in the ICUs including standard nurse-patients ratio, good communication and collaboration between health professionals, enhance continuing education and training. To the knowledge, this is the first study conducted in Jordan using the SAQ to examine nurses' safety culture attitudes in Jordanian ICUs. Conclusion: The present findings provide a baseline for future research aiming for improving the quality of care in Jordanian ICUs. © 2018, Indonesian Society of Critical Care Medicine. All rights reserved.

Ahmad, A., Ismail, S.

User selective encryption method for securing MANETs

(2018) International Journal of Electrical and Computer Engineering, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056827351&doi=10.11591%2fijece.v8i5.pp.3103-3111&partnerID=40&md5=69c0efc7e3c6314763b5e1639c15f232>

AFFILIATIONS: Department of Electrical, Computer and Communication Engineering, Al-Zaytoonah Private University of Jordan, Jordan;

Department of Computer Science and Engineering, American University of Ras Al Khaimah, American University of Ras Al Khaimah Road, PO BOX: 10021, Ras Al Khaimah, United Arab Emirates

ABSTRACT: Security issue is getting important day by day. At present, there are a variety of methodologies to provide protection for data confidentiality. MANETs have lots of security challenges than traditional networks like infrastructure-less and self-organizing requirements. As the MANETs are dynamic networks that's make every transmission in such networks vulnerable to many attacks and improving security level becomes a main issue. This paper introduces a user selective encryption method by operating Data Encryption Standard (DES), Triple DES (3DES), Advanced Encryption Standard (AES) and the Diffie-Hellman Key Exchange (DHKE) protocol for key management in order to improve MANET security. Through the Network Simulator-2 (NS-2), the we investigate the performance of the proposed method in terms of data transfer time and network throughput for different data sizes and different sender-to-receiver number of hops. The results show the superiority of AES over other encryption algorithms. Furthermore, the effectiveness of our proposed method is verified through comparing our results with those obtained from previous studies. © 2018 Institute of Advanced Engineering and Science. All rights reserved.

Sweidan, K., Zalloum, H., Sabbah, D.A., Idris, G., Abudosh, K., Mubarak, M.S.

Synthesis, characterization, and anticancer evaluation of some new N 1-(anthraquinon-2-yl) amidrazone derivatives

(2018) Canadian Journal of Chemistry, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85056633410&doi=10.1139%2fcjc-2018-0145&partnerID=40&md5=3a71f36fedf4045ab0c3e2c219cf03d9>

AFFILIATIONS: Department of Chemistry, University of Jordan, Amman, 11942, Jordan;

Hamdi Mango Center for Scientific Research, University of Jordan, Amman, Jordan;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Chemistry, Al-Isra University, Amman, Jordan

ABSTRACT: A new series of novel N1-anthraquinon-2-yl amidrazones incorporating N-piperazines and related congeners were synthesized via reaction of the hydrazonoyl chloride derived from 2-qaminoanthraquinone with the appropriate piperazine (secondary amine). Structures of the new compounds were confirmed by a panel of spectroscopic methods including IR, NMR, and MS and by elemental analysis. The antitumor activity of the newly prepared compounds was evaluated in vitro against MCF-7 breast cancer, K562 chronic myelogenous leukemia, and dermal fibroblasts cell lines by means of a cell viability assay using the tetrazolium dye 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide. Results revealed that compounds 13a and 13d exhibit the highest inhibitory activity against K562 and MCF-7 cell lines. These two compounds could be considered as promising as potential anticancer drugs. © 2018 Published by NRC Research Press.

Al-Qerem, W., Gassar, E.S., Al-Qirim, R., Mohamed, N.A.E.

The effect of obesity on pulmonary function testing among the Jordanian population

(2018) Current Respiratory Medicine Reviews, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055443068&doi=10.2174%2f1573398X14666180831113318&partnerID=40&md5=4d447d138485d8172a5bf8f1514418c0>

AFFILIATIONS: Faculty of Pharmacy, AlZaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Obesity is a major health problem in Jordan. It has a deteriorating effect on pulmonary function tests. This study evaluated the impact of obesity on pulmonary function tests on the Jordanian population. Methods: Nonsmoking adults that did not suffer from cardiopulmonary disease were selected in this cross-sectional study. The participants were divided into two groups. The first group was the tested group, obese group (BMI≥30 kg/m²), the other was matched normal weight participants (BMI=18.5-24.9 kg/m²). Measurements of lung-function, height and weight were performed, statistical analysis was conducted using linear regression, independent t-test and Mann-Whitney Test. Results: Linear regression showed that obesity decreased natural logarithm of forced vital capacity log (FVC), log forced expiratory volume in the first second (FEV1) and log Peak Expiratory Flow Rate (PEFR) in males and decreased log (FVC) and log (FEV1) in females. Height was positively associated with log (FVC), log (FEV1) and log (PEFR) in both sexes, while age was negatively associated with log (FVC) and log (FEV1) in both sexes. Conclusion: Obesity was negatively associated with pulmonary function tests. The result of this study has further shown the importance of weight control programs among the Jordanian population. © 2018 Bentham Science Publishers.

Hmood, K., Jumaily, H., Melnik, V.

Urban architectural heritage and sustainable tourism

(2018) WIT Transactions on Ecology and the Environment, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054647963&doi=10.2495%2fST180201&partnerID=40&md5=0b6c2b2b54e815aae2104447ffc27a60)

[85054647963&doi=10.2495%2fST180201&partnerID=40&md5=0b6c2b2b54e815aae2104447ffc27a60](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054647963&doi=10.2495%2fST180201&partnerID=40&md5=0b6c2b2b54e815aae2104447ffc27a60)

AFFILIATIONS: Department of Architecture, Al-Zaytoonah University of Jordan, Jordan;

Department of Architecture, Middle East University, Jordan;

Department of Architecture, Applied Science Private University, Jordan

ABSTRACT: Tourism is an ancient phenomenon that has developed throughout time; it has changed from a source of entertainment to a source of national income. It reawakens societies culturally, intellectually, and artistically. As a result, developing tourism is a major issue in many countries. Tourist locations are divided into many types, including the archaeological locations that result in heritage tourism, which is considered to be one of the most important components of sustainable tourism. This research tackles an important issue: the absence of clear strategic policies that work on balancing the richness of the architectural and historical heritage in many countries, and the lack of efforts in achieving the optimum utilization of archaeological and heritage sites for developing heritage tourism. This research starts by emphasizing the importance of preserving urban and architectural heritage. Then, it moves to studying the policies used in preserving tourist locations. By applying the descriptive analysis method, it discusses the successful experiences of heritage tourism. Finally, it analyzes these experiences, reaching the conclusions and recommendations. The descriptive analysis method relies on an important research hypothesis; the ideal and efficient use of our cultural heritage is achieved by constructing sustainable restoration of archaeological and heritage sites to achieve sustainable heritage tourism. Everyone involved in investing in it, to enhance its tourist role, should do this. This research benefited from experiments in countries which possess a heritage, in deriving lessons, values and concepts that contribute in achieving an efficient program for the sustainable tourism development, which is based on preserving heritage in the old cities. It must balance between the society's needs, the available resources, the efforts of the executives and the city planning, all while protecting the environment. © 2018 WIT Press.

Jasim, S.H., Sheikha, G.M.A., Abuzaid, H.M., Al-Qirim, T.M., Shattat, G.F., Sabbah, D.A., Ala, S.A., Aboumair, M.S., Sweidan, K.A., Bkhaitan, M.M.

Synthesis and in vivo lipid-lowering activity of novel imidazoles-5-carboxamide derivatives in Triton-WR-1339-induced hyperlipidemic wistar rats

(2018) Chemical and Pharmaceutical Bulletin, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054135744&doi=10.1248%2fcpb.c18-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054135744&doi=10.1248%2fcpb.c18-00346&partnerID=40&md5=3c9a2738f17010b63ac1da5d7eed434c)

[00346&partnerID=40&md5=3c9a2738f17010b63ac1da5d7eed434c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85054135744&doi=10.1248%2fcpb.c18-00346&partnerID=40&md5=3c9a2738f17010b63ac1da5d7eed434c)
AFFILIATIONS: Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 17138, Jordan;

College of Science and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, 11481, Saudi Arabia;

Faculty of Science, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Chemistry, University of Jordan, Amman, 11942, Jordan;

Pharmaceutical Chemistry Department, Faculty of Pharmacy, Umm Al-Qura University, Makkah, 21955, Saudi Arabia

ABSTRACT: A new series of imidazole-5-carboxamide derivatives were prepared and tested for their anti-hyperlipidemic activity in Triton-WR-1339-induced hyperlipidemic Wistar rats. The purpose of this research was to improve benzophenone carboxamides water solubility maintaining at the same time the antihyperlipidemic activity. Compounds 4, 6, 10, and 11 were synthesized through a coupling reaction between imidazoles-5-carbonyl chloride and amino benzophenones. The tested animals (n=48) were divided into six groups: The first group (hyperlipidemic control group; HCG) received an intraperitoneal injection (i.p.) of (300 mg/kg) Triton WR-1339. The second group received i.p. injection of Triton WR-1339 followed by an intra-gastric administration of bezafibrate (100 mg/kg) (bezafibrate; BF). The third, fourth, fifth, and sixth groups received i.p. injection of Triton WR-1339 followed by an intra-gastric administration of (30 mg/kg) of compounds 4, 6, 10, and 11, respectively. At a dose of 30 mg/kg body weight compounds 4, 6, 10, and 11 significantly ($p < 0.0001$) decreased the plasma level of triglyceride (TG), low-density lipoprotein (LDL) and total cholesterol (TC) levels after 18 h of treatment. Additionally, compounds 4, 6, 11 and bezafibrate (100 mg/kg) significantly ($p < 0.0001$) increased the plasma level of high-density lipoprotein (HDL) levels, which is known for its preventive role against atherogenesis. These results demonstrate the possibility of pharmacokinetic properties improvement maintaining the biological and pharmacological profile of these compounds. © 2018 The Pharmaceutical Society of Japan.

Sabbah, D.A., Al-Tarawneh, F., Talib, W.H., Sweidan, K., Bardaweel, S.K., Al-Shalabi, E., Zhong, H.A., Sheikha, G.A., Khalaf, R.A., Mubarak, M.S.

Benzoin schiff bases: Design, synthesis, and biological evaluation as potential antitumor agents (2018) Medicinal Chemistry, .

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[85052870592&doi=10.2174%2f1573406414666180412160142&partnerID=40&md5=01e5b4e33aa67f41f9b0144a12d435d1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85052870592&doi=10.2174%2f1573406414666180412160142&partnerID=40&md5=01e5b4e33aa67f41f9b0144a12d435d1)

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Department of Clinical Pharmacy and Therapeutics, Applied Science Private University, Amman, Jordan;
Department of Chemistry, The University of Jordan, Amman, 11942, Jordan;
Department of Pharmaceutical Sciences, Faculty of Pharmacy, The University of Jordan, Amman, 11942, Jordan;
DSC 362, Department of Chemistry, The University of Nebraska at Omaha, 6001 Dodge Street, Omaha, NE 68182, United States

ABSTRACT: Background: Phosphoinositide 3-kinase α (PI3K α) is an attractive target for anticancer drug design. Objectives: Target compounds were designed to probe the significance of alcohol and imine moieties tailored on a benzoin scaffold to better understand the structure activity relation (SAR) and improve their biological activity as anticancer compounds. Methods: Chemical synthesis of the targeted compounds, biological evaluation tests against human colon adenocarcinoma (HCT-116), breast adenocarcinoma (MCF-7), and breast carcinoma (T47D) cell lines, as well as Glide docking studies were employed in this investigation. Results: A new series of 1,2-diphenylimino ethanol was successfully synthesized and characterized by means of FT-IR, HRMS, NMR, and by elemental analysis. Biological screening revealed that the newly synthesized compounds inhibit PI3K α activity in human colon adenocarcinoma (HCT-116), breast adenocarcinoma (MCF-7), and breast carcinoma (T47D) cell lines. Results additionally showed that these compounds exhibit selective antiproliferative activity, induce apoptosis, and suppress the VEGF production. Compounds 2b, 2d, and 2g displayed promising inhibitory activity in HCT-116 suggesting that hydrophobic and/or hydrogen bond-acceptor mediate(s) ligand-receptor interaction on o- and m-positions. Furthermore, compounds 2g, 2i, 2j, and 2h, bearing hydrophobic moiety on m- and p-position, exerted high antiproliferative activity in T47D and MCF-7 cells, whereas compound 2e showed selectivity against T47D and MCF-7. Molecular docking studies against PI3K α and caspase-3 demonstrated a strong correlation between the predicted binding affinity (ΔG_{obsd}) and IC₅₀ values of prepared compounds for the caspase-3 model, implying that the cellulosic inhibitory activity was caspase-3-dependent. Moreover, Glide docking against PI3K α identified Ser774, Lys802, E849, V851, and Asp933 as key binding residues. Conclusion: The series exerted a potential PI3K α inhibitory activity in human carcinoma cell lines expressing PI3K α . © 2018 Bentham Science Publishers.

Abu-Zreig, M., Zraiqat, A., Abd Elbasit, M.A.M.

Seepage rate from ceramic pitchers under positive and negative hydraulic head
(2018) Applied Engineering in Agriculture, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85052653977&doi=10.13031%2faea.12813&partnerID=40&md5=3d5e285b39c30266888565eb2845e2eb>

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Civil Engineering Department, Jordan University of Science and Technology, Irbid, Jordan;
Department of Mathematics, Al-Zaytoonah University of Jordan, Amman, Jordan;
Agricultural Research Council-Soil Climate and Water, Pretoria, South Africa;
International Platform for Dryland Research and Education, Tottori University, 1390 Hamasaka, Tottori, 680-0001, Japan

ABSTRACT: Picher irrigation is a traditional technique used to supply water to plants under drought conditions in arid regions. Laboratory experiments were conducted to evaluate water seepage rates from ceramic pots/pitchers, made from baked clay-sand local materials, under various environmental and hydraulic conditions. Seven ceramic pots (simulating ceramic emitters) with various dimensions were used in the experiments. Handmade ceramic pots of about 1 L in volume and 26 cm tall were used in the experiment. The hydraulic conductivities of the pots were measured using falling head method and the values ranged from 0.275 to 0.704 mm/d. Seepage rate from ceramic pots were measured in the air and when buried in the soil under constant and falling head method inside a temperature and humidity-controlled chamber. Results indicated that seepage rate is affected by various conditions including potential evaporation, soil suction pressure and moisture condition, and hydraulic head. Seepage rate from ceramic pots were higher under constant head condition and when buried inside soil than that under falling head or in the air. Seepage rates were found to increase steadily with potential evaporation but decrease gradually with increased soil moisture around ceramic pots. The value of hydraulic head seemed to have the largest effect on pitchers' seepage rate. The seepage rate under a constant head of 30 cm above the mouth of the ceramic pot tested in the experiment was 2500 mL/d but decreased to only 114 mL/d under a constant head of -25 cm below the mouth of the pot. The experiments revealed that ceramic pitchers can be used to supply water even under negative head thus eliminating the need for pressurized flow inside irrigation pipes. © 2018 American Society of Agricultural and Biological Engineers

Al-Zoubi, H.

Tubes of finite II-type in the euclidean 3-space
(2018) WSEAS Transactions on Mathematics, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85052114703&partnerID=40&md5=541f7b57b4bab45ee79976642a4e8c1e>

AFFILIATIONS: Al-Zaytoonah University of Jordan, Department of Mathematics, P.O. Box 130, Amman, Jordan, 11733, Jordan

ABSTRACT: In this paper, we consider surfaces in the 3-dimensional Euclidean space E^3 which are of finite II-type, that is, they are of finite type, in the sense of B.-Y. Chen, corresponding to the second fundamental form. We present an important family of surfaces, namely, tubes in E^3 . We show that tubes are of infinite II-type. © 2018 World Scientific and Engineering Academy and Society. All Rights Reserved.

Al-Qerem, W., Jarrar, Y.B., Al-Sheikh, I., Elmaadani, A.

The prevalence of drug-drug interactions and polypharmacy among elderly patients in Jordan (2018) Biomedical Research (India), .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85051133304&doi=10.4066%2fbiomedicalresearch.29-18-618&partnerID=40&md5=1994c92846b72ce18cef45ccc15f2a8d>

AFFILIATIONS: Department of Pharmaceutical Sciences, College of Pharmacy, Al-Zaytoonah University, Amman, Jordan

ABSTRACT: Background: The number of people aged 60 or older is estimated to be 5.6% among Jordanian population, those elderly people need special medical care; since they have a greater prevalence of chronic diseases and therefore subjected to higher prevalence of polypharmacy and potential drug-drug interaction (pDDI). There is no data about polypharmacy and pDDI in elderly patients among the Jordanian population. Methods: Prescriptions for patients aged 60 or older were examined and those patients were interviewed in several community pharmacies and hospitals' outpatient pharmacies. The interviews covered factors that may affect the possibility of pDDI and polypharmacy including patient's education level, number of doctors the patient see, number of drugs the patient take, does the patient live alone and does the patient take the medication by himself. Results: 367 (51.5% male and 48.5% female) patients were interviewed and their prescriptions examined. The data showed that 334 (91%) had at least one pDDI of those 67 (18.3%) had a major pDDI and 281 (76.6%) had at least one moderate pDDI. Polypharmacy was found in 275 (74.9%) of the participants. Factors that were associated with incidence of major pDDI included polypharmacy, taking Alimentary tract and metabolism drugs or drugs acting on blood and blood forming organ, and patient taking medication by him/herself. Several factors were associated with moderate pDDI including seeing a general practitioner, while polypharmacy was associated with education level and number of diseases. Conclusion: High incidence of major and moderate pDDI and polypharmacy was found. This study emphasizes the need for a better control over elderly prescription in Jordan. © 2018, Scientific Publishers of India. All rights reserved.

Al-Zoubi, H., Al-Zu'bi, S., Stamatakis, S., Almimi, H.

Ruled surfaces of finite Chen-Type

(2018) Journal for Geometry and Graphics, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050276855&partnerID=40&md5=66b90465e11eed7965ea89a21ef72973>

AFFILIATIONS: Department of Mathematics, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Computer Science, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Mathematics, Aristotle University of Thessaloniki, Greece

ABSTRACT: In this paper, we study ruled surfaces in the 3-dimensional Euclidean space which are of finite III -type, that is, they are of finite type, in the sense of B.-Y. Chen, with respect to the third fundamental form. We show that helicoids are the only ruled surfaces of finite III -type. © 2018 Helder mann Verlag.

Al Hanbali, O.A., Hamed, R., Arafat, M., Bakkour, Y., Al-Matubsi, H., Mansour, R., Al-Bataineh, Y., Aldhoun, M., Sarfraz, M., Yousef Dardas, A.K.

Formulation and evaluation of diclofenac controlled release matrix tablets made of HPMC and Poloxamer 188 polymer: An assessment on mechanism of drug release

(2018) Pakistan Journal of Pharmaceutical Sciences, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050234296&partnerID=40&md5=dfaea2baf35cb3e086258a0cd6583a95>

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Faculty of Science, Lebanese University, Tripoli, Lebanon;

Faculty of Pharmacy, University of Petra, Amman, Jordan;

Faculty of Pharmacy, Philadelphia University, Amman, Jordan;

Dana Pharmaceuticals Factory, Nablus-West Bank, Palestinian Authority, India

ABSTRACT: In this study, hydrophilic hydroxypropyl methylcellulose matrices with various concentrations of Poloxamer 188 were used in the development of oral controlled release tablets containing diclofenac sodium. Four formulations of hydrophilic matrix tablets containing 16.7% w/w HPMC and 0, 6.7, 16.7 and 25.0% w/w Poloxamer 188, respectively, were developed. Tablets were prepared by direct compression and characterized for diameter, hardness, thickness, weight and uniformity of content. The influence of various blends of hydroxypropyl methylcellulose and Poloxamer 188 on the in vitro dissolution profile and mechanism of drug release of was investigated. In the four formulations, the rate of drug release decreased with increasing the concentration of Poloxamer 188 at the initial dissolution stages due to the increase in the apparent viscosity of the gel diffusion layer. However, in the late dissolution stages, the rate of drug release increased with increasing Poloxamer 188 concentration due to the increase in wettability and dissolution of the matrix. The kinetic of drug release from the tablets followed non-Fickian mechanism, as predicted by Korsmeyer-Peppas model, which involves diffusion through the gel layer and erosion of the matrix system. © 2018 Pakistan Journal of Pharmaceutical Sciences. All rights reserved.

Al Hadid, L.A., AlRajabi, O.Z., Al Barmawi, M.A.

The relationship between iodine nutrition, thyroid function and obstetrical outcomes for Jordanian pregnant women

(2018) Jordan Journal of Biological Sciences, .

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[85049942066&partnerID=40&md5=836fa59301a25a8b76346c1da074408d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049942066&partnerID=40&md5=836fa59301a25a8b76346c1da074408d)

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ABSTRACT: Iodine deficiency causes many health problems to pregnant women and their newborns.

Knowledge about the impact of Iodine deficiency can improve health-related practices, such as seeking dietary and exogenous supplements to improve iodine levels. This study evaluates the knowledge level of pregnant women concerning the significance of the intake of iodine-supported salt and iodine-rich diets during pregnancy. It also investigates the impact of this knowledge on certain dietary habits and the effects of iodine deficiency on several maternal and child complications. It explores the impact of iodine deficiency on the health condition of mothers and their newborns. Among the 500 women surveyed in this study, the majority were young (aged < 45) and had previous pregnancies and at least one abortion. This study found that women had limited knowledge and poor dietary supplements of iodine relevant to a relatively high prevalence of abortion and anemia. Iodine deficiency is associated with several health conditions, such as infertility, fetal deaths, post-partum hemorrhage, and learning difficulties in the children to be born. This study suggests developing national policies and programs to improve people's awareness regarding iodine-related health conditions. © 2018 Hashemite University.

Abu Khalaf, R., Sabbah, D., Al-Shalabi, E., Al-Sheikh, I., Albadawi, G., Abu Sheikha, G.

Synthesis, structural characterization and docking studies of sulfamoyl-phenyl acid esters as dipeptidyl peptidase-IV inhibitors

(2018) Current Computer-Aided Drug Design, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049046506&doi=10.2174%2F1573409914666180308164013&partnerID=40&md5=da4d51fd7f6e01fa532549f8625c94cc)

[85049046506&doi=10.2174%2F1573409914666180308164013&partnerID=40&md5=da4d51fd7f6e01fa532549f8625c94cc](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049046506&doi=10.2174%2F1573409914666180308164013&partnerID=40&md5=da4d51fd7f6e01fa532549f8625c94cc)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Diabetes mellitus is a major worldwide health concern that has several serious complications including retinopathy, neuropathy, nephropathy and macrovascular diseases. Objective: Dipeptidyl peptidase-IV (DPP-IV) inhibitors, gliptins, are a new class of antidiabetic agents that potentiate the action of incretins in decreasing the blood glucose levels. Methods: In the present study, synthesis and characterization of a series of ten N4-sulfonamido-acrylic and phthalamic acid methyl esters (3a-e and 5a-e) were achieved. Results: In vitro anti-DPP-IV activity of the synthesized compounds was evaluated, where compound 3b demonstrated the best activity with a % inhibition of 41.7 at 10 µM concentration and an IC50 of 23.9 µM. Moreover, Glide docking experiments revealed that our targeted compounds accommodate the binding site of DPP-IV and tend to form H-bonding with the backbones of R125, E206, S209, D545, K554, W629, Y631, and G632. Conclusion: Modeling findings recommend the attachment of bulky hydrophobic group on the ester side of the structure in addition to harboring extra aromatic rings that might be beneficial for better binding interaction and biological activity. © 2018 Bentham Science Publishers.

Al Chahadah, A., El Refae, G.A., Qasim, A.

The use of data mining techniques in accounting and finance as a corporate strategic tool: An

empirical investigation on banks operating in emerging economies

(2018) International Journal of Economics and Business Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048340413&doi=10.1504%2fIJEBR.2018.092149&partnerID=40&md5=7bf161965179b8e1868c7e97dfae3e9a)

85048340413&doi=10.1504%2fIJEBR.2018.092149&partnerID=40&md5=7bf161965179b8e1868c7e97dfae3e9a

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ABSTRACT: Globalisation and recent financial crises have increased the pressures faced by banks operating in emerging economies to maintain their competitive advantages and to insure sustainability. Recent technological advancement paved the way for the use of big data to assist companies in the decision making process. One of the methods exploited by management to make advantage of the huge amount of available information is data mining. This study aims at examining the employment of data mining techniques in the banking sector in an interesting research setting, namely: Jordan. The main objective of this study is to explore the perceptions regarding the use of data mining techniques as a strategic management tool in the banking sector from accounting and finance perspective. Toward this end, a questionnaire is designed and distributed to a sample of 76 banking employees in Jordan who are directly involved in the banking decision support systems units. Results showed that the use of data mining techniques is positively significant in data exchange with internal environment as well as with the external environment of the bank. In addition, results reported the significance impact of data mining techniques in supporting management decision making process in the areas of accounting and finance. Copyright © 2018 Inderscience Enterprises Ltd.

Abdeen, L.F., Abd-Rabbo, M.M.

Orientalist discourse in John Updike's the coup: A saidian/foucauldian perspective

(2018) Dirasat: Human and Social Sciences, .

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85048138676&partnerID=40&md5=b084bd60f9d1e90a3d81bfcbad7a5bb7

AFFILIATIONS: Department of English, Faculty of Arts and Sciences, World Islamic Sciences and Education University, Jordan;

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ABSTRACT: This paper attempts to examine the Orientalist overtones of John Updike's novel The Coup (1978) within the framework of Edward Said's Orientalism (2003) and in light of Michel Foucault's theory of power and knowledge. The methodology of this research involves a textual analysis of the novel whereby significant passages from The Coup are scrutinized with regard to the following ideas: Orientalism as a political discourse, the East / West dichotomy, the distortion of Islam, free-flowing power and the role of the author. Emphasis is placed on the novel's Orientalist nuances and its misrepresentation of Islam, as well as the implications of the novel's Orientalism in embodying the notions of power, truth, hegemony, and the seemingly authoritative stance of the author. Thus, the significance of this research is twofold; at one level it embarks upon a practical application of the theories of Said and Foucault to a literary work. At another level, it offers a new perspective on Updike's novel, thereby disclosing the underlying anti-Islamic currents rippling throughout The Coup. Such a discursive analysis of the novel ties in formidably with the Islamophobia rampant throughout today's Western world. © 2018 DAR Publishers/The University of Jordan. All Rights Reserved.

Sabbah, D.A., Hishmah, B., Sweidan, K., Bardaweel, S., AlDamen, M., Zhong, H.A., Khalaf, R.A., Hasan Ibrahim, A., Al-Qirim, T., Abu Sheikha, G., Mubarak, M.S.

Structure-based design: Synthesis, X-ray crystallography, and biological evaluation of N-substituted-4-hydroxy-2-quinolone-3-carboxamides as potential cytotoxic agents

(2018) Anti-Cancer Agents in Medicinal Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85047643540&doi=10.2174%2f1871520617666170911171152&partnerID=40&md5=26d36dee5ed93f5b9166f4829ea701dc)

85047643540&doi=10.2174%2f1871520617666170911171152&partnerID=40&md5=26d36dee5ed93f5b9166f4829ea701dc

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ABSTRACT: Background: Oncogenic potential of phosphatidylinositol 3-kinase (PI3K α) has been highlighted as a therapeutic target for anticancer drug design. Objective: Target compounds were designed to address the effect of different substitution patterns at the N atom of the carboxamide moiety on the bioactivity of this series. Methods: Synthesis of the targeted compounds, crystallography, biological evaluation tests against human colon carcinoma (HCT-116), and Glide

docking studies. Results: A new series of N-substituted-4-hydroxy-2-quinolone-3-carboxamides was prepared and characterized by means of FT-IR, ¹H and ¹³C NMR, and elemental analysis. In addition, the identity of the core nucleus 5 was successfully characterized with the aid of X-ray crystallography. Biological activity of prepared compounds was investigated in vitro against human colon carcinoma (HCT-116) cell line. Results revealed that these compounds inhibit cell proliferation and induce apoptosis through an increase in caspase-3 activity and a decrease in DNA cellular content. Compounds 7, 14, and 17 which have H-bond acceptor moiety on p-position displayed promising PI3K α inhibitory activity. On the other hand, derivatives tailored with bulky and hydrophobic motifs (16 and 18) on o-and m-positions exhibited moderate activity. Molecular docking studies against PI3K α and caspase-3 showed an agreement between the predicted binding affinity (ΔG_{obsd}) and IC₅₀ values of the derivatives for the caspase-3 model. Furthermore, Glide docking studies against PI3K α demonstrated that the newly synthesized compounds accommodate PI3K α kinase catalytic domain and form H-bonding with key binding residues. Conclusion: The series exhibited a potential PI3K α inhibitory activity in HCT-116 cell line. © 2018 Bentham Science Publishers.

Almarashdeh, I., Alsmadi, M.K., Jaradat, G., Althunibat, A., Albahussain, S.A., Qawqzeh, Y., Badawi, U.A., Farag, T., Eldaw, K.E.

Looking inside and outside the system: Examining the factors influencing distance learners satisfaction in learning management system

(2018) Journal of Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046996267&doi=10.3844/2fjcssp.2018.453.465&partnerID=40&md5=045b01ded9e0208de80ab7e62e0e9da4)

[85046996267&doi=10.3844/2fjcssp.2018.453.465&partnerID=40&md5=045b01ded9e0208de80ab7e62e0e9da4](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046996267&doi=10.3844/2fjcssp.2018.453.465&partnerID=40&md5=045b01ded9e0208de80ab7e62e0e9da4)

AFFILIATIONS: College of Applied Studies and Community Service, Imam Abdurrahman Bin Faisal University, Al-Dammam, Saudi Arabia;

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College of Science -Zulfi, Majmaah University, Saudi Arabia;

Department of Mathematics, Faculty of Science, Cairo University, Egypt

ABSTRACT: In the last few years, the use of educational technology, particularly the concept of Learning Management System (LMS), has increased rapidly. With this fast development, the question arises as how to manage the LMS to obtain success and efficiency in online courses. One of the important factors that have received many citations in literature studies (and has a special position in information system research) is the user satisfaction. It is a crucial factor that can predict the success or failure of any LMS. In relation, this research examined the success factors that affect the user satisfaction and outcomes of LMS. This paper discusses the conceptual User Satisfaction Evaluation Model (USEM) employed to measure LMS success. In particular, it seeks to examine "the relationship between: Service quality, system quality, ease of use, perceived usefulness, information quality and students satisfaction, as well as to measure the outcomes of the LMS." Results from the data analysis indicate that all proposed factors have a positive effect on student satisfaction. The result also concludes that a higher rate of user satisfaction will lead to greater benefits for the students. © 2018 Manikandan Shanmugam and Monisha Singh.

Yaseen, S.G., El Qirem, I.A.

Intention to use e-banking services in the Jordanian commercial banks

(2018) International Journal of Bank Marketing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046432603&doi=10.1108/2fIJBM-05-2017-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046432603&doi=10.1108/2fIJBM-05-2017-0082&partnerID=40&md5=2b8b39775810ef9a485ecb7686529a7b)

[0082&partnerID=40&md5=2b8b39775810ef9a485ecb7686529a7b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046432603&doi=10.1108/2fIJBM-05-2017-0082&partnerID=40&md5=2b8b39775810ef9a485ecb7686529a7b)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Purpose: The purpose of this paper is to investigate the essential factors influencing the adoption and use of e-banking services as perceived by customers of the Jordanian commercial banks.

Design/methodology/approach: This paper adapts and modifies the unified theory of acceptance and use of the technology model. Modifications were made to explain intention to use e-banking services.

Findings: The modified model explained 0.887 of behavior intention variance and 0.516 percent of the intended degree of e-banking services use variance. Three constructs are found to be good predictors: effort expectancy (EE), social influence, and perceived e-banking services quality. Performance expectancy and hedonic motivation are not significant predictors. However, all three predictors were significantly moderated by age only. Research limitations/implications: As with any research in the field of IT adoption and consumer behavior, researchers should take into consideration the generalization of their empirical findings. The generalization could be enhanced if future research uses the Jordanian banking sector which includes Jordanian and non-Jordanian banks. Finally, the current research findings are based on the cross-sectional research method. Taking this fact into

consideration, the relation between intention and actual use may raise questions. One solution is to study intention and actual use at different points in time by conducting longitudinal research to access and test the research hypotheses. Practical implications: Managers need to focus on promoting e-banking services in terms of consumer's EE, social influence, and e-banking service quality. Since young consumers are early adopters, Jordanian banks need to introduce added entertainment values for youth and extra convenience for older consumers. Originality/value: The main contributions revolve around developing a better understanding of the essential factors influencing the adoption and use of e-banking services. This research incorporates a new variable: perceived e-banking quality. Thus, the proposed model provides better explanatory power than previous research. © 2018, Emerald Publishing Limited.

Al-Shayea, Q., Al-Ani, M.

Biometric face recognition based on enhanced histogram approach

(2018) International Journal of Communication Networks and Information Security, .

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[85046037244&partnerID=40&md5=0f98f3a448c7425a6722f7b82fec0e78](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85046037244&partnerID=40&md5=0f98f3a448c7425a6722f7b82fec0e78)

AFFILIATIONS: Department Management Information Systems, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Information Technology, University of Human Development, KRG, Sulaimani, Iraq

ABSTRACT: Biometric face recognition including digital processing and analyzing a subject's facial structure. This system has a certain number of points and measures, including the distances between the main features such as eyes, nose and mouth, angles of features such as the jaw and forehead with the lengths of the different parts of the face. With this information, the implemented algorithm creates a unique model with all the digital data. This model can then be compared with the huge databases of images of the face to identify the subject. The recognition features are retrieved here using histogram equalization technique. A high-resolution result is obtained applying this algorithm under the conditions of a specific image database. © 2018, Kohat University of Science and Technology.

Al-Zoubi, H., Jaber, K.M., Stamatakis, S.

Tubes of finite chen-type

(2018) Communications of the Korean Mathematical Society, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045946462&doi=10.4134%2fCKMS.c170223&partnerID=40&md5=fa9caa74d02f22d426f55bf8a4dceb09)

[85045946462&doi=10.4134%2fCKMS.c170223&partnerID=40&md5=fa9caa74d02f22d426f55bf8a4dceb09](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045946462&doi=10.4134%2fCKMS.c170223&partnerID=40&md5=fa9caa74d02f22d426f55bf8a4dceb09)

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Department of Computer Science, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Mathematics, Aristotle University of Thessaloniki, Central Macedonia, Greece

ABSTRACT: In this paper, we consider surfaces in the 3-dimensional Euclidean space E^3 which are of finite III-type, that is, they are of finite type, in the sense of B.-Y. Chen, corresponding to the third fundamental form. We present an important family of surfaces, namely, tubes in E^3 . We show that tubes are of infinite III-type. © 2018 Korean Mathematical Society.

Tabaza, T.A., Tabaza, O.T., Al-Sakarneh, A.

CVD technology for preparing chromium oxide coatings, study of the kinetics of growth of coatings

(2018) Key Engineering Materials, .

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[85045037097&doi=10.4028%2fwww.scientific.net%2fKEM.765.193&partnerID=40&md5=8b5d9e64f3ec781f923f8b31d6dcaba4](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045037097&doi=10.4028%2fwww.scientific.net%2fKEM.765.193&partnerID=40&md5=8b5d9e64f3ec781f923f8b31d6dcaba4)

AFFILIATIONS: Mechanical Engineering Department, Al-Zaytoonah University of Jordan, Jordan;

Mechanical Engineering Department, Tokyo University of Science, Japan;

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ABSTRACT: Metal coating nowadays is very essential in heavy industry and many other applications, however, a coating system is designed and built to obtain pyrolytic Chrome-Oxide Cr_2O_3 , so oxygen is distributed through the coating in order to enhance its properties depending on metal-organic compounds (MOC). A very large number of experiments have been performed to study the effect of oxidant comparing with inert atmosphere. A chemical vapor deposition method for preparing chromium oxide Cr_2O_3 coatings from bis-arene chromium compounds has been performed, followed by studying the effect of oxidant substances concentration on the kinetics of growth of coatings. The main finding is that coatings exhibit excellent adhesion, high microhardness, and wear resistance. The coating process is characterized by high adaptability and relatively low cost. © 2018 Trans Tech Publications, Switzerland.

Jarrar, Y.B., Balasmeh, A.A., Jarrar, W.

Sequence analysis of the N-acetyltransferase 2 gene (NAT2) among Jordanian volunteers

(2018) Libyan Journal of Medicine, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045034818&doi=10.1080%2f19932820.2017.1408381&partnerID=40&md5=7e4e90488a6bf7d01bde7474f6da6ddf)

[85045034818&doi=10.1080%2f19932820.2017.1408381&partnerID=40&md5=7e4e90488a6bf7d01bde7474f6da6ddf](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045034818&doi=10.1080%2f19932820.2017.1408381&partnerID=40&md5=7e4e90488a6bf7d01bde7474f6da6ddf)

AFFILIATIONS: Department of Pharmacy, College of Pharmacy, AlZaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The present study aimed to identify the NAT2 haplotypes, linkage disequilibrium, and novel NAT2 genetic variants among Jordanian population. We isolated the genomic DNA from 68 healthy, Arab, unrelated Jordanian volunteers to amplify the protein-coding region of NAT2 gene by polymerase chain reaction (PCR). Then, the amplified PCR products were sequenced using Applied Biosystems Model (ABI3730x1). It is found that the allele frequencies of known NAT2 genetic variants 191G>A, 282C>T, 341T>C, 481C>T, 590G>A, and 803A>G were 0.7, 26.5, 48.5, 35.3, 30.9, and 32.4%, respectively. The NAT2 allele frequencies were generally similar to those of white Europeans but different from those of Asian and African populations. The most common NAT2 haplotype was NAT2*5B with a frequency of 29.3%. According to the NAT2 haplotype frequencies, 72% (95% confidence interval 61.4-82.7%) of the volunteers were slow encoding NAT2 haplotype acetylators. The NAT2*5 represented variants 341T>C and 481C>T were in strong but not complete linkage disequilibrium ($D' = 0.8$, $r^2 = 0.63$). In addition, this study found a novel nonsynonymous NAT2 436G>A genetic variant with low frequency (0.7%). However, this novel variant was predicted to be tolerated and not harmful to the NAT2 protein, using in silico prediction tools. It is concluded that the frequency of slow encoding NAT2 haplotype was high among Jordanian volunteers, which may have effects on drug responses and susceptibility to some diseases, such as cancers. © 2017 The Author(s).

Sheikha, G.A., Bkhaitan, M.M., Kalloush, H., Hamadneh, L., Khalaf, R.A., Al-Qirim, T., Al-Hiaric, Y. Synthesis of novel benzimidazole-2-carboxamide derivatives and in vivo antihyperlipidemic activity evaluation

(2018) Chemical and Pharmaceutical Bulletin, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044866613&doi=10.1248%2fcpb.c17-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044866613&doi=10.1248%2fcpb.c17-00908&partnerID=40&md5=cf8026dd2046bb6c9ed4ee0b38bbbc42)

[00908&partnerID=40&md5=cf8026dd2046bb6c9ed4ee0b38bbbc42](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044866613&doi=10.1248%2fcpb.c17-00908&partnerID=40&md5=cf8026dd2046bb6c9ed4ee0b38bbbc42)

AFFILIATIONS: Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 1162, Jordan;

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ABSTRACT: Hyperlipidemia is known as an elevation of plasma lipid components. It contributes significantly to atherosclerosis which is one of the most important causative factors in cardiovascular diseases. Agents that cause a dramatic decrease in serum lipid levels are of great value in the treatment of cardiovascular diseases. For this purpose, a new series of benzimidazole propyl carboxamide benzophenone derivatives have been synthesized (7, 8, and 9). These compounds were tested in vivo to evaluate their potential hypolipidemic activity using Triton WR-1339 induced hyperlipidemic rats. All the synthesized compounds have proved to be highly biologically active, with compound 9 being the most active derivative. © 2018 The Pharmaceutical Society of Japan.

Sobol', O.V., Meylekhov, A.A., Mygushchenko, R.P., Postelnyk, A.A., Tabaza, T.A., Al-Qawabah, S.M., Gorban', V.F., Stolbovoy, V.A.

The influence of layers thickness on the structure and properties of bilayer multiperiod coatings based on chromium nitride and nitrides of transition metals Ti and Mo

(2018) Journal of Nano- and Electronic Physics, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044445483&doi=10.21272%2fjnep.10%281%29.01010&partnerID=40&md5=0af8f5e5568a0895f6596b01285d7989)

[85044445483&doi=10.21272%2fjnep.10%281%29.01010&partnerID=40&md5=0af8f5e5568a0895f6596b01285d7989](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044445483&doi=10.21272%2fjnep.10%281%29.01010&partnerID=40&md5=0af8f5e5568a0895f6596b01285d7989)

AFFILIATIONS: National Technical University 'Kharkiv Polytechnic Institute', 21, Kyrpychov Str., Kharkiv, 61002, Ukraine;

Al-Zaytoonah University Queen Alia, 594, Airport Str., Amman, 11733, Jordan;

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National Science Center Kharkiv Institute of Physics and Technology, 1, Akademicheskaya Str., Kharkiv, 61108, Ukraine

ABSTRACT: The influence of the layers thickness of bilayer multi-period coatings of the CrNx/MoNx and CrNx/TiNx systems on their phase-structural state, substructure, stress-strain state and mechanical properties was studied using methods of precision structural analysis in combination with computer simulation of implantation processes during particle deposition. It is established that a two-phase structure of CrN and γ -Mo2N phases of the structural type NaCl is formed in the multi-period coatings of the CrNx/MoNx system with a nanometer thickness of the layers. Because of the small difference in periods (less than 0.5 %) for Λ < 20 nm, the layers form a coherent interlayer interface. The use

of small $U_b = -20$ V during deposition makes it possible to avoid significant mixing at interlayer (interphase) boundaries even at the smallest $\Lambda = 10$ nm. Nitride layers formed under conditions of vacuum arc deposition are under the action of compressive stresses. In the $\text{CrN}_x/\text{TiN}_x$ system, because of the relatively large discrepancy between periods (more than 2.5 %), during the formation of the same structural components in the layers (CrN and TiN phases of the structural type NaCl), the epitaxial growth with period adjusting does not occur, even for the smallest $\Lambda = 10$ nm. The action of the deformation factor at the interphase boundary allows achieving an ultrahard state (with a hardness of about 50 GPa), which causes a relatively low friction coefficient. The obtained results on the formation of phase-structural states with the nanoscale thickness of layers of multi-period nitride coatings are explained from the position of minimization of surface energy and deformation energy. © 2018 Sumy State University.

Alqirem, R.M., Al Omoush, K.S.

System dynamics simulator of inventory management as a learning tool to improve undergraduate's decision making

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044248498&doi=10.1007%2f978-3-319-74123-9_29&partnerID=40&md5=a3e782c1a9ff8077029b570b758ab2b0

AFFILIATIONS: Management Information Systems Department, Al-Zaytoonah University of Jordan, Amman, Jordan;

Business Administration Department, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The use of system dynamics based interactive learning environment is well recognized as an effective way of enhancing user's decision making and improving learning in complex systems. However, using SD-based interactive learning tools or simulators in universities undergraduate courses are rarely been used, or evaluated in providing the required knowledge on inventory management process. This paper describes the construction of inventory simulator based on system dynamics model to enable university business student to explore the effect of their decisions, simulate and examine different scenarios in managing the inventory. System Dynamics has its origins in control engineering and management; the approach uses a perspective based on information feedback and delays to understand the dynamic behavior of complex physical, biological, and social systems. © 2018, Springer International Publishing AG, part of Springer Nature.

Masoud, M., Abu-Elhaija, W., Jaradat, Y., Jannoud, I., Dabbour, L.

Software project management: Resources prediction and estimation utilizing unsupervised machine learning algorithm

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044248490&doi=10.1007%2f978-3-319-74123-9_16&partnerID=40&md5=1bca67d4e18a862aafc62ee1445624a2

AFFILIATIONS: Electrical Engineering Department, Al-Zaytoonah University of Jordan, 130, Amman, 11733, Jordan;

Architecture Engineering Department, Al-Zaytoonah University of Jordan, 130, Amman, 11733, Jordan

ABSTRACT: Software project effort estimation is a major process in software development cycle. This process helps in decision making in resource allocation and distribution. In this work, a new effort estimation clustering method based on estimation maximization soft-clustering unsupervised machine learning algorithm is proposed. This model classifies any software project into one of four categories. An enterprise will accept to develop a software project if this project is clustered into a class that requires resources equal or less than the enterprises resources. The new model helps in decision making process in one hand and helps consumers in assigning projects to a developing enterprise in the other hand. COCOMO dataset has been used to implement, deploy and test the model. The propose model has been compared with K-means algorithm to show the differences between soft and hard clustering. The paper results show that soft-clustering has the ability to estimate efforts like any supervised machine learning algorithms. © 2018, Springer International Publishing AG, part of Springer Nature.

Al-Qawabah, S.M.A., Shaban, N.A., Al-Aboshi, A.

Investigation of roller burnishing process on the mechanical characteristics, and micro-hardness of Al-4 wt% Cu under hot work conditions

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044246699&doi=10.1007%2f978-3-319-74123-9_22&partnerID=40&md5=a372eec1e135fd6060dc4bab4b3562c9

AFFILIATIONS: Mechanical Engineering Department, Al-Zaytoonah University of Jordan, P.O.Box 13720, Amman, 11942, Jordan

ABSTRACT: Burnishing process is a finishing operation that is widely used to increase the fatigue life, wear resistance, and micro-hardness. Roller burnishing processes was used in this work due to its low cost and its simple mechanism. The importance of his study came from the enhancement in the

surface layer of Al-4% Cu alloy that translates the tensile stress to compressive stress which is save especially when the material is operated under cyclic loading. A roller burnishing tool was used to investigate the microstructure, micro-hardness and the depth of penetration on Al-4% Cu at 200 °C. It was found that the maximum penetration was 330 µm at 40 N burnishing forces and 0.08 mm/rev feed, Furthermore; the maximum micro-hardness was enhanced by 184.4% at 40 N burnishing force and 0.08 mm/rev feed. © 2018, Springer International Publishing AG, part of Springer Nature.

Hamdallah, M.E., Srouji, A.F.

Menu engineering in Jordanian health-care centers: A modified balanced scorecard approach

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044245691&doi=10.1007%2f978-3-319-74123-9_12&partnerID=40&md5=9b432a1012fad518b4f4fede97051d6a

AFFILIATIONS: Accounting Department, Al-Zaytoonah University, P. O. Box 130, Amman, 11733, Jordan

ABSTRACT: This paper aimed to observe whether using Menu Engineering (ME) with a modified balanced scorecard (BSC) for menu inquiry provides different awareness into real menu success in health-care centers. The traditional ME method simply relies on food costs to control the contribution margin (CM), hence this study will focus on financial and non-financial perspective effect on the performance of the health-care centers, by modifying the traditional template. An improved ME model in relation to BSC was developed and tested on different health-care centers in Amman. By using multiple linear regression and Anova tests, it was found that the modified model including both financial and non-financial perspectives affect the ME by a positive significant relationship, in addition to the increase of the respondents' awareness of their importance as their experience and age increases. © 2018, Springer International Publishing AG, part of Springer Nature.

Al-Khatib, E.S., Yassin, M.M., Alkhatib, A.'S.

Managing the digitisation of filing system project at Al-Zaytoonah university of Jordan

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044236700&doi=10.1007%2f978-3-319-74123-9_30&partnerID=40&md5=ddf03ac61e4b10784a1090f2c6d81ad9

AFFILIATIONS: Al-Zaytoonah University of Jordan, P. O. Box 130, Amman, 11733, Jordan

ABSTRACT: The higher education institutions worldwide aim to enhance the efficiency and quality of teaching and learning and to increase their competitiveness on national, regional and global levels. The challenge is how best to meet both national and international standards. In response, the Higher Education Accreditation Commission (HEAC) recently, sets eight standards for the external quality assurance of Jordanian higher education institutions which enabling them to gain the quality assurance certificate (QAC). In line with this, Al-Zaytoonah University of Jordan (ZUJ) is seeking to meet these standards by keeping all accreditation and quality assurance documents as required by the HEAC. Although various types of educational technologies have been employed by Jordanian universities to meet the accreditation and quality assurance standards (i.e. e-Learning, e-library, e-forms, etc.), none of them drives out all duplicated data and unnecessary descriptions of files. This paper proposes eXtensible Mark-up Language and its applications as a mechanism for digitising the filing system employed and presents two scenarios for managing its implementation at the ZUJ. To the authors' knowledge, this is the first study to manage the digital filing project in Jordan. The study contributes to the emerging literature by extending our knowledge of the digital filing system. The findings should be of interest to the presidents of private universities, heads of quality assurances offices. They will also be of interest to professional accrediting bodies seeking to improve the quality assurance aspects to provide accreditation to private universities in Jordan and to other jurisdictions in other countries. © 2018, Springer International Publishing AG, part of Springer Nature.

Al-Suleiman (Obaidat), T.I., Hamici, Z.M., Bazlamit, S.M., Ahmad, H.S.

Assessment of the effect of alligator cracking on pavement condition using WSN-image processing

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044231136&doi=10.1007%2f978-3-319-74123-9_28&partnerID=40&md5=66b87a9485356817cf5afd7acc7720b5

AFFILIATIONS: Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Electrical Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The Pavement networks require a systematic method to control the Maintenance and Rehabilitation (M&R) process, to define priorities and ensure optimum allocation of resources. A Pavement Maintenance Management System (PMMS) is a useful tool for evaluation, prioritization of M&R projects, and determination of allocation and funding requirements. This research work used a novel architecture of a PMMS system; a Wireless Sensor Network (WSN) with image processing to identify a particular pavement distress namely alligator cracking. An automated analysis provides a tool to accurately analyze and classify pavements within a predefined category in order to take adequate

measures. Data sets for image processing are collected from typical areas in the pavement network. These data are analyzed to produce the pavement condition index (PCI). PCI is a numerical measure that evaluates the surface condition of the pavement. It provides an indicator of the present pavement condition based on the distress level measured on the surface of the pavement. The novel architecture is proposed for real time data collection and transmission to a remote central processing management system using a mobile network. An image processing alligator cracks detection algorithm along with data fusion are presented within the WSN architecture. Alligator cracking was chosen because it is a common distress and purely load (structural) related. © 2018, Springer International Publishing AG, part of Springer Nature.

Baker, M.B., Abende, R.

Using hollow concrete and thermostone blocks in sound isolation system

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044210973&doi=10.1007%2f978-3-319-74123-9_18&partnerID=40&md5=c37f4f62fbc3f929274204b5c9e03563

AFFILIATIONS: Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: King Abdullah II for Design and Development Bureau (KADDB) indoor firing range tunnels are used to test different types of ammunitions for military applications. Employees, who are working in the control rooms or around the tunnels, suffer from this inconvenient noise which exceeds 90 dB. A working person cannot sustain this noise for long time and may suffer from permanent damage or hear loss in addition to negative psychological effects. Therefore, this research is proposed to investigate this issue and to find a suitable solution to overcome this problem by studying different and reasonable options to provide a soundproof isolation system to firing range tunnels and the surrounding areas, by using locally produced hollow concrete blocks (HCB) with 35 MPa average compressive strength, 37% void ratio, and 2000 kg/m³ average density, and Autoclaved Aerated Concrete (AAC) blocks also called thermostone blocks with 4.2 N/mm² average compressive strength, 510 kg/m³ average density, and 0.077 W/m°C thermal conductivity at 15 °C, to reduce the noise to a standard level in 8 working hours. Cost analysis for both products was performed. The results showed that using the HCB provided similar results as thermostone blocks by reducing the noise to an acceptable level. © 2018, Springer International Publishing AG, part of Springer Nature.

Alhmeidiyeen, M.S.

Outsourcing projects and achieving the organizational goals: Applied study in greater amman municipality (GAM)

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044208840&doi=10.1007%2f978-3-319-74123-9_35&partnerID=40&md5=2ea0d782d816c9a9c341711049e209a5

AFFILIATIONS: Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Outsourcing is the buzz word of the 21st century. The use of outsourcing has increased in recent years, as organizations seek to lower costs and increase efficiency in response to higher levels of global competition. Outsourcing has become a significant issue in the restructuring of organizations and is increasingly used within both the private and public sectors. This paper is exploring the effect of outsourcing dimensions (outsourcing strategy, speed of implementing project, and project cost) on total citizens' satisfaction (citizens' satisfaction and serving larger number of citizens). The sample of the study consists of 60 respondents (managers, non-managers) that are working in directorate of projects in GAM. The study is to focus on a group of selected projects outsourced in the years 2015 and 2016. Discussion and conclusions are offered. © 2018, Springer International Publishing AG, part of Springer Nature.

Abuyassin, N., Yousif, A.S.H., Najm, N.A.

Evaluating risk management in Jordanian construction projects: An ISO 31000-2009 implementation perspective

(2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044203497&doi=10.1007%2f978-3-319-74123-9_34&partnerID=40&md5=d21b8234237a9e00ed009fdf955f8965

AFFILIATIONS: Al-Zaytoonah University, Accounting Department, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This study aims at firstly; presenting a risk management framework of ISO 3100-2009 based on its main five components: establishment of context, risk assessment, risk treatment, communication and consultation, and monitoring and review and secondly; exploring the effect of those ISO 31000-2009 five components of risk management on performance criteria (i.e. financial budget obligation, quality specifications, and delivery date). This study based on a convenience sample that encompassed four Jordanian construction companies working within greater Amman Area. These companies are DAMAC Real Estate Development Limited, Arab Towers Contracting Company, Al-Yacoub Contracting Est. and Greater Amman Municipality. (Amman Municipality engineering department is actually acting as a

construction company to conduct engineering projects for the interest of Amman Municipality). The three main hypotheses of this study were tested and statistical results were tabulated, interpreted, and discussed. The statistical testing results reveal that the three ISO 31000-2009 components of risk management (i.e. establishing the context, risk assessment, and risk assessment) have a positive impact on the project financial budget obligation, quality specifications and delivery date. While the other two components (i.e. communication and consultation, and Monitoring and review) have no effect on the implemented project performance criteria. © 2018, Springer International Publishing AG, part of Springer Nature.

Al-Chahadah, A.R., Ayoush, M.

The impact of the adherence to basel rules on banking risk management: Jordan Kuwait bank case study (2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044202215&doi=10.1007%2f978-3-319-74123-9_31&partnerID=40&md5=56c131ed6c72c5d0871c656b5510a263

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: It is essential for the financial institutions to have adequate capital in order to meet their obligations and to absorb unexpected losses. Therefore, this study aims to demonstrate the impact of the Basel rules on risk management in Jordanian banks, and how to approach a standard of capital adequacy approved by the Basel Committee on Bank Supervision (BCBS). A case study is conducted using the Jordan Kuwait Bank in order to achieve the purposes of the study. The financial statements of the bank covering the years 2011–2015 are examined to check its commitment in implementing the Basel rules and the impact on the banking risk management and continuity of the bank's future activities. The study concluded a number of results. The most important one is the commitment by the Jordan Kuwait Bank in applying the Basel rules II on Bank Supervision and the ability to achieve the required rate of adequacy of capital money, which exceeded the prescribed percentage (8%) over the five years of study. This reflects the presence of strong capital adequacy that is able to support the continuity of the bank and absorb any unexpected losses or shocks, and thus the efficiency of banking risk management. One of the main recommendations of the study is the need for a decision by the Central Bank of Jordan to strongly encourage Jordanian banks to apply the requirements of Basel III in order to enhance banking risk management, and to increase foreign banks' confidence in dealing with them. © 2018, Springer International Publishing AG, part of Springer Nature.

Nawaiseh, M.E., Al-nawaiseh, H., Attar, M., Al-nidawy, A.

The use of capital budgeting techniques as a tool for management decisions: Evidence from Jordan (2018) Lecture Notes in Mechanical Engineering, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044185741&doi=10.1007%2f978-3-319-74123-9_32&partnerID=40&md5=6d78e0b975712a993c8a52039889bec5

AFFILIATIONS: Department of Accounting, Al-Zaytoonah University of Jordan, Amman, Jordan; Al-Quds College, Amman, Jordan

ABSTRACT: The authors explored the use of capital budgeting techniques (CBTs) by industrial companies listed on the Amman Stock Exchange (ASE) in 2016. Population of the study included (50) public shareholding industrial companies out of all (63) industrial companies registered in 2016. The final response rate of the respondents that are subject to analysis is (42) which constitutes (79.4%) out of the population, and (84%) out of the sample size. Statistical methods such as one sample t test, correlation, and regression analysis were used. The study concludes that CBT were not all equally used; companies adopted a combination of NPV, PI, PBP, ARR and IRR to manage their investment decision- making. The obstacles of the application have scored a combined average of (62.6%). At the same time, our research shows that most frequently adopted techniques are discounted cash flows based techniques which have equal practice among group of companies. The study recommends that Companies should handle with strict care CBT, because of its impact on future of the company. These methods should be supported and given more attention. Future research may focus on the merit is to explore the effect of capital budgeting methods on performance. © 2018, Springer International Publishing AG, part of Springer Nature.

Mohsin, L., Sakhrieh, A., Aboushi, A., Hamdan, A., Abdelhafez, E., Hamdan, M.

Optimized cleaning and cooling for photovoltaic modules based on the output performance (2018) Thermal Science, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044107780&doi=10.2298%2fTSCI151004145M&partnerID=40&md5=981e1da669c10a4f665bcdd674b406f5>

AFFILIATIONS: Mechanical Engineering Department, The University of Jordan, Amman, Jordan; Department of Mechanical and Industrial Engineering, American University of Ras Al Khaimah, Ras Al Khaimah, United Arab Emirates;

Mechanical Engineering Department, Al-Zaytoonah Private University of Jordan, Amman, Jordan

ABSTRACT: This study aimed to design and implement a smart automatic cleaning and cooling system for

photovoltaic modules to be activated based on power drop resulting from dust accumulation and high temperature conditions. This was tested by installing two side by side identical photovoltaic modules. The first module was equipped with the prototype cleaning system while the second one was considered as standard. An optimized cleaning and cooling procedure was adopted using data acquisition system. The operational performance of both panels was recorded and analyzed. An increase in energy yield of 8.7% was obtained as a result of minimizing the operational disturbances of dust accumulation and high surface temperature of the photovoltaic panel. © 2017 Society of Thermal Engineers of Serbia.

Abdallah, M.M.A., Alrifaae, M.M.

Towards a new framework of program quality measurement based on programming language standards (2018) International Journal of Engineering and Technology(UAE), .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85043393700&doi=10.14419%2fijet.v7i2.3.9955&partnerID=40&md5=f123e96394c9875c33ec747f26245fd6)

[85043393700&doi=10.14419%2fijet.v7i2.3.9955&partnerID=40&md5=f123e96394c9875c33ec747f26245fd6](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85043393700&doi=10.14419%2fijet.v7i2.3.9955&partnerID=40&md5=f123e96394c9875c33ec747f26245fd6)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: All languages, natural and programming, have rules and styles in how to write. These rules and styles mainly aim to make sure that anyone, who understand a language, can understand what the sentence say. In other words, the aim of rules and styles in a language is to deliver an information to reader, and the reader must get the right information. The literature review shows a lack of studies focusing on the code writing standards measurement processes. In this paper, we proposed a framework that can be applied on any programming language, using any standard of that language. © 2018 Authors.

Belozarov, V., Sobol, O., Mahatilova, A., Subbotina, V., Tabaza, T.A., Al-Qawabeha, U.F., Al-Qawabah, S.M.

Effect of electrolysis regimes on the structure and properties of coatings on aluminum alloys formed by anode-cathode micro arc oxidation

(2018) Eastern-European Journal of Enterprise Technologies, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042676674&doi=10.15587%2f1729-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042676674&doi=10.15587%2f1729-4061.2018.121744&partnerID=40&md5=473b701e105bf46d05c159e80896e821)

[4061.2018.121744&partnerID=40&md5=473b701e105bf46d05c159e80896e821](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85042676674&doi=10.15587%2f1729-4061.2018.121744&partnerID=40&md5=473b701e105bf46d05c159e80896e821)

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ABSTRACT: The study provides research findings on the effect of current regimes in microplasma oxidation on the phase composition and the properties of oxide coatings on an aluminum alloy. To obtain oxide coatings, micro arc (microplasma) oxidation is carried out in an alkaline-silicate electrolyte with an alternating sinusoidal current and in a pulsed current mode. It has been shown that an increased density of microdischarges in the case of the pulse technology increases the total energy released in them. This produces an increase in the growth rate of the oxide coating and the probability of formation of the α -Al₂O₃ phase. A linear dependence of the thickness of the coating on the duration of the process time and, accordingly, on the amount of transmitted electricity has been established. It has been found that for a small thickness of the oxide layer, the high rate of heat transfer both to the metal and to the electrolyte promotes the formation of aluminum oxide in the form of the γ -Al₂O₃ phase. The energy concentration in a thick oxide layer causes the formation of a high-temperature modification of α -Al₂O₃. It has been shown that the mechanism for the formation of α -Al₂O₃ is determined by the action of two facts: the difference in the energies of the γ -Al₂O₃ and α -Al₂O₃ phases as well as the polymorphic high-temperature transformation of γ -Al₂O₃→ α -Al₂O₃ in the high-temperature region of a micro arc discharge. The coatings obtained by microplasma oxidation in the pulsed current mode have high hardness (23 GPa) and electrical strength (20 V/μm). © V.

Belozarov, O. Sobol', A. Mahatilova, V. Subbotina, Taha A. Tabaza, Ubeidulla F. Al-Qawabeha, Safwan M. Al-Qawabah, 2018.

Sobol', O.V., Andreev, A.A., Mygushchenko, R.P., Beresnev, V.M., Meylekhov, A.A., Postelnyk, A.A., Kravchenko, S.A., Tabaza, T.A., Al-Qawabah, S.M., Al-Qawabeha, U.F., Stolbovoy, V.A., Serdyuk, I.V., Kolesnikov, D.A., Kovaleva, M.G.

The use of plasma-based deposition with ion implantation technology to produce superhard molybdenum-based coatings in a mixed (C₂H₂+N₂) atmosphere

(2018) Problems of Atomic Science and Technology, .

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[85041816218&partnerID=40&md5=a8216ec55e35e5caf5fdcd0e6df7f16d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041816218&partnerID=40&md5=a8216ec55e35e5caf5fdcd0e6df7f16d)

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ABSTRACT: The influence of the pressure of a mixed gaseous atmosphere (80% C_2H_2 +20% N_2) and the supply of a high-voltage negative potential in a pulsed form on the elemental and phase composition, structure and physico-mechanical characteristics of the vacuum-arc molybdenum-based coatings. It is shown that in the temperature deposition range 400...550 °C as a result of plasma-chemical reactions, the maximum nitrogen atoms content in the coating does not exceed 1.5 at.%. It is found, that at the maximum pressure of $PC_2H_2+N_2= 2.3 \cdot 10^{-1}$ Pa when the γ -MoC phase is formed, an superhard state of 50.5 GPa (at a constant potential -200 V, without additional high-voltage pulse action) and 51.1 GPa (at a constant potential -200 V, with additional high-voltage pulse action) is reached. © 2018, National Science Center, Kharkov Institute of Physics and Technology. All rights reserved.

Alhalaiqa, F., Al Omari, O., Batiha, A.-M., AlBashtawy, M., Masa'Deh, R., Al-Ghabeesh, S., Bashayreh, I.

Knowledge and Attitudes of Jordanian University Students Toward Epilepsy: A Cross-Sectional Comparison Study

(2018) International Quarterly of Community Health Education, .

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[85041581803&doi=10.1177%2f0272684X17749569&partnerID=40&md5=1f6e5d663f3a49d79757112ac358c924](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041581803&doi=10.1177%2f0272684X17749569&partnerID=40&md5=1f6e5d663f3a49d79757112ac358c924)

AFFILIATIONS: Faculty of Nursing, Philadelphia University, Amman, Jordan;

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Faculty of Nursing, Al-AlBayt University, Mafraq, Jordan;

School of Nursing, Applied Science Private University, Amman, Jordan;

Faculty of Nursing, Al-Zaytoonah Private University of Jordan, Amman, Jordan

ABSTRACT: People with epilepsy face stigma which arguably causes more suffering than the disease itself. The purpose of this study is to compare the knowledge and attitudes of nursing with nonnursing Jordanian university students toward epilepsy. A cross-sectional comparative, quantitative study was conducted. A newly structured questionnaire was developed to collect related data. The results revealed that there were 145(30.5%) nursing students and 331 (69.5%) nonnursing students with mean age of the participants was 22.9 years (SD = 4.7) and 60% of them were men. Although the majority of the Jordanian university students were aware of epilepsy, their knowledge varied according to their major subject of study. Nursing students possessed a good knowledge of, and more positive attitudes toward, epilepsy compared with other nonnursing students. Therefore, universities are required to improve the knowledge of their students about epilepsy by integrating education about health and first aid course into their curriculum. © 2017, © The Author(s) 2017.

Boukhary, R., Aboul-Ela, M., Al-Hanbali, O., El-Lakany, A.

Chemical constituents from *salvia fruticosa libanotica*

(2018) Pharmacognosy Journal, .

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[85040989490&doi=10.5530%2fnpj.2018.1.9&partnerID=40&md5=0f0b21e27134b62136a9dcc0bd2206c7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040989490&doi=10.5530%2fnpj.2018.1.9&partnerID=40&md5=0f0b21e27134b62136a9dcc0bd2206c7)

AFFILIATIONS: Department of Pharmaceutical Sciences, Faculty of Pharmacy, Beirut Arab University, Beirut, 115020, Lebanon;

Faculty of Pharmacy, Al-Zaytoonah University, Amman, 11733, Jordan

ABSTRACT: Objective: Plants of genus *Salvia* are used in traditional folk medicine for their antidiabetic, anti-oxidant effects and for gastric disorders. The oil has an antiseptic property and it is used as a fragrance in soaps and perfumes. An infusion of the leaves is widely used as a mouthwash or gargle and for the treatment of inflammation of the mouth and throat. It is used as carminative, antiinflammatory, astringent, cytotoxic and antispasmodic. Materials and Methods: Air-dried powdered aerial parts and roots of *Salvia fruticosa libanotica* were extracted separately with ethanol and acetone then their residues were separately extracted with different solvents on silica gel columns. Results: From *Salvia fruticosa libanotica*, eight phenolic compounds were isolated from methylene chloride, ethyl acetate and butanol extracts of the chosen plant. The chemical structures of the isolated compounds were determined by NMR, MS, IR and UV spectroscopic methods. Conclusion: Among these compounds three Flavonoids named apigenin, luteolin and rutin were identified in addition to three phenolic acids which are ferulic acid, gallic acid and rosmarinic acid from aerial parts. Moreover, carnosol and dehydro-abietic acid were also isolated from *Salvia fruticosa libanotica* root extract. All the isolated compounds were obtained for the first time from *Salvia fruticosa libanotica*. © 2018 Phcog.Net.

Chen, G., Jirjees, F., Sr, Al Bawab, A., McElnay, J.C.

Quantification of amlodipine in dried blood spot samples by high performance liquid chromatography tandem mass spectrometry

(2018) Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85035752340&doi=10.1016%2fj.jchromb.2017.11.018&partnerID=40&md5=598dcfbef71428bbe6d2a6147aabea>

AFFILIATIONS: Clinical and Practice Research Group, School of Pharmacy, Queen's University Belfast, 97 Lisburn Road, Belfast, BT9 7BL, United Kingdom;

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ABSTRACT: A sensitive and specific method, utilising high performance liquid chromatography tandem mass spectrometry (HPLC-MS/MS) was developed for the quantitative determination of amlodipine in dried blood spot (DBS) samples. Chromatographic separation was achieved using a Waters XBridge C18 column with gradient elution of a mixture of water and acetonitrile containing 0.1% formic acid (v/v). Amlodipine was quantified using a Waters Quattro Premier mass spectrometer coupled with an electro-spray ionization (ESI) source in positive ion mode. The MRM transitions of 408.9 m/z → 238.1 m/z and 408.9 → 294.0 m/z were used to quantify and qualify amlodipine, respectively. The method was validated across the concentration range of 0.5–30 ng/mL by assessing specificity, sensitivity, linearity, precision, accuracy, recovery and matrix effect according to the Food and Drug Administration (FDA) guidelines. This method was also validated clinically within a large pharmacoepidemiological study in which amlodipine blood concentration was determined in patients who had been prescribed this medication. © 2017 Elsevier B.V.

El-Qirem, F., Cockton, G.

Designing culturally appropriate responses to culturally influenced computer usage behaviors

(2018) Advances in Intelligent Systems and Computing, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021777857&doi=10.1007%2f978-3-319-60747-4_21&partnerID=40&md5=aafa34d97f8114e641230e7c6c2e7ad7c

AFFILIATIONS: Department of Multimedia Systems, Al-Zaytoonah University of Jordan, Amman, Jordan; School of Design, Northumbria University, Newcastle, United Kingdom

ABSTRACT: Cultural variables impact across a wide range of behaviours when interacting with computers. The Diamond Model provides an organizing structure for these variables and their instances from specific territorial cultures. Instances of cultural factors in Jordan impact at several levels on computer usage. Where such impact is adverse, culturally appropriate responses are required. Such responses need to be at the appropriate level from individual user behaviors, via organizational IT and work policies, national educational and economic policies, and global IT practices. We present examples of adverse interactions between cultural variables and computer users' behaviors in Jordan and propose a range of culturally appropriate responses at the individual, organizational, national and global level. © Springer International Publishing AG 2018.

AL-Sagarat, A.Y., Barmawi, M., Al Hadid, L.A.E., Qaddumi, J.A.S., Moxham, L.

Validating the psychiatric nurses methods of coping questionnaire: Arabic version

(2017) BMC Psychiatry, .

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AFFILIATIONS: Faculty of Nursing, Mutah University, Community and Mental Health Nursing Department, Al-Karak, Jordan;

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Faculty of Medicine and Health Sciences, An-Najah National University, PO box 7, Nablus, Palestine; School of Nursing, Faculty of Science, Medicine and Health, University of Wollongong, Northfields Ave, Wollongong, NSW 2522, Australia

ABSTRACT: Background: The aim of the study was to undertake a psychometric analysis of the Psychiatric Nurses Methods of Coping Questionnaire (PNMCQ) - Arabic version when used to measure coping skills in psychiatric nurses in Jordan. Method: A descriptive, cross-sectional design was adopted in this study. A demographic questionnaire and the 35-item PNMCQ -Arabic were the measures used to collect data. Result: The PNMCQ demonstrated valid and reliable values when administered to psychiatric nurses in Jordan after it had been submitted to factor analysis. Conclusion: The development of PNMCQ: Arabic Version adequately measures coping skills in psychiatric nurses from a culturally appropriate context. Use of the tool can determine coping skills in psychiatric nurses with the view to positive staff development. Strategies identified based on results of the PNMCQ could ultimately result in better nurse retention and patient outcomes. © 2017 The Author(s).

Alzweiri, M., Al-Marabeh, S., Bardaweel, S.K., Alfar, R., Al-Hiari, Y.M.

Stability determination for cyclized 2,4-dinitrophenyl hydrazone derivative of glucose

(2017) Journal of Analytical Science and Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85063750827&doi=10.1186%2fs40543-017-0117-x&partnerID=40&md5=ed68f8588d11744ae5d37b0706ea16b1>

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Department of Physics, School of Science, Al-Balqa Applied University, Salt, Jordan;

Pharmaceutical Sciences Department, Faculty of Pharmacy, Zarqa University, Zarqa, 13132, Jordan

ABSTRACT: Background: The most well established tactic for the analysis of monosaccharaides, such as glucose, relies on derivatization procedures, using reagents as 2,4-dinitrophenylhydrazine (DNPH). Usually, the instability of the formed imine product deteriorates the detection of trace amounts of the sugar; rendering the spectrophotometric analysis of monosaccharaides extremely challenging.

Methods: In this study, we propose a modified derivatization procedure, reliant on the formation of a stable DNPH-glucose derivative, to aid in the spectrophotometric analysis of glucose. The derivatization procedure was customized to perform the product work-up step under acidic conditions. Results: The proton rich media resulted in direct reduction of the Schiff's base with concomitant intramolecular rearrangement of the product to yield a stable cyclized DNPH-glucose derivative. The annealed structure of the titled compound was verified by 1NMR, 13C-NMR, HMBC and X-ray crystallography. Conclusions: The derivative revealed extended stability in spiked plasma samples which suggests a potential to employ the described procedure for glucose analysis and detection in biological samples. © 2017, The Author(s).

Mosleh, R.S.A., Jarrar, Y.B., Zyoud, S., Morisky, D.E.

Factors related to diabetes self-care management behaviors among patients with type II diabetes in Palestine

(2017) Journal of Applied Pharmaceutical Science, .

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85041948531&doi=10.7324%2fJAPS.2017.71214&partnerID=40&md5=18754da77086536c2014ce09a0b95c2f

AFFILIATIONS: Department of Pharmacy Practice, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM), UiTM Puncak Alam, Selangor, Malaysia;

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Department of Community Health Sciences, UCLA Fielding School of Public Health, Los Angeles, CA, United States

ABSTRACT: This study aims to assess factors related to self-care management through conducting a cross-sectional study. A personal interview using structured questionnaires together with a medical records review sought information about socio-demographic, clinical characteristics, healthcare system factors, and self-care management. Univariate and multivariate analyses were carried-out by SPSS v16. Three hundred and thirty patients were recruited. The mean \pm standard deviation age of participants was 60 \pm 9.7 years, 51.2% were male, 88.5% had additional chronic diseases, and 46.1% were obese. The multivariate analysis showed that being married, overweight, and obese were significantly related to decreased odds of follow diabetic meal plan, increased diabetes duration was significantly related to increased odds of follow diabetic meal plan. Increased number of additional chronic diseases was significantly related to decreased odds of physical exercise participation. Being married and not receiving insulin treatment were significantly related to decreased odds of self-blood glucose monitoring. Female participants were significantly related to decreased odds of medication adherence, and increased diabetes duration was significantly related to increased odds of medication adherence. Further investigation and improvement of inappropriate self-care management, and educational programmes would be of great benefit in achieving self-care management improvement. © 2017 Rami Salem Abdelmajid Mosleh et al.

Abu Khalaf, R., Abd El-Aziz, H., Sabbah, D., Albadawi, G., Abu Sheikha, G.

CETP inhibitory activity of chlorobenzyl benzamides: QPLD docking, pharmacophore mapping and synthesis

(2017) Letters in Drug Design and Discovery, .

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85036597597&doi=10.2174%2f1570180814666170412122304&partnerID=40&md5=61f23995becac1977ca6abb2b613706a

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Elevated levels of serum LDL and total cholesterol are considered important risk factors for the development of atherosclerosis. Cholesteryl ester transfer protein inhibition raises HDL levels and reduces atherosclerotic lesions. Objective: Consequently, there is a great interest in developing new CETP inhibitors. Methods: Herein, synthesis of four chlorobenzyl benzamides 8a-d that aim at CETP inhibition was performed. Results: Benzamide 8a showed the best CETP inhibitory activity with an IC₅₀ of 1.6 μ M. In vitro biological data shows that the presence of p-trifluoromethoxy group enhances CETP inhibitory activity more than m-trifluoromethyl groups. QPLD docking shows that the verified compounds accommodate the binding cleft of CETP and are enclosed by

hydrophobic lining. The scaffold of 8a-d matches the pharmacophoric points of CETP inhibitors; particularly hydrophobic and aromatic functionalities. Conclusion: Future structural modification is needed to improve CETP inhibitory activity and to enhance understanding of the structure-activity relationship. © 2017 Bentham Science Publishers.

Abu Khalaf, R., Sabbah, D., Al-Shalabi, E., Bishtawi, S., Albadawi, G., Abu Sheikha, G.
Synthesis, Biological Evaluation, and Molecular Modeling Study of Substituted Benzyl Benzamides as CETP Inhibitors

(2017) *Archiv der Pharmazie*, .

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[85036550975&doi=10.1002%2fardp.201700204&partnerID=40&md5=0c870ff6088b55ec9ec82b89f78e3db9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85036550975&doi=10.1002%2fardp.201700204&partnerID=40&md5=0c870ff6088b55ec9ec82b89f78e3db9)

AFFILIATIONS: Faculty of Pharmacy, Department of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Cardiovascular disease is the most common cause for mortality and morbidity in the developed world; its risk is inversely related to the high-density lipoprotein (HDL) cholesterol levels. Therefore, there is a great interest in developing new cholesteryl ester transfer protein (CETP) inhibitors capable of raising HDL as a novel approach for the prevention of cardiovascular disease. Herein, the synthesis and characterization of ten benzyl benzamides 8a-j that aim at CETP inhibition was performed. The in vitro CETP inhibition bioassay revealed that benzamide 8j had the best activity, with a percent inhibition of 82.2% at 10 µM concentration and an IC₅₀ value of 1.3 µM. The docking study shows that the verified compounds accommodate the binding cleft of CETP and are enclosed by a hydrophobic lining. Furthermore, the scaffold of 8a-j matches the pharmacophoric points of CETP inhibitors, particularly in its hydrophobic and aromatic functionalities. © 2017 Deutsche Pharmazeutische Gesellschaft

Al-Sagarat, A.Y., Al Kalaldehy, M.T.

Prevalence of health-risk behaviours among government schools' students in Jordan

(2017) *Iranian Journal of Public Health*, .

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[85036543693&partnerID=40&md5=f2d0358a605ee20bc51b63ebee39622a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85036543693&partnerID=40&md5=f2d0358a605ee20bc51b63ebee39622a)

AFFILIATIONS: Dept. of Community and Mental Health Nursing, College of Nursing, Mutah University, Al-Karak, Jordan;

Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Adolescence is a developmental stage associated with many behavioural fluctuations and health risks behaviours. In this study, various health risk behaviours among Government school students in Jordan were assessed. Methods: This cross-sectional descriptive study recruited 1256 students from 20 secondary schools all over the country. Students completed the Global School-based Student Health Survey (GSHS, 2009-2012). The study was conducted in the period between Feb 2016 and Aug 2016. Chi-square (χ^2) was used to examine differences among the demographic variables. Results: Students scored low in eating breakfast, eating fruit, vegetables, and milk products. However, students scored moderately in hand and mouth hygiene. Students showed minimal incidences of physical attack and physical fight. Although suicidal attempts were not significantly reported, complaining from worries, feeling of sadness and hopelessness were moderately scored. The majority of physical activities were reported from walking or riding bicycles. However, three hours per day was the average of time spent on sitting activities. Students scored lowest in school absenteeism and the majority described their classmates as kind and helpful. Parental control on students' home activities was regarded. Conclusion: In comparison with 2004 and 2007 statistics, students revealed improvements in physical activity, and reduced physical attacks and injuries. Future researchers are encouraged to discover factors associated with these changes. © 2017, Iranian Journal of Public Health. All rights reserved.

Alhusban, A.A., Breadmore, M.C., Gueven, N., Guijt, R.M.

Time-resolved pharmacological studies using automated, on-line monitoring of five parallel suspension cultures

(2017) *Scientific Reports*, .

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Department of Pharmacy, Al Zaytoonah University of Jordan, Amman, Jordan;

Centre for Regional and Rural Futures, Deakin University, Geelong, Australia

ABSTRACT: Early stage pharmacological studies rely on in vitro methodologies for screening and testing compounds. Conventional assays based on endpoint measurements provide limited information because the lack in temporal resolution may not determine the pharmacological effect at its maximum. We developed an on-line, automated system for near real-time monitoring of extracellular content from five parallel suspension cultures, combining cell density measurements with a high-resolution separations every 12 minutes for 4 days. Selector and switching valves provide the fluidic control required to sample from one culture during the analysis of the previous sample from another culture, a time-saving measure that is fundamental to the throughput of the presented system. The system was applied to study the metabolic effects of the drugs rotenone, β -lapachone and clioquinol using lactate as metabolic indicator. For each drug, 96 assays were executed on the extracellular matrix at three concentrations with two controls in parallel, consuming only 5.78 mL of media from each culture over four days, less than 60 μ L per analysis. The automated system provides high sample throughput, good temporal resolution and low sample consumption combined with a rugged analytical method with adequate sensitivity, providing a promising new platform for pharmacological and biotechnological studies. © 2017 The Author(s).

Al Khabbas, M.H., Ata, S.A., Abu-Dari, K.I., Tutunji, M.F., Mubarak, M.S.

Synthesis and characterization of new 1-hydroxy-2-pyridinethione derivatives: Their lead complexes and efficacy in the treatment of acute lead poisoning in rats

(2017) Journal of Trace Elements in Medicine and Biology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85027394201&doi=10.1016%2Fj.jtomb.2017.08.004&partnerID=40&md5=3a568286a59a25b18621b9ab29637756)

[85027394201&doi=10.1016%2Fj.jtomb.2017.08.004&partnerID=40&md5=3a568286a59a25b18621b9ab29637756](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85027394201&doi=10.1016%2Fj.jtomb.2017.08.004&partnerID=40&md5=3a568286a59a25b18621b9ab29637756)

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Pharmacy Department, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, 130, Amman, 11733, Jordan;

Department of Chemistry, Faculty of Science, The University of Jordan, Amman, 11942, Jordan

ABSTRACT: A number of new mono- and dihydroxypyridinethione ligands have been synthesized via reaction of dimethylamine and amino acid esters with the active amide obtained from the reaction of 1-hydroxy-2-pyridinethione-4-carboxylic acid (1) and 1,1'-carbonyldiimidazole in DMF. Moreover, the lead complexes of these new ligands were also prepared. Structures of the newly synthesized compounds have been confirmed by different spectroscopic methods such as IR, ¹H NMR, and ¹³C NMR, and by elemental analysis. The effect of these synthesized ligands on the excretion of lead, iron, and zinc, and their distribution in kidneys, liver, and bones in acutely intoxicated rats was investigated and results, for lead, were compared with those of the known drug meso-2,3-dimercaptosuccinic acid (DMSA). Results obtained revealed that compound 5 exhibits remarkable ability in total fecal and urinary excretion of lead and was superior to DMSA. In addition, results show that the concentration of lead in soft tissues and bones was lower in rats treated with HTPL than those treated with DMSA. Furthermore, the concentration of lead in liver tissues obtained from sub-chronic lead-intoxicated rats treated with HTPL was lower than those treated with DMSA and calcium disodium ethylenediaminetetraacetic acid (CaNa₂EDTA). © 2017 Elsevier GmbH

Arabiyat, S., Kasabri, V., Al-Hiari, Y., Bustanji, Y.K., Albashiti, R., Almasri, I.M., Sabbah, D.A.

Antilipase and antiproliferative activities of novel fluoroquinolones and triazolofluoroquinolones (2017) Chemical Biology and Drug Design, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026500099&doi=10.1111%2Fcbdd.13049&partnerID=40&md5=cb1e5dbc4e2846b16cda4369ee5498d1)

[85026500099&doi=10.1111%2Fcbdd.13049&partnerID=40&md5=cb1e5dbc4e2846b16cda4369ee5498d1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026500099&doi=10.1111%2Fcbdd.13049&partnerID=40&md5=cb1e5dbc4e2846b16cda4369ee5498d1)

AFFILIATIONS: School of Pharmacy, The University of Jordan, Amman, Jordan;

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ABSTRACT: Fluoroquinolones (FQs) have been identified recently as potent inhibitors of pancreatic lipase (PL). The aim of this study was to synthesize novel FQs and triazolofluoroquinolones (TFQs) and to evaluate them in vitro with respect to their antilipolytic efficacy and potency properties. The PL-IC₅₀ values of 12 FQs and TFQs (3 (a-c)-6 (a-c)) were in the range of 12.5-189.1 μ m. These values are further supported by docking studies. The suggested association between obesity and colorectal cancer initiated the evaluation of antiproliferative activity of the new FQs and TFQs against a panel of obesity-related colorectal cells (HT29, HCT116, SW620 CAC02, and SW480). Sulforodamine B colorimetric assay revealed that some derivatives exhibited unselective cytotoxicity against HT29, HCT116, SW620 CAC02, and SW480. Remarkably, FQ 4a's selective cytotoxicity against HCT116 was found valuable with IC₅₀ value of 4.2 μ m which exceeds that of cisplatin with a substantial selective cytotoxicity in periodontal ligament fibroblasts. In conclusion, FQ and TFQ derivatives may unveil new antiobesity and anticancer agents in the future. © 2017 John Wiley & Sons A/S

Samih Shaban, O., Al-Zubi, Z., Ahmad AlGhusin, N.

The effect of financial & cash policies on the performance and risk assessment of Amman stock exchange market [Učinci financijske i monetarne politike na rezultate i procjenu rizika na burzi vrijednosnih papira u ammanu]

(2017) Ekonomski Pregled, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85038228425&partnerID=40&md5=712b4e2e4e55bcdd0730c17ebe65d103)

85038228425&partnerID=40&md5=712b4e2e4e55bcdd0730c17ebe65d103

AFFILIATIONS: Faculty of Business, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The current study aims to examine the effect of financial and cash policies on evaluating risk associated in stock trading, and measuring stock performance of Amman stock exchange market. The method used in order to reach the objective of the current study, was through a questionnaire which has been designed for this purpose, and it was distributed randomly to the traders of Amman stock exchange market in the month of January 2017. The number of valid questionnaires analyzed were 180 out of 200 questionnaires distributed. Regression data were analyzed using the statistical program Smart PLS, (Partial Least Square). The Study concluded that financial and cash policies affect the investment environment, and Amman stock exchange market currently revealed that the number of traded shares decreased by 3.3% compared by the same period of last year and the number of executed transactions decreased by 25.3% in comparison with the same period of last year. © 2017, Hrvatsko Drustvo Ekonomista. All rights reserved.

Abu Sharour, L., Al-Ghabeesh, S., Suleiman, K., Salameh, A.B., Jacob, S., Al-Kalaldeh, M.

Predictors of breast self-examination performance among Jordanian university female students

(2017) European Journal of Cancer Care, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85007481654&doi=10.1111%2fjcc.12622&partnerID=40&md5=8f1c71d470adedd64015f52ed8211cd)

85007481654&doi=10.1111%2fjcc.12622&partnerID=40&md5=8f1c71d470adedd64015f52ed8211cd

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Breast cancer is considered one of the main types of cancer among female worldwide and in Jordan also. Early detection of it will improve the prognosis and decrease the mortality rate also. Thus, this study was conducted to assess the predictors of breast self-examination performance among Jordanian university female students. Across-sectional design was utilised in this study. A sample of 100 participants was completed the study survey (The Champion's Health Belief Model Scale). The main results or regression analysis showed that confidence ($\beta = .71$, $p < .0001$) and perceived barriers ($\beta = -.061$, $p = .0004$) were significant predictors of breast self-examination performance. In summary, other variables of Health belief model were found not be significant indicators of BSE performance in this study. However, the HBM is considered a valid framework to assess the predictors of breast self-examination knowledge, attitude, beliefs and barriers among Jordanian college female students. © 2016 John Wiley & Sons Ltd

Zaidan, D., Salem, A., Swidan, A., Saifan, R.

Factors affecting keystroke dynamics for verification: Data collecting and analysis

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040020940&doi=10.1109%2fICITECH.2017.8080032&partnerID=40&md5=9f28ecbea2da24f05de1efbf1eb318e8)

85040020940&doi=10.1109%2fICITECH.2017.8080032&partnerID=40&md5=9f28ecbea2da24f05de1efbf1eb318e8

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan;

NITC, Amman, Jordan;

University of Jordan, Amman, Jordan

ABSTRACT: Nowadays, mobile devices are used to serve various functions; accessing the internet, accessing emails and storing information. Some of the stored and accessed data contain sensitive information such as passwords, bank credentials, and other important data. Consequently, authenticating users has become an important issue, especially with mobile systems. The development of the mobile systems has changed to touch screen system for user-friendly and quick access mechanism. This research studies the factors that affect the Keystroke Dynamics as authentication and verification technique. The study includes a questioner and data collection using HTML-Javascript-self-constructed webpage. The study involves 78 users in several situations. Five features, (Key Code, Up-Down latency, Down-Down latency, Key Hold and Overall latency) are analyzed while capturing samples from users and stored in a table format. Different machines, platforms and situations are used. © 2017 IEEE.

Al-Sanhani, A.H., Hamdan, A., Al-Thaher, A.B., Al-Dahoud, A.

A comparative analysis of data fragmentation in distributed database

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040013730&doi=10.1109%2fICITECH.2017.8079934&partnerID=40&md5=5f32ca9804cd55055ca2c78af6a0e63e)

85040013730&doi=10.1109%2fICITECH.2017.8079934&partnerID=40&md5=5f32ca9804cd55055ca2c78af6a0e63e

AFFILIATIONS: Faculty of Science and I.T., Al-Zaytoonah University of Jordan, P.O. Box 130, Amman,

11733, Jordan

ABSTRACT: Distributed database technology is supposed to have a remarkable impact on data processing in the next years. This paper overviews Data Fragmentations in distributed database system. We discussed in briefly distributed database environment, fragmentations and distributed databases design. We compared between the horizontal fragmentations, vertical fragmentations, and mixed fragmentations. The Correctness rules of fragmentation have been used; the best type of Data Fragmentations for distributed databases design has been suggested. © 2017 IEEE.

Ibrahim, D.R., Tamimi, A.A., Abdalla, A.M.

Performance analysis of biometric recognition modalities

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040007773&doi=10.1109%2FICITECH.2017.8079977&partnerID=40&md5=023371e730b3d3b59b78634713a57ce9)

[85040007773&doi=10.1109%2FICITECH.2017.8079977&partnerID=40&md5=023371e730b3d3b59b78634713a57ce9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040007773&doi=10.1109%2FICITECH.2017.8079977&partnerID=40&md5=023371e730b3d3b59b78634713a57ce9)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: With the increasing concern over information security, the demand for effective biometric recognition modalities has increased. In addition, more biometric recognition modalities are currently under development. This paper overviews and compares several biometric recognition technologies such as finger-scan, facial scan, retinal scan, hand geometry, and signature authentication. Some of the continuing challenges for biometric modalities are to provide accurate results within an acceptable time limit and to define the environment in which the technology provides the strongest benefit to individuals and institutions. For the security officer, the challenge is to demonstrate to upper management that the benefits of implementation outweigh its risks and costs. Among the reviewed techniques, some recognition techniques were found to have high accuracy at varying costs, while the DNA modality was found to be the most secure technique and most expensive. © 2017 IEEE.

Abdallah, M., Alokush, B., Alrefaee, M., Salah, M., Bader, R., Awad, K.

JavaBST: Java backward slicing tool

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040006581&doi=10.1109%2FICITECH.2017.8080067&partnerID=40&md5=af2242db233293ed4ed334f0db71c976)

[85040006581&doi=10.1109%2FICITECH.2017.8080067&partnerID=40&md5=af2242db233293ed4ed334f0db71c976](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040006581&doi=10.1109%2FICITECH.2017.8080067&partnerID=40&md5=af2242db233293ed4ed334f0db71c976)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Program slicing is a technique of abstracting from a program depending on slicing criteria to be used in maintenance, debugging and other applications. Java programs as any other programming language has been a target for slicing tool, such as Kaveri and WALA. In this paper, we present a new Java backward slicing tool; JavaBST. JavaBST, proposed a new way of reading Java code and produce the dependencies depending on the syntax to produce a backward slice for each variable in the program. It succeeded in terms of producing slices. But, still simple tool to deal with complicated programs. © 2017 IEEE.

Daoud, M.S., Almimi, H.M.

A survey on location based-services over cellular networks

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040001885&doi=10.1109%2FICITECH.2017.8079978&partnerID=40&md5=6b3dacd37376158553e4086f5de32536)

[85040001885&doi=10.1109%2FICITECH.2017.8079978&partnerID=40&md5=6b3dacd37376158553e4086f5de32536](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040001885&doi=10.1109%2FICITECH.2017.8079978&partnerID=40&md5=6b3dacd37376158553e4086f5de32536)

AFFILIATIONS: Al Ain University of Science and Technology, Abu Dhabi, United Arab Emirates; Al-Zaytoonah University of Jordann, Amman, Jordan

ABSTRACT: This paper provides a brief background about cellular communications network types in the sense of brief background discussions about 2G, 3G and 4G, giving an exposition of 3G as UMTS architecture. Then the benefits and classifications of LBSs are presented. This paper should answer, after the classification and the target market of such services and application types, the following questions: What are the technical capabilities? What are the components and the technologies? What are the solutions for these services through GPS, cellular communications networks and WiFi?. © 2017 IEEE.

Tamimi, A.A.

Preface: General Chair

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039986697&doi=10.1109%2FICITECH.2017.8080083&partnerID=40&md5=d4a26fdf817aabb99877e57b57561445)

[85039986697&doi=10.1109%2FICITECH.2017.8080083&partnerID=40&md5=d4a26fdf817aabb99877e57b57561445](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039986697&doi=10.1109%2FICITECH.2017.8080083&partnerID=40&md5=d4a26fdf817aabb99877e57b57561445)

AFFILIATIONS: Faculty of Science and IT, Al-Zaytoonah University of Jordan, Jordan

Ibrahim, M.N., Maria, K.A., Jaber, K.M.

A comparative study for Arabic Multi-Document Summarization Systems (AMD-SS)

(2017) ICIT 2017 - 8th International Conference on Information Technology, Proceedings, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85039983834&doi=10.1109%2FICITECH.2017.8079984&partnerID=40&md5=33d539f941c80a7a7929b0a31f6ebe2f)

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AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper demonstrates a comparative study of Arabic Multi-Document Summarization System (AMD-SS). These methods are compared and analyzed, aiming to detect which method generates a genuine summary and achieves the best results in comparison with the human summarization techniques. The comparative study shows that there is a lack in the area of Arabic Automatic Text Summarization systems. Therefore, we proposed an Arabic Text Summarization model that built in linear algorithms based on parallel computing techniques. The proposed model is built in order to generate an Arabic Document Summary (ADS) that is fully coherent, grammatical and meaningful Arabic sentences, closing to a human summarization. Recent researches have not provided perfect Arabic summary. © 2017 IEEE.

Mahmoud, N.N., Alkilany, A.M., Khalil, E.A., Al-Bakri, A.G.

Antibacterial activity of gold nanorods against staphylococcus aureus and propionibacterium acnes: Misinterpretations and artifacts

(2017) International Journal of Nanomedicine, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032853689&doi=10.2147%2FIJN.S145531&partnerID=40&md5=8acb118f7f55cc94fa24ca94c2cd850e)

[85032853689&doi=10.2147%2FIJN.S145531&partnerID=40&md5=8acb118f7f55cc94fa24ca94c2cd850e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032853689&doi=10.2147%2FIJN.S145531&partnerID=40&md5=8acb118f7f55cc94fa24ca94c2cd850e)

AFFILIATIONS: Department of Pharmaceutics and Pharmaceutical Technology, School of Pharmacy, The University of Jordan, Amman, Jordan;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: The antibacterial activity of gold nanorod (GNR) suspensions of different surface functionalities was investigated against standard strains of Staphylococcus aureus and Propionibacterium acnes, taking into consideration two commonly "overlooked" factors: the colloidal stability of GNR suspensions upon mixing with bacterial growth media and the possible contribution of "impurities/molecules" in GNR suspensions to the observed antibacterial activity. The results demonstrated that cationic polyallylamine hydrochloride (PAH)-GNR were severely aggregated when exposed to bacterial growth media compared to other GNR suspensions. In addition, the free cetyltrimethylammonium bromide (CTAB) present in GNR suspensions is most likely the origin of the observed antibacterial activity. However, the antibacterial activity of GNR themselves could not be excluded. Probing these two critical control studies prevents misinterpretations and artifacts of the antibacterial activity of nanoparticles. Unfortunately, these practices are usually ignored in the published studies and may explain the significant conflicting results. In addition, this study indicates that GNR could be a promising candidate for the treatment of skin follicular diseases such as acne vulgaris. © 2017 Mahmoud et al.

Olimat, A.N., Awad, A.S., Al-Gathain, F.M., Shaban, N.A.

Performance of loaded thermal storage unit with a commercial phase change materials based on energy and exergy analysis

(2017) International Journal of Renewable Energy Development, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068144767&doi=10.14710%2Fijred.6.3.283-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068144767&doi=10.14710%2Fijred.6.3.283-290&partnerID=40&md5=d2a339091e72ab90005b9afc1adbd516)

[290&partnerID=40&md5=d2a339091e72ab90005b9afc1adbd516](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068144767&doi=10.14710%2Fijred.6.3.283-290&partnerID=40&md5=d2a339091e72ab90005b9afc1adbd516)

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Mechanical Engineering Department, Faculty of Engineering Technology, Al-Balqa' Applied University, P. O. Box: 330116, Amman, 11134, Jordan;

Faculty of Engineering Technology, Al-Balqa' Applied University, P. O. Box: 179, Tafila, 66110, Jordan;

Mechanical Engineering Department, Alzaytoonah University, Amman, Jordan

ABSTRACT: This work presents an energy/exergy analysis to investigate performance of thermal storage unit which loaded with a commercial phase change material (Plus ICE H190). The influence of fluid parameters on the energy/exergy effectiveness was examined. The temporal changes of the energy and exergy rate and performance of the storage unit are obtained in the results. Latent heat principle is considered an efficient method to gain a higher effectiveness of system from an energy and exergy aspects. The fluid mass flow rate during charging and discharging periods were 2.50 kg/min and 1.26 kg/min, respectively. The results showed a significant increase of thermal resistance on the thermal storage unit performance. Fluid and phase change material show significant temperature difference on the rate of energy/exergy quantities and the time of melting or solidification. Their results indicated that the average rate of energy and exergy were 1.3 kW and 0.54 kW, respectively. Whereas, energy and exergy average rate during discharging periods were 1.1 kW and 0.31 kW, respectively. Also, the global rate during the experimental periods were about 84% and 54%, respectively. © IJRED.

Abu Farha, R., Bustanji, Y., Al-Hiari, Y., Bardaweel, S., Al-Qirim, T., Abu Sheikha, G., Albashiti, R.

Pharmacological Evaluation of Novel Isonicotinic Carboxamide Derivatives as Potential Anti-Hyperlipidemic and Antioxidant Agents

(2017) *Archiv der Pharmazie*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030162242&doi=10.1002%2fardp.201700024&partnerID=40&md5=b09aba4195748e15eeb667c4ae24e3f9)

[85030162242&doi=10.1002%2fardp.201700024&partnerID=40&md5=b09aba4195748e15eeb667c4ae24e3f9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030162242&doi=10.1002%2fardp.201700024&partnerID=40&md5=b09aba4195748e15eeb667c4ae24e3f9)

AFFILIATIONS: Faculty of Pharmacy, University of Jordan, Amman, Jordan;

Faculty of Pharmacy, Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Hyperlipidemia and oxidative stress have been implicated as contributing factors to the development of atherosclerosis and cardiovascular diseases (CVDs). Currently, a large number of antihyperlipidemic medications are conveniently available in the market. Nonetheless, the majority of antihyperlipidemics lack the desired safety and efficacy. Thus, the present study was undertaken to evaluate the potential effect of novel N-(benzoylphenyl)pyridine-4-carboxamide and N-(9,10-dioxo-9,10-dihydroanthracenyl)pyridine-4-carboxamide derivatives in controlling hyperlipidemia and oxidative stress using the Triton WR-1339-induced hyperlipidemic rat model for antihyperlipidemic activity and the DPPH radical scavenging assay for antioxidant activity. This study revealed the antihyperlipidemic activities of some of the newly synthesized, novel carboxamide derivatives, mainly C4 and C12 ($p < 0.05$). The majority of the compounds displayed a relatively low or no DPPH radical scavenging effect, with C20 possessing the best radical scavenging effect (22%) among all. This research opens the door for new potential antihyperlipidemic compounds derived from isonicotinic acid. N-(3-Benzoylphenyl)pyridine-4-carboxamide (C4) was found to have promising lipid-lowering and antioxidant effects, which may create a protective effect against CVDs, by reducing the LDL-C levels and diminishing the generation of reactive oxygen species. © 2017 Deutsche Pharmazeutische Gesellschaft

Sunoqrot, S., Alsadi, A., Tarawneh, O., Hamed, R.

Polymer type and molecular weight dictate the encapsulation efficiency and release of Quercetin from polymeric micelles

(2017) *Colloid and Polymer Science*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028767088&doi=10.1007%2fs00396-017-4183-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028767088&doi=10.1007%2fs00396-017-4183-9&partnerID=40&md5=63bce7f0d6caba5ebb1079c2b4196ccd)

[9&partnerID=40&md5=63bce7f0d6caba5ebb1079c2b4196ccd](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028767088&doi=10.1007%2fs00396-017-4183-9&partnerID=40&md5=63bce7f0d6caba5ebb1079c2b4196ccd)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: Flavonoids such as quercetin (QCT) represent a diverse class of natural compounds with unique therapeutic potential in cancer and inflammatory diseases. However, their clinical efficacy is hindered by poor aqueous solubility and stability. This study describes the in vitro evaluation of QCT-encapsulated polymeric micelles based on methoxy polyethylene glycol-b-poly(D,L-lactide) (mPEG-PLA) and methoxy polyethylene glycol-b-poly(ϵ -caprolactone) (mPEG-PCL) copolymers as a drug delivery platform for QCT. The copolymers were synthesized in different molecular weights (MWs) of the hydrophobic blocks to investigate the effect of polymer type and MW on the micelle properties. All copolymers exhibited critical micelle concentrations (CMCs) in the micromolar range or lower and produced QCT-loaded micelles with particles sizes < 100 nm. mPEG5K-PLA3K, with the highest predicted compatibility with QCT as indicated by the Flory-Huggins interaction parameter, was able to achieve the highest loading capacity and encapsulation efficiency. Drug loading also exhibited a strong correlation with the hydrophilic-lipophilic balance (HLB) of the copolymers. In vitro release of the micelles followed a biphasic profile, with an initial burst phase followed by a controlled release phase, and showed a clear dependence on drug-copolymer compatibility and copolymer MW. This work represents the first report on the use of mPEG-PLA micelles to encapsulate QCT. It also emphasizes the importance of tuning formulation variables as they influence the properties of polymeric micelles for the design of a successful nanomedicine for QCT and similar drugs. © 2017, Springer-Verlag GmbH Germany.

Mahmoud, N.N., Alkilany, A.M., Dietrich, D., Karst, U., Al-Bakri, A.G., Khalil, E.A.

Preferential accumulation of gold nanorods into human skin hair follicles: Effect of nanoparticle surface chemistry

(2017) *Journal of Colloid and Interface Science*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019068732&doi=10.1016%2fj.jcis.2017.05.011&partnerID=40&md5=c850d522d89b53463eec9b1dbf301215)

[85019068732&doi=10.1016%2fj.jcis.2017.05.011&partnerID=40&md5=c850d522d89b53463eec9b1dbf301215](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019068732&doi=10.1016%2fj.jcis.2017.05.011&partnerID=40&md5=c850d522d89b53463eec9b1dbf301215)

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ABSTRACT: Hypothesis Gold nanoparticles (GNP) are considered an ideal model to help understanding the nano-skin interface. The surface functionality of gold nanorods (GNR) is expected to influence the uptake of nanoparticles into specific targets of skin such as hair follicles or dermis. Hence, it should be possible to modify the surface chemistry of GNP to achieve more targeted and safe skin therapy. Experiments GNR functionalized with various surface ligands (neutral, anionic, cationic, and hydrophobic) were evaluated for their accumulation into hair follicles of human skin sheets using ex-vivo setup. The extent of GNR accumulation into hair follicles and other skin compartments was quantified by inductively coupled plasma-optical emission spectroscopy (ICP-OES), and their spatial distribution through skin layers was investigated by laser ablation-inductively coupled plasma-mass spectroscopy (LA-ICP-MS). Results The lipophilic properties of sebum-rich hair follicles enhanced the accumulation of hydrophobic polystyrene (PS)-GNR into hair follicles (~13% of the total applied dose), while neutral polyethylene glycol (PEG)-GNR were distributed into all skin compartments, especially the dermis (~11.5% of the total applied dose), which exhibits hydrophilic characteristics. Charged GNR showed a negligible percentage of penetration into any of the skin compartments. GNR could be a promising approach for targeted skin disease treatment and transdermal administration of drugs and therapy. © 2017 Elsevier Inc.

Al-Jazzar, S.O., Shaker, S.

Blind self-interference cancelation for amplify and forward relaying

(2017) 2017 10th Jordan International Electrical and Electronics Engineering Conference, JIEEEEC 2017,

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032800012&doi=10.1109%2fJIEEEEC.2017.8051414&partnerID=40&md5=05ba2e8e6bac869cc6345d9dea2a27ca)

[85032800012&doi=10.1109%2fJIEEEEC.2017.8051414&partnerID=40&md5=05ba2e8e6bac869cc6345d9dea2a27ca](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032800012&doi=10.1109%2fJIEEEEC.2017.8051414&partnerID=40&md5=05ba2e8e6bac869cc6345d9dea2a27ca)

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ABSTRACT: In this letter we introduce a self-interference (SI) cancelation technique for amplify and forward relays. Relays are used to help forward signals between a transmitter and a receiver. This helps increase the signal coverage and reduce the required transmitted signal power. One issue that faces relays communications is the SI problem where an unwanted leaked signal from the relay's output will contaminate the new signal received from the transmitter at the relay's input. A solution is proposed in this letter to cancel this SI which is based upon using the constant modulus adaptive algorithm. This is performed blindly at the relay without the need of any training, a priori knowledge of the SI channel or any other channel weight estimates nor the need of multiple antennas. Simulation results are provided to verify the performance of the proposed method. © 2017 IEEE.

Hakooz, N., Jarrar, Y.B., Zihlif, M., Imraish, A., Hamed, S., Arafat, T.

Effects of the genetic variants of organic cation transporters 1 and 3 on the pharmacokinetics of metformin in Jordanians

(2017) Drug Metabolism and Personalized Therapy, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030475719&doi=10.1515%2fdmpt-2017-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030475719&doi=10.1515%2fdmpt-2017-0019&partnerID=40&md5=4edbeeb97a42fe6ddd21e1678d9e9ecd)

[0019&partnerID=40&md5=4edbeeb97a42fe6ddd21e1678d9e9ecd](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030475719&doi=10.1515%2fdmpt-2017-0019&partnerID=40&md5=4edbeeb97a42fe6ddd21e1678d9e9ecd)

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ABSTRACT: Human response to the antidiabetic metformin is influenced by some factors, such as genetic variants in the SLC22A genes. This study aimed to determine the frequency of main SLC22A1 and SLC22A3 genetic variants and their influence on metformin pharmacokinetics among healthy unrelated Arab Jordanians. The SLC22A1 and SLC22A3 genes were genotyped by DNA sequencing of exons 1, 3, 7, and 9 in the SLC22A1 gene and exons 6, 7, and 9 in the SLC22A3 gene. Then, a clinical pharmacokinetic study was conducted on 26 healthy volunteers. The pharmacokinetic parameters were calculated using non-compartmental model analysis. The study was an open-label, randomized study with single 1000 mg metformin administration. Results showed that volunteers with SLC22A3 rs8187722 variant had higher (χ^2 , $p < 0.05$) metformin C_{max} and AUC values than the wild SLC22A3 volunteers, whereas T_{and} K_{el} were not affected. In addition, volunteers with the heterozygote SLC22A3 rs2292334 variant had significantly higher (χ^2 , $p < 0.05$) metformin C_{max} and AUC and lower K_{el} values than the wild-type SLC22A3 genotype. The SLC22A3 rs8187722 and rs2292334 genetic variants affected metformin pharmacokinetics among a clinical sample of Jordanians. The findings may increase our understanding of the inter-individual and inter-ethnic variations in metformin response. © 2017 2017 Walter de Gruyter GmbH, Berlin/Boston.

Abul-Futouh, H., Almazahreh, L.R., Harb, M.K., Görls, H., El-Khateeb, M., Weigand, W.

[FeFe]-Hydrogenase H-Cluster Mimics with Various -S(CH₂)_nS- Linker Lengths (n = 2-8): A Systematic Study

(2017) Inorganic Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028915260&doi=10.1021%2facs.inorgchem.7b01398&partnerID=40&md5=410d1cf42081194e91e9f5ffc18ae2f6)

85028915260&doi=10.1021%2facs.inorgchem.7b01398&partnerID=40&md5=410d1cf42081194e91e9f5ffc18ae2f6

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ABSTRACT: The effect of the nature of the dithiolato ligand on the physical and electrochemical properties of synthetic H-cluster mimics of the [FeFe]-hydrogenase is still of significant concern. In this report we describe the cyclization of various alkanedithiols to afford cyclic disulfide, tetrasulfide, and hexasulfide compounds. The latter compounds were used as proligands for the synthesis of a series of [FeFe]-hydrogenase H-cluster mimics having the general formulas $[\text{Fe}_2(\text{CO})_6\{\mu\text{-S}(\text{CH}_2)_n\text{S}\}]$ ($n = 4\text{-}8$), $[\text{Fe}_2(\text{CO})_6\{\mu\text{-S}(\text{CH}_2)_n\text{S}\}]_2$ ($n = 6\text{-}8$), and $[\text{Fe}_2(\text{CO})_6\{\mu\text{-S}(\text{CH}_2)_n\text{S}\}_2]$ ($n = 6\text{-}8$). The resulting complexes were characterized by ^1H and $^{13}\text{C}\{^1\text{H}\}$ NMR and IR spectroscopic techniques, mass spectrometry, and elemental analysis as well as X-ray analysis. The purpose of this research was to study the influence of the systematic increase of n from 2 to 7 on the redox potentials of the models and the catalytic ability in the presence of acetic acid (AcOH) by applying cyclic voltammetry. © 2017 American Chemical Society.

Ahmad, H.S., Bazlamit, S.M., Jurczuk, A., Orłowski, C.

Success factors of project and process management - Lessons learned from EPPM 2016

(2017) Engineering Management in Production and Services, .

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0021&partnerID=40&md5=f834404854352d77f4ca5dfd9fc487b6

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Huang, H., Jaradat, Y., Misra, S., Abu-Baker, A., Asorey-Cacheda, R., Tourani, R., Masoud, M., Jannoud, I.

Capacity of Large-Scale Wireless Networks under Jamming: Modeling and Analyses

(2017) IEEE Transactions on Vehicular Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85029956148&doi=10.1109%2fTVT.2017.2681656&partnerID=40&md5=5784fadf2759b08df06969eebc8166d8)

85029956148&doi=10.1109%2fTVT.2017.2681656&partnerID=40&md5=5784fadf2759b08df06969eebc8166d8

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ABSTRACT: Distributed jamming has important applications not only in the military context but also in the civilian context, where spectrum sharing is increasingly used and inadvertent jamming becomes a reality. In this paper, we derive the capacity bounds of wireless networks in the presence of jamming. We show that when the density of jammers is higher than that of target nodes by a certain threshold, the capacity of wireless networks approaches zero as the numbers of target nodes and jammers go to infinity. This is true even when the total power of target nodes is much higher than that of the jammers. We provide the optimal communication schemes to achieve the capacity bounds. We also describe the power efficiency of wireless networks, showing that there is an optimal target node density for power-efficient network operation. Our results can provide guidance for designing optimal wireless networking protocols that have to deal with large-scale distributed jamming. © 2017 IEEE.

Salah, M., Abu Mallouh, M., Youssef, M., Abdelhafez, E., Hamdan, M., Surgenor, B.

Hybrid vehicular fuel cell/battery powertrain test bench: design, construction, and performance testing

(2017) Transactions of the Institute of Measurement and Control, .

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85028301716&doi=10.1177%2f0142331216642835&partnerID=40&md5=6b77c2108b5ec05e557d450fa66936eb

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ABSTRACT: The development of hybrid vehicular power systems has been conducted for decades to improve transportation quality mainly in terms of environment pollution and fuel economy. Hence, hybrid electric vehicular systems are considered an attractive and potential solution in the long run to replace conventional combustion engine vehicles. In this paper, a scaled-down vehicular powertrain test bench is designed and constructed utilizing a hybrid fuel cell/battery energy sources. The performance of the proposed test bench is also investigated experimentally to explore the modes of operation for system components under various road conditions. Load-following energy management strategy is implemented experimentally in this hybrid configuration. The concepts that can be learned from such test bench are certainly essential for any future implementation on real full-size vehicles. In this study, it is shown that even though fuel cells have a good energy-to-weight ratio, they have a slow response and that is why they must be combined with other fast-response energy sources like a battery or supercapacitor. The test bench is mainly built to explore the implementation of various energy management strategies and control algorithms without the need to have a real vehicle and an automotive test track. In addition, it is an excellent platform for training highly qualified automotive engineers and university undergraduate students as well as automotive researchers. © 2017, © The Author(s) 2017.

Al-Mahadeen, B.M., Althunibat, A., Tarabieh, S.M.Z.A.

Measuring the acceptance of using UTMS in Jordan universities

(2017) Journal of Theoretical and Applied Information Technology, .

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[85027548646&partnerID=40&md5=4241def09c0e0b172f1e4ad83a5f2c87](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85027548646&partnerID=40&md5=4241def09c0e0b172f1e4ad83a5f2c87)

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ABSTRACT: University Timetable management system (UTMS) are used to schedule courses, lecturers and rooms in university by considering some constraints. Although UTMS is a widely studied topic, the use of automated timetabling systems is not widespread among large universities. Therefore, it is important to investigate the factors that influence the intention to use university timetable management system (UTMS) among Higher education lecturers. This study proposed a model for determining the factors that affect the acceptance of using UTMS. The study was conducted by surveying different groups of university's lecturer community. A structured questionnaire was used to collect data from 120 respondents. Results of the study prove that the proposed model is comprehensive to study the acceptance of UTMS in higher education institution. Overall, the results indicated the appropriateness of fundamental elements of TAM in the UTMS context. © 2005 - Ongoing JATIT & LLS.

Hamed, R., AlJanabi, R., Sunoqrot, S., Abbas, A.

The effect of pH, buffer capacity and ionic strength on quetiapine fumarate release from matrix tablets prepared using two different polymeric blends

(2017) Drug Development and Industrial Pharmacy, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019017057&doi=10.1080%2f03639045.2017.1318897&partnerID=40&md5=53cdd31e6efc9f1284bfceae9976db54)

[85019017057&doi=10.1080%2f03639045.2017.1318897&partnerID=40&md5=53cdd31e6efc9f1284bfceae9976db54](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019017057&doi=10.1080%2f03639045.2017.1318897&partnerID=40&md5=53cdd31e6efc9f1284bfceae9976db54)

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ABSTRACT: The objective of this study was to investigate the effect of the different physiological parameters of the gastrointestinal (GI) fluid (pH, buffer capacity, and ionic strength) on the in vitro release of the weakly basic BCS class II drug quetiapine fumarate (QF) from two once-a-day matrix tablet formulations (F1 and F2) developed as potential generic equivalents to Seroquel® XR. F1 tablets were prepared using blends of high and low viscosity grades of hydroxypropyl methylcellulose (HPMC K4M and K100LV, respectively), while F2 tablets were prepared from HPMC K4M and PEGylated glyceryl behenate (Compritol® HD5 ATO). The two formulations attained release profiles of QF over 24 h similar to that of Seroquel® XR using the dissolution medium published by the Food and Drug Administration (FDA). A series of solubility and in vitro dissolution studies was then carried out using media that simulate the gastric and intestinal fluids and cover the physiological pH, buffer capacity and ionic strength range of the GIT. Solubility studies revealed that QF exhibits a typical weak base pH-dependent solubility profile and that the solubility of QF increases with increasing the buffer capacity and ionic strength of the media. The release profiles of QF from F1, F2 and Seroquel® XR tablets were found to be influenced by the pH, buffer capacity and ionic strength of the dissolution media to varying degrees. Results highlight the importance of studying the physiological variables along the GIT in designing controlled release formulations for more predictive in vitro-in vivo correlations. © 2017 Informa UK Limited, trading as Taylor & Francis Group.

Al-Zoubi, H., Stamatakis, S., Al-Mashaleh, W., Awadallah, M.

Translation surfaces of coordinate finite type

(2017) Indian Journal of Mathematics, .

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ABSTRACT: We consider translation surfaces in the 3-dimensional Euclidean space which are of coordinate finite type with respect to the third fundamental form III, i.e. their position vector x satisfies the relation $\Delta III x = \Lambda x$, where Λ is a square matrix of order 3. We show that Sherk's minimal surface is the only translation surface satisfying $\Delta III x = \Lambda x$. © 2017 Allahabad Mathematical Society.

Jaradat, Y., Huang, H., Masoud, M., Janoud, I.

Capacity of Wireless Networks with Directed Energy Links in the Presence of Obstacles

(2017) IEEE Transactions on Wireless Communications, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85029579281&doi=10.1109/2FTWC.2017.2707487&partnerID=40&md5=183106430f2acf2b7cf85a03f6985d43)

[85029579281&doi=10.1109/2FTWC.2017.2707487&partnerID=40&md5=183106430f2acf2b7cf85a03f6985d43](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85029579281&doi=10.1109/2FTWC.2017.2707487&partnerID=40&md5=183106430f2acf2b7cf85a03f6985d43)

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ABSTRACT: In this paper, we study the capacity of wireless networks with directed energy (DE) links in the presence of obstacles. DE links are highly focused wireless links that can be treated as 'pencil beam,' an example of which is the E-band link (71-76 and 81-86 GHz) newly made available by the FCC. The 10-GHz spectrum of E-band is 50-times that of the entire cellular spectrum and provides the much needed spectrum in today's world of exponential growth in mobile applications. Since the performance of highly focused DE links are highly susceptible to the presence of obstacles and real-world applications typically involve obstacles, it is important to study the capacity of wireless networks with DE links in the presence of obstacles, which is the subject of this paper. In the following, we first provide a study of probability distribution of DE links in the presence of obstacles and investigate how the number, shape, and size of obstacles impact the DE link probability distribution. Then, based on the probability distribution of DE links, we derive the capacity scaling laws for wireless networks in the presence of obstacles. Furthermore, our results can be extended to obstacles with arbitrary shapes quite accurately. © 2002-2012 IEEE.

Sunoqrot, S., Hasan, L., Alsadi, A., Hamed, R., Tarawneh, O.

Interactions of mussel-inspired polymeric nanoparticles with gastric mucin: Implications for gastro-retentive drug delivery

(2017) Colloids and Surfaces B: Biointerfaces, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019029980&doi=10.1016/2fj.colsurfb.2017.05.005&partnerID=40&md5=0cbd9e220e58ed6157b2afe3614f36d3)

[85019029980&doi=10.1016/2fj.colsurfb.2017.05.005&partnerID=40&md5=0cbd9e220e58ed6157b2afe3614f36d3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019029980&doi=10.1016/2fj.colsurfb.2017.05.005&partnerID=40&md5=0cbd9e220e58ed6157b2afe3614f36d3)

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ABSTRACT: Mussel-inspired polydopamine (pD) coatings have several unique characteristics such as durability, versatility, and robustness. In this study, we have designed pD-coated nanoparticles (NPs) of methoxy polyethylene glycol-b-poly(ϵ -caprolactone) (mPEG-PCL@pD) as prospective nanoscale mucoadhesive platforms for gastro-retentive drug delivery. Successful pD coating on the NPs was confirmed by Transmission Electron Microscopy and X-ray Photoelectron Spectroscopy. Mucoadhesion of pD-coated NPs was investigated in vitro using commercially available mucin under stomach lumen-mimetic conditions. Mucin-NP interactions were monitored by dynamic light scattering, which showed a significant change in particle size distribution of pD-coated NPs at mucin/NP ratios of 1:1, 1:2, and 1:4 w/w. Turbidity measurements indicated the formation of large mucin-NP aggregates causing a significant increase in turbidity at mucin/NP ratios of 2:1 and 4:1 w/w. pD-coated NPs exhibited a significantly higher mucin adsorption ability compared to uncoated NPs at mucin/NP ratios of 1:4, 1:2, and 1:1 w/w. Zeta potential measurements demonstrated that mucin-pD-coated NP interactions were not electrostatic in nature. An ex vivo wash-off test conducted using excised sheep stomach revealed that 78% of pD-coated NPs remained attached to the mucosa after 8 h of incubation, compared to only 33% of uncoated NPs. In vitro release of rifampicin, used as a model drug, showed a similar controlled release profile from both pD-coated and uncoated NPs. Our results serve to expand the versatility of mussel-inspired coatings to the design of mucoadhesive nanoscale vehicles for oral drug delivery. © 2017 Elsevier B.V.

Masoud, M., Jaradat, Y., Jannoud, I., Huang, H.

DRA: Duplication resolver algorithm for power conservation utilizing software defined network (SDN)

(2017) KSII Transactions on Internet and Information Systems, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026854423&doi=10.3837%2ftiis.2017.07.003&partnerID=40&md5=21da7c22af7fc883d61bb6905d3c405d)

85026854423&doi=10.3837%2ftiis.2017.07.003&partnerID=40&md5=21da7c22af7fc883d61bb6905d3c405d

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ABSTRACT: In recent years, datacenters, network devices and computers have proliferated. The power consumed by information and communication technology (ICT) devices has inflated in an extraordinary manner. Green communication has emerged as a new approach to reduce and optimize power consumption in ICT sector. Many methods and protocols have been proposed and implemented to achieve green communication. Nevertheless, the increase of power consumption remains a problem. In this work, we attempt to reduce and optimize power consumption of network devices in datacenters environment utilizing software defined network (SDN) paradigm. To gain more insight of the power consumption requirements of network switches, a power measurement system is constructed to measure power consumption levels of network devices. Subsequently, we propose a duplication resolver algorithm (DRA) to power off/on switches reactively. DRA algorithm reduces the required time by switches to construct their flow tables after rebooting. To this end, DRA-based external circuit has been constructed utilizing Ethernet module and an Arduino kit to control power supplies of network devices. To facilitate our work, a testbed has been constructed utilizing Ryu SDN controller, HP2920-24G switches and Arduino kits. Our results show that DRA algorithm can reduce both the power usage and start-up time delay of network switches after failures. © 2017 KSII.

Al-Mahadeen, B.M., Althunibat, A., Tarabieh, S.M.Z.A.

Measuring the acceptance of using UTMS in Jordan universities

(2017) Journal of Theoretical and Applied Information Technology, .

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85026770589&partnerID=40&md5=b0852ff1994f0f00af6058436ebac7e0

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ABSTRACT: University Timetable management system (UTMS) are used to schedule courses, lecturers and rooms in university by considering some constraints. Although UTMS is a widely studied topic, the use of automated timetabling systems is not widespread among large universities. Therefore, it is important to investigate the factors that influence the intention to use university timetable management system (UTMS) among Higher education lecturers. This study proposed a model for determining the factors that affect the acceptance of using UTMS. The study was conducted by surveying different groups of university's' lecturer community. A structured questionnaire was used to collect data from 120 respondents. Results of the study prove that the proposed model is comprehensive to study the acceptance of UTMS in higher education institution. Overall, the results indicated the appropriateness of fundamental elements of TAM in the UTMS context. © 2005 - ongoing JATIT & LLS.

Manasrah, A., Crane, N., Guldiken, R., Reed, K.B.

Asymmetrically-applied hot and cold stimuli gives perception of constant heat

(2017) 2017 IEEE World Haptics Conference, WHC 2017, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034235651&doi=10.1109%2fWHC.2017.7989949&partnerID=40&md5=a5308d2b3275ffa5b69859b5ba12a617)

85034235651&doi=10.1109%2fWHC.2017.7989949&partnerID=40&md5=a5308d2b3275ffa5b69859b5ba12a617

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ABSTRACT: This study investigated how the perception of skin temperature is affected by asymmetrically changing hot and cold stimuli applied to nearby sections of the skin. In the first part of the study, different rates and starting temperatures were applied to evaluate the time at which the temperature change was first noticed. In the second part, a method of asymmetrically-applied hot and cold stimuli was tested on the participants to generate a constant heating sensation without changing the average temperature of the skin. This method applies a combination of fast heating and slow cooling rates using multiple thermal actuators. The slow cooling rate is under the perceptual threshold level, hence it is not perceived. The fast heating rate, however, is perceived, which creates the feeling that the temperature is warmer than it actually is. The results showed that participants were able to perceive a constant heating effect at normal skin temperature as hypothesized. This effect was most effective at normal skin temperatures and became less effective at higher baseline temperatures. © 2017 IEEE.

Hamici, Z.

Image cryptography based on the imitation of gene fusion and horizontal gene transfer
(2017) Proceedings of the 7th International Conference on Image Processing Theory, Tools and Applications, IPTA 2017, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85050623513&doi=10.1109%2fIPTA.2017.8310153&partnerID=40&md5=1a241436ac3f5c7157d55a39b97f0beb)

85050623513&doi=10.1109%2fIPTA.2017.8310153&partnerID=40&md5=1a241436ac3f5c7157d55a39b97f0beb

AFFILIATIONS: Electrical Engineering Department, Signal Processing, Al-Zaytoonah University of Jordan, ZUJ, Amman, Jordan

ABSTRACT: In this paper a novel signal processing algorithm for secure image communication is proposed. It is a genetic algorithm that combines both gene fusion and Horizontal Gene Transfer (HGT) inspired from the spread of antibiotic resistance in bacteria. The symmetric encryption key playing the role of a pathogen is generated by controlled multi-layer random sequences. The principal key is then absorbed by the organism genome represented by the image. The process of encryption starts by a full uptake of the key-agent or pathogen which has the size of the whole image; the image and the principal key are merged together in a gene fusion process. A second phase of encryption is an obfuscation process produced by an HGT where the genes are pixels and the chromosomes are the rows and columns of the image. The obfuscation process as a second layer of encryption is realized by two sub-keys from which the principal key matrix is constructed. The whole process is repeated recursively L rounds. A Salt extracted from the image hash-value is used against chosen-plaintext cryptanalysis, therefore, even a modification of one pixel will generate different encryption keys adding a stealthy-key feature to the cipher. The key generation process with the two layers of encryption of the genetic algorithm are fully described. Results of the signal processing algorithm based on gene fusion and HGT show a great promise in genetic inspired data security. © 2017 IEEE.

Masoud, M.Z., Jaradat, Y., Jannoud, I., Bashayreh, E.

A measurement study of internet services in Jordan: A case study

(2017) 2017 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies, AEECT 2017, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049115283&doi=10.1109%2fAEECT.2017.8257752&partnerID=40&md5=e681741c0c6b0a948227c7336a9d3a10)

85049115283&doi=10.1109%2fAEECT.2017.8257752&partnerID=40&md5=e681741c0c6b0a948227c7336a9d3a10

AFFILIATIONS: Electrical Engineering Department, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: Internet measurements are required to obtain statistics and insights of how applications, services and protocols are operating over the Internet. These insights and statistics are utilized to reveal operational and functional issues, predict the Internet future and propose new services and protocol to enhance Internet operation. In this work, a case study of Internet measurement in Jordan will be demonstrated. The case study aims to gain insights of the web hosting process, IP addresses, autonomous system (AS) paths and country paths between clients in Jordan and DotJo websites. To facilitate the conducted measurement process, a list of all DotJo websites has been crawled. Subsequently, trace-route, IP-to-AS and AS-to-Country processes have been utilized. Our results show that more P2P relationships have to be deployed in the country to reduce AS paths and enhance QoS. Moreover, local hosting of DotJo websites should be encouraged to enhance the ICT field in Jordan. © 2017 IEEE.

Al Kalaldehy, M.

The influence of implementing nurse-led enteral nutrition guidelines on care delivery in the critically ill: A cohort study

(2017) Gastrointestinal Nursing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85027376876&doi=10.12968%2fgasn.2017.15.6.34&partnerID=40&md5=25362f17a2a99f8b1ba7887a4f2dc7a6)

85027376876&doi=10.12968%2fgasn.2017.15.6.34&partnerID=40&md5=25362f17a2a99f8b1ba7887a4f2dc7a6

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Aim: To identify how implementation of nurse-led enteral nutrition (EN) guidelines influenced nurses' care delivery in an intensive care unit. Methods: This multi-centre prospective observational study introduced an educational programme for 127 nurses on evidence-based ASPEN guidelines for enteral nutrition. Pre- and post-intervention observation assessed adherence to the guidelines through reporting of care delivered. Results: A total of 192 patients from 80 controls and 112 interventions were observed; gastric residual volume was evaluated in 67.9% of intervention patients compared with 26.3% of controls ($p=0.001$). The intervention group was more likely to maintain head-of-bed elevation, check tube placement and use continuous feeding and chlorhexidine mouthwash. Intervention patients received nutrition earlier than controls, and they had fewer feeding interruptions (median of 12.66 vs 32.18 hours, $p<0.001$) and higher caloric attainment (68.8% vs 50%, $p=0.015$). Conclusions: The guidelines improved nursing adherence to nutritional assessment measures. © MA Healthcare Ltd.

Nofal, M., Subih, M., Al-Kalaldehy, M.

Factors influencing compliance to the infection control precautions among nurses and physicians in

Jordan: A cross-sectional study

(2017) Journal of Infection Prevention, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021714262&doi=10.1177%2f1757177417693676&partnerID=40&md5=f1ccb139ad99b18c17bffb902b4286f6)

[85021714262&doi=10.1177%2f1757177417693676&partnerID=40&md5=f1ccb139ad99b18c17bffb902b4286f6](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021714262&doi=10.1177%2f1757177417693676&partnerID=40&md5=f1ccb139ad99b18c17bffb902b4286f6)

AFFILIATIONS: Faculty of Nursing, University of Jordan, Amman, Jordan;

Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Adherence to infection control precautions (ICP) is important to reduce the transmission of healthcare-associated infections (HAIs). Aims: To determine nurses and physician's knowledge, attitude and compliance to ICPs and factors associated with reported compliance. Methods: A cross-sectional survey of nurses and physicians recruited from three hospitals at three different healthcare sectors in Jordan. Three instruments were used to assess knowledge, attitudes and compliance to ICPs. Findings: A total of 211 professionals completed the survey: 155 nurses and 56 physicians. Both groups had low knowledge scores for ICP but a high positive attitude. Although both groups had high reported compliance scores, nurses scores were higher ($P = 0.04$). Participants from the private hospital had higher knowledge and compliance scores. Length of experience, knowledge and attitude were significant predictors of reported compliance to ICPs. Discussion: Despite poor knowledge, Jordanian healthcare professionals reported high scores for positive attitudes and compliance with IPCs. Clinical training programmes are required to enhance knowledge and understanding of IPCs. © 2017, © The Author(s) 2017.

Hamadneh, L., Al-Essa, L., Hikmat, S., Al-Qirim, T., Abu Sheikha, G., Al-Hiari, Y., Azmy, N., Shattat, G.

N-(3-Benzoylphenyl)-1H-Indole-2-Carboxamide decreases triglyceride levels by downregulation of Apoc3 gene expression in acute hyperlipidemic rat model

(2017) Molecular and Cellular Biochemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014093102&doi=10.1007%2fs11010-017-2983-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014093102&doi=10.1007%2fs11010-017-2983-3&partnerID=40&md5=5d0266de8312a0380781bb4da028f026)

[3&partnerID=40&md5=5d0266de8312a0380781bb4da028f026](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014093102&doi=10.1007%2fs11010-017-2983-3&partnerID=40&md5=5d0266de8312a0380781bb4da028f026)

AFFILIATIONS: Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Faculty of Pharmacy, The University of Jordan, Amman, 11942, Jordan;

King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT: Hyperlipidemia is a known cause of coronary vascular diseases, which is a major cause of death in many parts of the world. Targeting several pathways that lead to increase in lipid profiles is of great potential to control diseases. 1H-indole-2-carboxamide derivatives were tested for their hypolipidemic activity at the molecular level in comparison with bezafibrate. The gene expression profiles of lipoprotein signaling and cholesterol metabolism and fatty acid metabolism PCR arrays were determined in rats with acute hyperlipidemia induced by Triton WR1339. Lipid profiles of serum from treated rats showed significant hypolipidemic effect by the compounds. Several genes of potential interest were reported to be overexpressed by Triton WR1339 including Apoc3, Apob, Hmgcs2, Apoa1, Apoe, Apof, acsl1, and Decr1. Most of the overexpressed genes were downregulated by N-(3-Benzoylphenyl)-1H-Indole-2-Carboxamide with significant decreases in Apoc3, Apob, Acaa2, Acsl1, and Slc247a5 gene expression levels. N-(4-Benzoylphenyl)-1H-Indole-2-Carboxamide and bezafibrate did not significantly affect the gene expression levels which were increased with acute hyperlipidemia induced by Triton WR1339. In conclusion, gene expression profiling identified the possible mechanism in which Triton WR1339 induces its acute hyperlipidemic effect which was reversed by the use of N-(3-Benzoylphenyl)-1H-Indole-2-Carboxamide. © 2017, Springer Science+Business Media New York.

Hnaif, A.A., El-Obaid, A., Al-Ramahi, N.

Traffic light management system based on Hamiltonian Routing Technique

(2017) Journal of Theoretical and Applied Information Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021760940&partnerID=40&md5=319db25becf1fbcd2ff78106a959bcf5)

[85021760940&partnerID=40&md5=319db25becf1fbcd2ff78106a959bcf5](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021760940&partnerID=40&md5=319db25becf1fbcd2ff78106a959bcf5)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Department of Computer Network, Jordan;

Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Department of Computer Information System, Jordan

ABSTRACT: Traffic congestions are recognized as a major problem in the modern urban cities. The Hashemite Kingdom of Jordan is considered as one of the top countries worldwide that is suffering from the traffic jam problem due to its old infrastructure. The current traffic light signals system in Jordan is still controlled by the fixed timers. Therefore, this research develops an intelligent Traffic Light Management System Based on the Hamiltonian Routing Technique (TLBH) and on the Decision Support System (DSS) in order to execute a proper action. Hence, this research develops a system can that be used to minimize the waiting time on the traffic signals for vehicles, which can in return lead to the reduction of the traffic congestion incurred by the vehicles. This research is comprehensive to many scenarios, where three of these scenarios are listed in this research and are

implemented by the system by using the MATLAB programming language; based on specific rules. According to these sufficient testing scenarios, the simulation result shows significant improvements in the TLBH technique in comparison with the current traffic system. The proposed technique has the minimum total and waiting time in all scenarios compared to the current traffic system. © 2005 - ongoing JATIT & LLS.

Nabulsi, M.A., Hamad, N.A.

Proofs of implications involving quantifiers distribution over logical operators
(2017) Journal of Theoretical and Applied Information Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021737430&partnerID=40&md5=0230d87ef790c0135dff47421793012c>

AFFILIATIONS: Department of Computer Science, Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Mathematics is considered the base for computer science. In particular, discrete mathematics is commonly used in many disciplines of computer science. One of the main topics that are discussed in discrete mathematics is quantifiers and their relations with logical operators. Accordingly, this paper proposes a new method to prove the validity of some implications involving quantifiers and logical operators. The proposed method is based on the idea of showing that whenever the premise of the implication is true, the conclusion cannot be false (must be true), so the implication is valid. On the other hand, if the conclusion can be false then the implication is not valid. © 2005 - ongoing JATIT & LLS

Al-Qatawneh, S.M., AlQatawneh, O.M.

Exploring the lighting effects on human observation using a plot of 3d rendered scenes

(2017) ACM International Conference Proceeding Series, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85030184444&doi=10.1145%2f3121360.3121370&partnerID=40&md5=2644e0765528fef5bd7ebc95764e21a4>

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Jordan;

School of Art, Design and Architecture, University of Huddersfield, United Kingdom

ABSTRACT: Lighting plays an important role in the 3D rendered scene. It helps create the mood, directs the audience eye, creates visual interest and, most importantly, creates an illusion of believability in the mind of the viewers that helps them engage with the scene. This paper illustrates how light can affect the mood of the scene by detracting or enhancing the plot for different audience. In addition, it demonstrates how to use a lighting technique to pass on a message and create a strong emotional connection between the audience and the scene. Wide range of daylight and night conditions were used in 3D rendered scenes that were created in this project in order to interact with actual scenes depth. © 2017 Association for Computing Machinery.

Jarrar, Y.B., Hamadneh, L., Iqtait, D., Sadieh, R., Al-Bawab, A.Q., Zihlif, M.

The cytochrome 4F2 rs2108622 genetic variant among unrelated Arab Jordanian volunteers

(2017) Jordan Medical Journal, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028301206&partnerID=40&md5=e17ce9b77b658ee68168b04bce518983>

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, AlZaytoonah University of Jordan, Amman, Jordan;

Department of Pharmacology, Faculty of Medicine, University of Jordan, Amman, Jordan

ABSTRACT: Background: The rs2108622 genetic variant in CYP4F2 gene is associated with cardiovascular diseases and response to warfarin treatment. Objective: To determine the frequency of CYP4F2rs2108622 alleles and genotypes among Jordanian population. Methods: The genomic DNA was extracted from 90 healthy Jordanian volunteers and the frequency of CYP4F2 rs2108622 was determined by polymerase chain reaction (PCR) followed by restriction fragment length polymorphism assays (RFLP). Results: The frequency (95% confidence interval) of rs2108622 C and T allele was 0.55 (0.48-0.62) and 0.45 (0.38-0.52), respectively. The CYP4F2rs2108622 genotype frequencies among healthy Jordanian volunteers were wild CC (0.27, 95% CI 0.18-0.36), heterozygote CT (0.55, 95% CI 0.45-0.65) and homozygote TT (0.18, 95% CI 0.10-0.26). The frequency of rs2108622C>T was high among the Jordanian population which was similar to Middle Eastern populations but higher than European Caucasians, Africans and Asians. Conclusion: Jordanian ethnic population has high frequency of CYP4F2rs2108622 genetic variant which may play a major role in the predisposition to cardiovascular diseases and inter-individual variation in warfarin response among Jordanians. © 2017 DAR Publishers/The University of Jordan. All Rights Reserved.

Almansour, M.I., Jarrar, Y.B., Aloyaidy, K.A., Jarrar, B.M.

Ameliorative effect of propolis against hepatorenal alterations induced by methotrexate:

Morphohistopathological study [Efecto protector del propóleo en las alteraciones hepatorrenales

inducidas por el metotrexato: Estudio morfohistopatológico]

(2017) International Journal of Morphology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021351278&doi=10.4067%2fS0717-95022017000200059&partnerID=40&md5=7a3eeb794d93f87644350849408010ee>

AFFILIATIONS: Department of Zoology, College of Science, King Saud University, Saudi Arabia;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Jordan;

Biological Research Unit, Ministry of Education, Riyadh, Saudi Arabia;

Department of Biological Sciences, College of Science, Jerash University, Jordan

ABSTRACT: Methotrexate (MTX) is widely used in the treatment of some forms of cancer but having severe side effects. The present work aimed to investigate the protective role of propolis treatment against alterations induced by MTX on the hepatic and renal tissues. Rabbits were exposed to MTX (0.25 mg/kg), with or without propolis (50 mg/kg) while hepatic and renal biopsies were examined for histological and histochemical abnormalities. Methotrexate induced hydropic degeneration, pyknosis, sinusoidal dilatation and bile duct hyperplasia in the liver together with renal tubular degeneration, glomerular shrinkage and hyaline droplet precipitation. While propolis partially ameliorated some of the morphometric and biochemical alterations, none of the hepatic alterations induced by MTX was protected by propolis treatment. Nevertheless glomerular shrinkage and renal tubule degeneration were partially protected in animals received both MTX plus propolis. It is concluded that propolis treatment has little or no ameliorative effect in protecting the hepatic and renal tissues from MTX toxicity. © 2017, Universidad de la Frontera. All rights reserved.

Malak, M.Z.

Predictors of health-related quality of life among industrial workers: A descriptive correlational study

(2017) Nursing and Health Sciences, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85018881768&doi=10.1111%2fnhs.12329&partnerID=40&md5=1b208bc596046a32b16c6e1413a8d30d>

AFFILIATIONS: Community Health Nursing, Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan

Jordan

ABSTRACT: Assessment and evaluation of the health-related quality of life of industrial workers is an important research focus. This descriptive correlational study identifies the predictors of health-related quality of life using a random sampling of industrial workers (n = 640) from construction factories in Amman Governorate in Jordan using demographic characteristics, a health and work-related factors questionnaire, and the World Health Organization Quality of Life-Brief scale. Results showed that industrial workers had good physical health but a poor working environment. There was a statistically significant relationship between educational level, conflict between work and individual life and work and social life, working hours, and workload, and all domains of health-related quality of life. Overall, educational level was the main predictor for all domains of health-related quality of life. Such results confirm the need to develop appropriate interventions and strategies to improve workers' health-related quality of life. Furthermore, developing an integrated approach among policymakers, employers, and work organizations to enhance industrial workers' occupational health programs could be effective. © 2017 John Wiley & Sons Australia, Ltd.

Bani Salameh, A., Al-sheyab, N., El-hneiti, M., Shaheen, A., Williams, L.M., Gallagher, R.

Effectiveness of a 12-week school-based educational preventive programme on weight and fasting blood glucose in "at-risk" adolescents of type 2 diabetes mellitus: Randomized controlled trial

(2017) International Journal of Nursing Practice, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014153446&doi=10.1111%2fijn.12528&partnerID=40&md5=d975d0787bc419501dc04db6b4d9f46b>

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University, Amman, Jordan;

Faculty of Nursing, Midwifery and Health, Jordan University of Science and Technology, Irbid, Jordan;

Department of Community Health Nursing, The University of Jordan, Amman, Jordan;

Faculty of Science, Health and Education, The University of the Sunshine Coast, Australia;

Charles Perkins Centre and Faculty of Nursing and Midwifery, The University of Sydney Australia, Australia

Australia

ABSTRACT: To assess the effectiveness of a 12-week school-based educational preventive programme for type 2 diabetes by change in weight and fasting blood glucose level in Jordanian adolescents. Sixteen percent of Jordanian adults have obesity-related type 2 diabetes and 5.6% of obese adolescents examined, however one-third unexamined. Rates in Arabic countries will double in 20 years, but this can be prevented and reversed by controlling obesity. A single-blinded randomized controlled trial was conducted in 2 unisex high schools in Irbid, Jordan, in 2012. Intervention and control participants, aged 12 to 18 years, were visibly overweight/obese. They were randomly allocated to the intervention (n = 205) or control (n = 196) groups. At-risk students were assessed before and after the 12-week intervention, for change in weight and fasting blood glucose level following preventive instruction and parent-supported changes. Mean age of participants was 15.3 years with equal

percentages of both males (49.4%) and females. Post intervention, the intervention group, demonstrated statistically significant reductions: mean difference of 3.3 kg in weight ($P < .000$) and 1.36 mg/dL (0.075 mmol/L) in fasting blood glucose ($P < .000$). School-based early prevention intervention effectively reduced weight and fasting blood glucose in Jordanian at-risk adolescents. © 2017 John Wiley & Sons Australia, Ltd

Al-Manasrah, Y., Kittaneh, F.

Further Generalizations, Refinements, and Reverses of the Young and Heinz Inequalities

(2017) Results in Mathematics, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84989864012&doi=10.1007%2fs00025-016-0611-2&partnerID=40&md5=0ff7cd56f7c03be3b1f14a9ada85cad7>

AFFILIATIONS: Department of Mathematics, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Mathematics, The University of Jordan, Amman, Jordan

ABSTRACT: In this paper, we give a new inequality for convex functions of real variables, and we apply this inequality to obtain considerable generalizations, refinements, and reverses of the Young and Heinz inequalities for positive scalars. Applications to unitarily invariant norm inequalities involving positive semidefinite matrices are also given. © 2016, Springer International Publishing.

Al-Marabeh, S., Khalil, E., Khanfar, M., Al-Bakri, A.G., Alzweiri, M.

A prodrug approach to enhance azelaic acid percutaneous availability

(2017) Pharmaceutical Development and Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84976312722&doi=10.1080%2f10837450.2016.1200614&partnerID=40&md5=aadd122dede49d01ed963aa1424965ca)

[84976312722&doi=10.1080%2f10837450.2016.1200614&partnerID=40&md5=aadd122dede49d01ed963aa1424965ca](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84976312722&doi=10.1080%2f10837450.2016.1200614&partnerID=40&md5=aadd122dede49d01ed963aa1424965ca)

AFFILIATIONS: Department of Pharmaceutical Sciences, Faculty of Pharmacy, The University of Jordan, Amman, Jordan;

Department of Pharmaceutics and Pharmaceutical Technology, Faculty of Pharmacy, The University of Jordan, Amman, Jordan;

Faculty of Pharmacy, Al-Zaytoonah Private University of Jordan, Amman, Jordan

ABSTRACT: Azelaic acid is a dicarboxylic acid compound used in treatment of acne vulgaris. However, high concentration (ca 20%) is needed to guarantee the drug availability in the skin. The latter increases the incidence of side effects such as local irritation. The prodrug strategy to enhance azelaic acid diffusion through skin was not reported before. Thus, a lipophilic prodrug of azelaic acid (diethyl azelate [DEA]) was synthesized and investigated to improve percutaneous availability of azelaic acid, with a subsequent full physical, chemical, and biological characterization. Expectedly, DEA exhibited a significant increase in diffusion compared to azelaic acid through silicone membrane. In contrast, the diffusion results through human stratum corneum (SC) displayed weaker permeation for DEA with expected retention in the SC. Therefore, a desorption study of DEA from SC was conducted to examine the reservoir behavior in SC. Results showed an evidence of sustained release behavior of DEA from SC. Consequently, enhancement of keratolytic effect is expected due to azelaic acid produced from enzymatic conversion of DEA released from SC. © 2016 Informa UK Limited, trading as Taylor & Francis Group.

Barani, H., Jaradat, Y., Huang, H., Li, Z., Misra, S.

The effect of popularity rule on capacity and delay in multi-sink WSNs

(2017) IEEE Wireless Communications and Networking Conference, WCNC, .

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[85019711096&doi=10.1109%2fWCNC.2017.7925556&partnerID=40&md5=dde094150f89ddbe5f8ee19d34554ead](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019711096&doi=10.1109%2fWCNC.2017.7925556&partnerID=40&md5=dde094150f89ddbe5f8ee19d34554ead)

AFFILIATIONS: Klipsch School of Electrical and Computer Engineering, New Mexico State UniversityNM 88001, United States;

Communications and Computer Engineering Dept., Al-Zaytoonah University of Jordan, Jordan;

Harbin Institute of Technology, Harbin, Heilongjiang, 150001, China;

Department of Computer Science, New Mexico State UniversityNM 88001, United States

ABSTRACT: Wireless sensor networks (WSNs) have a wide spectrum of applications, such as disaster relief operations, intelligent building, medicine and health care, etc. WSNs are growing in size and sensory traffic and thus, it is necessary to use multiple sinks to gather such traffic with minimal loss. In a network, there are some locations that nodes visit more often (popular) during their movements. We place sinks' nodes (base stations) on the most popular locations. In this paper, we study the asymptotic throughput-delay performance of a WSN with multiple static sinks utilizing location based popularity rule. Our network is divided into C non-overlapping cells to manage the signal interference between network cells. Also, the partitioning was applied in a way that every cell in the network has an average probability of visit. Moreover, sinks were placed in the most popular cells. According to a modified version of the Grossglauser-Tse 2-hop relay algorithm [1] for information delivery, we derive analytical bounds on throughput capacity and average network delay. We show that by utilizing location popularity rule, network delay has improved significantly, and throughput capacity has increased by a factor of 1.3 compared to randomly distributed sinks over

network cells. © 2017 IEEE.

Al Rawajbeh, M.

Low cost design and implementation for has using multifunctional Wi-Fi
(2017) International Journal of Computer Networks and Communications, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032886897&doi=10.5121%2fijcnc.2017.9307&partnerID=40&md5=2c03f6b5043b10ccee33f059f85532f4)

[85032886897&doi=10.5121%2fijcnc.2017.9307&partnerID=40&md5=2c03f6b5043b10ccee33f059f85532f4](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032886897&doi=10.5121%2fijcnc.2017.9307&partnerID=40&md5=2c03f6b5043b10ccee33f059f85532f4)

AFFILIATIONS: Al Zaytoonah University of Jordan, Faculty of Science and Information Technology, Jordan

ABSTRACT: Smart home technology nowadays became more popular and wide spread world around. The communication network's appropriate coverage, flexibility and low cost made the Wi-Fi technology one of the strongest choices in this field. The main purpose of this paper is to propose a simple, flexible and low cost design of controlling home appliances and connecting other hardware using Wi-Fi network. The ability of exploiting this design and implementation in different environment and possibility of integration with other modern technology are considered the main benefit of the proposed design. The proposed system provides connecting and controlling all available devices inside home using many sensors and actuators. The monitoring process achieved by appropriate installed software on regular user computer or handheld device.

Abu-Sini, M., Mayyas, A., Al-Karablieh, N., Darwish, R., Al-Hiari, Y., Aburjai, T., Arabiyat, S., Abu-Qatouseh, L.

Synthesis of 1,2,3-triazolo[4,5-h]quinolone derivatives with novel anti-microbial properties against metronidazole resistant *Helicobacter pylori*

(2017) Molecules, .

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[85020180881&doi=10.3390%2fmolecules22050841&partnerID=40&md5=daa8d231818e89225f72dd063dde3675](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020180881&doi=10.3390%2fmolecules22050841&partnerID=40&md5=daa8d231818e89225f72dd063dde3675)

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Hamdi Mango Center for Scientific Research, University of Jordan, Amman, 11914, Jordan;

Faculty of Pharmacy, University of Jordan, Amman, 11914, Jordan;

Salt College, Al-Balqa Applied University, As-Salt, 19117, Jordan;

Faculty of Pharmacy, University of Petra, Amman, 11914, Jordan

ABSTRACT: *Helicobacter pylori* infection can lead to gastritis, peptic ulcer, and the development of mucosa associated lymphoid tissue (MALT) lymphoma. Treatment and eradication of *H. pylori* infection can prevent relapse and accelerate the healing of gastric and duodenal ulcers as well as regression of malignancy. Due to the increasing emergence of antibiotic resistance among clinical isolates of *H. pylori*, alternative approaches using newly discovered antimicrobial agents in combination with the standard antibiotic regimens for the treatment of *H. pylori* are of major importance. The purpose of the present study was to investigate the effect of newly synthesized 8-amino 7-substituted fluoroquinolone and their correspondent cyclized triazolo derivatives when either alone or combined with metronidazole against metronidazole-resistant *H. pylori*. Based on standard antimicrobial susceptibility testing methods and checkerboard titration assay, all of the tested compounds showed interesting antimicrobial activity against 12 clinical strains of *H. pylori*, with best in vitro effect for compounds 4b and 4c. Fractional inhibitory concentration (FIC) mean values showed synergistic pattern in all compounds of Group 5. In addition, additive activities of some of the tested compounds of Group 4 were observed when combined with metronidazole. In contrast, the tested compounds showed no significant urease inhibition activity. These results support the potential of new fluoroquinolone derivatives to be useful in combination with anti-*H. pylori* drugs in the management of *H. pylori*-associated diseases. © 2017 by the authors.

Khalaf, R.A., Al-Rawashdeh, S., Sabbah, D., Sheikha, G.A.

Molecular docking and pharmacophore modeling studies of fluorinated benzamides as potential CETP inhibitors

(2017) Medicinal Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019757989&doi=10.2174%2f1573406412666161104121042&partnerID=40&md5=2034ae2a531b82ac083c11a5e0140e08)

[85019757989&doi=10.2174%2f1573406412666161104121042&partnerID=40&md5=2034ae2a531b82ac083c11a5e0140e08](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019757989&doi=10.2174%2f1573406412666161104121042&partnerID=40&md5=2034ae2a531b82ac083c11a5e0140e08)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Hyperlipidemia is one of the most common chronic diseases worldwide. Cholesteryl ester transfer protein (CETP) is a hydrophobic glycoprotein that facilitates the transfer of cholesteryl ester from the atheroprotective high-density lipoprotein (HDL) to the proatherogenic low-density lipoprotein (LDL) and very low-density lipoprotein (VLDL). Methods: In this work, synthesis and characterization of five fluorinated 3-benzylamino benzamides 8a-8c, 13a and 13b that target CETP activity were carried out. Results: Benzamides 8b and 8a showed the highest CETP inhibitory activities with an IC₅₀ of 0.75 M and 4.1 M respectively. It was found that the presence

of p-OCF3 group (as in 8a-8c) enhances CETP inhibitory activity more than p-OCF2CHF2 (as in 13a and 13b) which could be attributed to the bulkiness of the tetrafluoroethoxy group hindering their proper orientation in the binding domain. Additionally m-F derivatives were found to have higher activity against CETP than p-F ones leaving the o-F analogues with the weakest anti-CETP bioactivity. Conclusion: Ligand-based and structure-based drug design strategies confirm that hydrophobic interaction mediates ligand/protein complex formation and explains the activity of our verified molecules. © 2017 Bentham Science Publishers.

Sunoqrot, S., Hamed, R., Abdel-Halim, H., Tarawneh, O.

Synergistic interplay of medicinal chemistry and formulation strategies in nanotechnology – From drug discovery to nanocarrier design and development

(2017) Current Topics in Medicinal Chemistry, .

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[85019649252&doi=10.2174%2f1568026616666161222111656&partnerID=40&md5=29804c7b04893f6fd1bfa021e03fc663](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019649252&doi=10.2174%2f1568026616666161222111656&partnerID=40&md5=29804c7b04893f6fd1bfa021e03fc663)

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ABSTRACT: Over the last few decades, nanotechnology has given rise to promising new therapies and diagnostic tools for a wide range of diseases, especially cancer. The unique properties of nanocarriers such as liposomes, polymeric nanoparticles, micelles, and bioconjugates have mainly been exploited to enhance drug solubility, dissolution, and bioavailability. The most important advantage offered by nanotechnology is the ability to specifically target organs, tissues, and individual cells, which ultimately reduces the systemic side effects and improves the therapeutic index of drug molecules. The contribution of medicinal chemistry to nanotechnology is evident in the abundance of new active molecules that are being discovered but are faced with tremendous delivery challenges by conventional formulation strategies. Additionally, medicinal chemistry plays a crucial role in all the steps involved in the preparation of nanocarriers, where structure-activity relationships of the drug molecule as well as the nanocarrier are harnessed to enhance the design, efficacy, and safety of nanoformulations. The aim of this review is to provide an overview of the contributions of medicinal chemistry to nanotechnology, from supplying drug candidates and inspiring high-throughput nanocarrier design strategies, to structure-activity relationship elucidation and construction of computational models for better understanding of nanocarrier physicochemical properties and biological behavior. These two fields are undoubtedly interconnected and we will continue to see the fruits of that communion for years to come. © 2017 Bentham Science Publishers.

Sweidan, K., Dayyih, W.A., Aldamen, M.A., Mallah, E., Arafat, T., El-Abadelah, M.M., Salih, H., Voelter, W.

Ring opening of cyclobutane in 1,3-dimethyl-5-methylenebarbituric acid dimer by various nucleophiles (2017) Zeitschrift fur Naturforschung - Section B Journal of Chemical Sciences, .

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[0016&partnerID=40&md5=3ede39171aa49aafc472874a992b061a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019083533&doi=10.1515%2fznb-2017-0016&partnerID=40&md5=3ede39171aa49aafc472874a992b061a)

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ABSTRACT: The reactivity of cyclobutane moiety in 1,3-dimethyl-5-methylenebarbituric acid dimer (5) towards different nucleophiles was investigated. New derivatives of 5-(substituted methyl)-1,3-dimethylbarbiturate 6-13 were prepared in good yields using various aliphatic amines, cyanide anion, and Ph₃P, Ph₃As, Ph₃Sb. Chemical structures of synthesized products were characterized using NMR, MS, and elemental analysis. The reaction of thiophenoxide and thiocyanate nucleophiles with 5 did not give any new products. © 2017, Walter de Gruyter GmbH. All rights reserved.

Odeh, I., Arar, S., Al-Hunaiti, A., Sa'aydeh, H., Hammad, G., Duplissy, J., Vuollekoski, H., Korpela, A., Petäjä, T., Kulmala, M., Hussein, T.

Chemical investigation and quality of urban dew collections with dust precipitates

(2017) Environmental Science and Pollution Research, .

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[3&partnerID=40&md5=6fdc574f2371d000b1cd7c263dafa3c7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016391812&doi=10.1007%2f11356-017-8870-3&partnerID=40&md5=6fdc574f2371d000b1cd7c263dafa3c7)

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ABSTRACT: The quality and chemical composition of urban dew collections with dust precipitates without pre-cleaning of the collecting surface WSF (white standard foil) were investigated for 16 out of 20 collected samples with collected volumes ranging from 22 to 230 ml. The collection period was from March to July 2015 at an urban area, Jubaiha, which is located in the northern part of the capital city Amman, Jordan. The obtained results indicated the predominance of Ca²⁺ and SO₄²⁻ ions (ratio 2.2:1) that originated from Saharan soil dust; where the collected samples were alkaline (mean pH = 7.35) with high mineralization (429.22 mg/L) exceeding the previously reported dew values in Amman-Jordan. A relocation of NaCl and to a less extent Mg²⁺ from sea to land by Saharan wind is indicated by the percent sea-salt fraction calculations (over 100 and 52, respectively). The collected samples exhibited high total organic carbon (TOC) values ranging from 11.86 to 74.60 mg/L, presence of particulate settled material with turbidity ranging from 20.10 to 520.00 NTU, and presence of undesired elements like boron (mean = 1.48 mg/L) that made it different in properties from other dew water collections at clean surfaces, and exceeding the standard limits for drinking water for these parameters set by Jordanian Drinking Water standards (JS286/2015)/WHO standard. The quality of this water is more close to that for raw or agricultural water but if it is meant to be used as potable source of water, at least sand and activated charcoal filters are needed to purify it. © 2017, Springer-Verlag Berlin Heidelberg.

Malak, M.Z., Khalifeh, A.H., Shuhaiber, A.H.

Prevalence of Internet Addiction and associated risk factors in Jordanian school students (2017) Computers in Human Behavior, .

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[85010875130&doi=10.1016%2Fj.chb.2017.01.011&partnerID=40&md5=13fe8689efb307f2380e1922c8e699a0](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010875130&doi=10.1016%2Fj.chb.2017.01.011&partnerID=40&md5=13fe8689efb307f2380e1922c8e699a0)

AFFILIATIONS: Community Health Nursing, Faculty of Nursing, Al-Zaytoonah University of Jordan, Amman, Jordan;

Psychiatric and Mental Health Nursing. Prince Hamzah Hospital, Amman, Jordan;

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ABSTRACT: Internet Addiction has become a public health issue that cannot be neglected. In Jordan, there is a need to investigate this issue among school students. This descriptive correlational study aimed to assess the prevalence of Internet Addition and associated risk factors in Jordanian school students. The participants (N = 716) aged 12–18 years were selected randomly from ten public schools in Amman Governorate in Jordan. Socio-demographical data, patterns of Internet usage, the Young's Internet Addiction Tool (YIAT), the Symptom Checklist-anxiety scale (SCL-anxiety), and the Center for Epidemiological Studies Depression Scale for Children (CES-DC) were used. The findings showed that the prevalence of severe Internet Addiction was 6.3%. The highest prevalence of Internet Addiction was among students with family monthly income >1400\$, their fathers completed elementary education and mothers completed university and higher education, and their academic performance was poor. The friend's home was the favorite place among Internet addicted students. Chatting was the highest reason for Internet Addiction. The students were experiencing anxiety and depression symptoms had the highest prevalence of Internet Addiction (10.3%, 8.2%, respectively). There was a statistically significant relationship between the age, school grade, family income, academic performance, average hours of Internet daily usage during school days and holidays, anxiety, depression, and Internet Addiction. These findings emphasize the importance of developing and implementing interventions such as preventive measures and early diagnosis of Internet Addiction among school students. Furthermore, counseling programs are recommended to increase the awareness of families regarding Internet Addiction and their responsibilities in providing guidance and support for their children. © 2017 Elsevier Ltd

Jarrar, Y.B., Hamadneh, L., Naser, W.

The frequency of vitamin K epoxide reductase complex-1639G>A genetic variant among healthy unrelated Jordanian volunteers

(2017) Pharmacologyonline, .

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[85019675565&partnerID=40&md5=dc20a36f10ffabaf707940b81b783e45](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019675565&partnerID=40&md5=dc20a36f10ffabaf707940b81b783e45)

AFFILIATIONS: Department of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Substitution of guanine to adenine at the promoter region of Vitamin K epoxide Reductase Complex (VKORC) gene has an impact on warfarin response and cardiovascular diseases. There is no report regarding VKORC1-1639 G > A genotype among Jordanian population. Therefore, the present study

aimed to determine the frequency of VKORC1-1639 G > A genetic variant among 90 healthy unrelated Arabic Jordanian volunteers by using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) technique. The results showed that the frequency of VKORC1-1639 G and A alleles among Jordanians were 0.47 and 0.53, respectively, which were similar to Middle Eastern Iranian, Turkish and Egyptian populations but significantly higher (χ^2 -test, p value <0.05) than European Caucasian and Saudi Arab populations. The VKORC1-1639 G > A genotype frequencies among healthy Jordanian volunteers were wild GG (0.17), heterozygote GA (0.60) and homozygote AA (0.23). It is concluded from this study that Jordanian population has high frequency of VKORC1-1639 G > A variant. This finding may increase our understanding of the inter-ethnic variation in warfarin response and predisposing to cardiovascular diseases. © 2017, SILAE (Italo-Latin American Society of Ethnomedicine). All rights reserved.

Al-Ayyoub, M., Alzu'Bi, S.M., Jararweh, Y., Alsmirat, M.A.

A GPU-based breast cancer detection system using Single Pass Fuzzy C-Means clustering algorithm (2017) International Conference on Multimedia Computing and Systems -Proceedings, .

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[85019064626&doi=10.1109%2fICMCS.2016.7905595&partnerID=40&md5=6233b6cebfc93293499fd835e44efc59](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019064626&doi=10.1109%2fICMCS.2016.7905595&partnerID=40&md5=6233b6cebfc93293499fd835e44efc59)

AFFILIATIONS: Jordan University of Science and Technology, Irbid, Jordan;

AlZaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Breast cancer is the most lethal type of cancer affecting women in the world. To improve the life quality of women, an early detection of this malignancy is always promising because this cancer is one of the cancers that can be managed and treated easily if it is detected earlier. Mammography is the standard screening method to diagnose breast cancer. At these days, there are a lot of researches that have been done to improve this screening method by benefiting from the enormous growth of technology. Graphics Processing Unit (GPU) is a parallel processor that can divide the complex computations tasks into subtasks and run them concurrently. Many medical imaging modalities offloaded their processing to this processor to help in improving the speed of healthcare systems in order to diagnose the illnesses in real time. This research introduces an acceleration method for the segmentation of the mammography images based on the GPU. In order to provide a better detection for the cancerous tumor, we use a modified version of the most common algorithm for image segmentation, which is the Single Pass Fuzzy C-Means (FCM) algorithm. The approach will be applied to a set of mammogram images to distinguish between malignant and benign cases. Additionally, the system is implemented on GPU parallel processor as well as the traditional CPU in order to compare the performance of both implementations. The performance results are compared according to the execution time and the speedup metrics. The proposed implementation on GPU provides a fine speedup compared to its serial implementation on CPU. © 2016 IEEE.

Al-Omoush, K.S.

The adoption drivers of web-based B2B systems: A comparison between durable and nondurable goods-producing industries

(2017) Journal of Organizational and End User Computing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010977569&doi=10.4018%2fJOEUC.2017040104&partnerID=40&md5=881f8f1b70c123cf977ae9d4834000f1)

[85010977569&doi=10.4018%2fJOEUC.2017040104&partnerID=40&md5=881f8f1b70c123cf977ae9d4834000f1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010977569&doi=10.4018%2fJOEUC.2017040104&partnerID=40&md5=881f8f1b70c123cf977ae9d4834000f1)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The purpose of this research is to examine the drivers of Web-based B2B systems adoption from an institutional perspective by means of comparison between durable and nondurable goods-producing industries. A questionnaire survey was developed to collect data from manufacturing firms. Structural Equation Modeling using EQS was conducted to analyze the data. Results revealed that the durability characteristic of goods produced plays a moderating role in the impact of institutional pressures on the top management support of Web-based B2B systems adoption. Results also indicated that top management support, and B2B relationship quality have a direct impact on the extent of adoption and use of Web-based B2B systems. The present study contributes to the continuing discussion about why organizations respond differently to institutional pressures and vary in the level of use of Web-based B2B applications. © 2017, IGI Global.

Masoud, M., Jaradat, Y., Jannoud, I., Huang, H.

The Impact of 16-bit and 32-bit ASNs Coexistence on the Accuracy of Internet AS Graph

(2017) Journal of Network and Systems Management, .

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[5&partnerID=40&md5=dace7a8d44154405944ec19730961d43](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84975473404&doi=10.1007%2fs10922-016-9389-5&partnerID=40&md5=dace7a8d44154405944ec19730961d43)

AFFILIATIONS: Computer and Communications Engineering Department, Al-Zaytoonah University of Jordan, Amman, Jordan;

Klipsch School of Electrical and Computer Engineering, New Mexico State University, Las Cruces, NM, United States

ABSTRACT: Modeling Internet structure as an autonomous system (AS) graph has attracted researchers

over years. AS graph model demonstrates the power-law distribution of the Internet. It also demonstrates the relationship between the cluster coefficient and the small-world structure of the Internet. To obtain an accurate AS graph model, the data used to generate the graph should be massive and correct. In this work, we studied the correctness of the data that is utilized to generate Internet AS graph. We conducted an experiment to measure the popularity of 32-bit AS numbers (ASNs) in the Internet. We examined the impact of the special purpose 16-bit reserved ASN AS23456 on the accuracy of the AS graph. To this end, we proposed a cleaning algorithm to correct the conflict that AS23456 produces. Our results show that the current existing method of mapping 16-bit and 32-bit ASNs reduces the fidelity of the constructed AS graph to various graph parameters. © 2016, Springer Science+Business Media New York.

Abu Moghli, F., Al Habeesh, S., Abu Shikha, L.

Perception of HIV/AIDS education at the community level in Jordan

(2017) Iranian Journal of Public Health, .

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[85015207186&partnerID=40&md5=f61a06f7c460a3b40579844d27c558d2](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015207186&partnerID=40&md5=f61a06f7c460a3b40579844d27c558d2)

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Dept. of Maternal and Child Health, Faculty of Nursing, University of Jordan, Amman, Jordan

ABSTRACT: Background: The control of spread of HIV takes concerted efforts at both national and international levels. Education is an important component of preventing the spread of HIV. This study aimed to assess the attitudes of parents, teachers and students towards informing children about HIV/AIDS, attitudes concerning 'proper' age to learn about HIV/AIDS, possible differences in attitudes relating to gender of child and what they should learn and ideas about the most 'adequate' person/institution to be responsible for provision of HIV/AIDS education. Methods: This study was conducted in Amman, Jordan in April 2015. Descriptive correlational design was used; a sample of school students, university students, school teachers and parents, a stratified random sample was used. Data was collected by using a questionnaire. Results: All groups asserted the importance of HIV/AIDS education and awareness rising for all. 62.0% of respondents thought that school was the main source of information. About 82% of respondents believed that HIV/AIDS education should be integrated into different disciplines of school curricula, 84% of respondents believed that HIV/AIDS education should be part of university curricula. Nobody believed that HIV/AIDS education should be restricted to boys only. Conclusion: As HIV/AIDS is a scary matter to all, stigmatization and shame may be behind potentially bigger numbers of infected or ill people who do not come forward for treatment or care. Attitudes of their kin care providers need to be addressed as well as those of the official health care providers. © 2017, Iranian Journal of Public Health. All rights reserved.

Al Ganideh, S.F.

Being Arab and American: Understanding Ethnocentric Tendencies for Arab American Consumers

(2017) Journal of Global Marketing, .

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[85009816405&doi=10.1080%2f08911762.2016.1263886&partnerID=40&md5=c70b21f263d5448fc1a04d1320f2b16f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85009816405&doi=10.1080%2f08911762.2016.1263886&partnerID=40&md5=c70b21f263d5448fc1a04d1320f2b16f)

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ABSTRACT: Scant research exists on Arab Americans' ethnocentric tendencies towards purchasing American-made products. This study explores the nexus among consumer ethnocentrism, empathy towards local workers, and ethnic identification. We examined ethnic identification, patriotism, dogmatism, and internationalism as potential influences on Arab Americans' ethnocentric tendencies towards purchasing products made in the US. Data were collected from 165 Arab Americans living in Michigan. We found that when Arab consumers felt empathic towards local workers, they were more ethnocentric towards purchasing local products. Arab Americans' ethnic identification neither influenced their ethnocentric tendencies towards American-made products nor their empathic feelings towards American workers. Our study provides key contributions related to minorities' preferences for locally made products. © 2017 Taylor & Francis Group, LLC.

Mohammad, Z., Abusukhon, A., Al-Maitah, M.A.

A comparative performance analysis of route redistribution among three different routing protocols based on OPNET simulation

(2017) International Journal of Computer Networks and Communications, .

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[85032894574&doi=10.5121%2fijcnc.2017.9204&partnerID=40&md5=c63e5871fe9d5e349e0ac7e6abd49cc0](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032894574&doi=10.5121%2fijcnc.2017.9204&partnerID=40&md5=c63e5871fe9d5e349e0ac7e6abd49cc0)

AFFILIATIONS: Department of Computer Network, Al-Zaytoonah University of Jordan, Amman, Jordan; Department of Computer Science, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: In an enterprise network, it is normal to use multiple dynamic routing protocols for forwarding packets. Therefore, the route redistribution is an important issue in an enterprise network that has been configured by multiple different routing protocols in its routers. In this study, we analyse the performance of the combination of three routing protocols in each scenario and make a comparison among our scenarios. We have used the OPNET 17.5 simulator to create the three scenarios in this paper by selecting three different routing protocols from the distance vector and link state routing protocols in each scenario. In the first scenario, the network routers are configured from EIGRP, IGRP, and IS-IS that is named EIGRP_IGRP_ISIS in our simulation. The OSPF_IGRP_ISIS scenario is a mixed from EIGRP, IGRP, and IS-IS protocols that is the second scenario. The third scenario is OSPF_IGRP_EIGRP that is the route redistribution among OSPF, IGRP, and IS-IS protocols. The simulation results showed that the performance of the EIGRP_IGRP_ISIS scenario is better than the other scenarios in terms of network convergence time, throughput, video packet delay variation, and FTP download response time. In contrast, the OSPF_IGRP_ISIS has less voice packet delay variation, video conferencing and voice packet end to end delays, and queuing delay as compared with the two other scenarios. On the other hand, the performance of the OSPF_IGRP_EIGRP scenario has better FTP upload response time, and voice jitter.

Alsarayreh, M.A., Alia, M.A., Maria, K.A.

A novel image steganographic system based on exact matching algorithm and key-dependent data technique

(2017) Journal of Theoretical and Applied Information Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015371913&partnerID=40&md5=f5fede523db8fccfca4a49bafd70177c)

[85015371913&partnerID=40&md5=f5fede523db8fccfca4a49bafd70177c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015371913&partnerID=40&md5=f5fede523db8fccfca4a49bafd70177c)

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Steganography is defined as the art of hiding secret information. It is used to guarantee information accessibility only by authorized parties. The least-significant bit (LSB) approach is one of the most important scenarios in steganography. However, the existing LSB approaches apply some changing in the image's pixels values, which make the image suspected by intruders and hackers. This paper proposed an image steganography system based on the exact matching between the image's pixel values and the secret data. As well as, a random key-dependent data (RKDD) is generated without performing any changes on the image's pixel values. Moreover, the proposed system has been tested successfully on many images giving promising results. These significant results can be perceived in terms of fast searching time, great number of matches, reduced key size, achieving steganography performance criteria, invisibility, payload/capacity and robustness. © 2005 - ongoing JATIT & LLS.

Hamed, R., Al-Samydai, A., Al Baraghthi, T., Tarawneh, O., Sunoqrot, S.

Influence of HPMC K100LV and Compritol® HD5 ATO on Drug Release and Rheological Behavior of HPMC K4M Matrix Tablets

(2017) Journal of Pharmaceutical Innovation, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008473956&doi=10.1007%2fs12247-016-9269-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008473956&doi=10.1007%2fs12247-016-9269-2&partnerID=40&md5=8fc49fbc4c675a33426a4bab2a5611b1)

[2&partnerID=40&md5=8fc49fbc4c675a33426a4bab2a5611b1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008473956&doi=10.1007%2fs12247-016-9269-2&partnerID=40&md5=8fc49fbc4c675a33426a4bab2a5611b1)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: Purpose: The objectives of this study were to develop once-a-day oral controlled-release tablets of quetiapine fumarate (QF) and to determine the effect of polymer type, viscosity grade, polymer ratio, and polymer rheological properties on the rate of QF release from hydroxypropyl methylcellulose (HPMC) matrix tablets. Methods: Tablets were prepared from low-viscosity-grade HPMC K100LV (K100LV), high-viscosity-grade HPMC K4M (K4M), Compritol® HD5 ATO (PEGylated glyceryl behenate (PGB)), and binary combinations of these polymers. In vitro drug release from all tablets was evaluated over 24 h. Results: In vitro drug release studies revealed that formulations containing K100LV/K4M and PGB/K4M at a ratio of 170:70 resulted in similar release profiles which extended for 24 h ($f_2 > 50$). QF release kinetics followed either diffusion, anomalous transport, case II transport, or super case II transport, as fitted by the Korsmeyer-Peppas model. Tablet swelling and erosion studies were consistent with dissolution profiles. A linear relationship between % swelling and % QF released was observed in tablets containing K4M alone or in combination with K100LV or PGB, indicating the direct role of polymer swelling in controlling the mechanism of drug release. The viscoelastic properties of single and binary polymeric gels made with the three polymers (K100LV, K4M, and PGB) corroborated the in vitro release studies of QF tablets. Conclusions: Our results provide evidence that blending polymers with different viscosities and hydrophilicities can result in unique matrices with tunable release profiles. © 2017, Springer Science+Business Media New York.

Masoud, M., Jaradat, Y., Ahmad, A.Q.

On Tackling social engineering web phishing attacks utilizing software defined networks (SDN) approach

(2017) 2016 2nd International Conference on Open Source Software Computing, OSSCOM 2016, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016008255&doi=10.1109%2fOSSCOM.2016.7863679&partnerID=40&md5=7781d4925e6a95aa963f46a6e7118839)

[85016008255&doi=10.1109%2fOSSCOM.2016.7863679&partnerID=40&md5=7781d4925e6a95aa963f46a6e7118839](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016008255&doi=10.1109%2fOSSCOM.2016.7863679&partnerID=40&md5=7781d4925e6a95aa963f46a6e7118839)

AFFILIATIONS: Computer and Communication Engineering Department, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Web phishing attacks are one of the challenging security threats. Phishing depends on humans' behavior but not protocols and devices vulnerabilities. In this work, software defined networking (SDN) will be tailored to tackle phishing attacks. In SDN, network devices forward received packets to a central point 'controller' that makes decision on behalf of them. This approach allows more control and management over network devices and protocol. In this work, we propose a neural network based phishing prevention algorithm (PPA) that is implemented utilizing Ryu, an open source, SDN controller. The PPA algorithm has been tested in a home network that is constructed with HP2920-24G switch. Moreover, a phished version of Facebook, Yahoo and Hotmail login pages have been written and hosted on three different free hosting domains. PPA has detected all of the phished versions and allowed the access to real version of these services. © 2016 IEEE.

Al-Qerem, W.A., Ling, J., Al Bawab, A.

Validation of the comprehensive feeding practice questionnaire among school aged children in Jordan: A factor analysis study

(2017) International Journal of Behavioral Nutrition and Physical Activity, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013290774&doi=10.1186%2fs12966-017-0478-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013290774&doi=10.1186%2fs12966-017-0478-y&partnerID=40&md5=a7c3104fd1adba6b3869b9fda7975051)

[y&partnerID=40&md5=a7c3104fd1adba6b3869b9fda7975051](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013290774&doi=10.1186%2fs12966-017-0478-y&partnerID=40&md5=a7c3104fd1adba6b3869b9fda7975051)

AFFILIATIONS: Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan; University of Sunderland, Department of Pharmacy, Health and Wellbeing, Faculty of Applied Sciences, Chester Rd, Sunderland, SR1 3SD, United Kingdom

ABSTRACT: Background: Obesity has become a significant worldwide contributor to morbidity with an alarming increase in the incidence of childhood obesity. Few studies have evaluated parental feeding practices and their impact on child obesity in the Middle East. The Comprehensive Feeding Practice questionnaire (CFPQ; Musher-Eizenman & Holub, 2007) has been validated in different age groups and in different countries, however no previous studies have validated the questionnaire in the Middle East. Method: In this study, 970 children aged 6-12 completed the Arabic translated version of the CFPQ. The height and weight of the children were also measured. Confirmatory factor and exploratory factor analysis were used to evaluate different factor models. An ordinal logistic regression was conducted to evaluate the association between maternal feeding practices and child weight status. Results: Confirmatory analysis of the CFPQ determined that the original 12 factor structure of the questionnaire was not suitable for this sample. The analysis suggested that the most suitable structure was an 11 factors model (CMIN/DF = 2.18, GFI = 0.92, CFI = 0.93, TLI = 0.92 and RMSEA = 0.03) that included Modelling, Monitoring, Child control, Food as a reward, Emotional regulation, Involvement, Restriction for health, Restriction for weight control, Environment, Teach and encourage and Pressure. Of the children tested, 12.6% were obese and 25.1% were overweight. The ordinal regression showed Restriction to health and weight, Emotional regulation and maternal BMI were negatively associated with healthy weight status, while Modelling, Monitoring, Child Control, Environment, Involvement, and Teach and encourage were positively associated with healthy weight status. Conclusion: The Arabic translated version of the CFPQ was validated among the study sample, and the best fit for the model was found to utilize 11 factors. This study indicated that child weight status was associated with maternal feeding practices. © 2017 The Author(s).

Abu-Ghoush, M., Samhour, M., Al-Holy, M., Abashir, A., Abdelhafez, E.

Formulation and Evaluation of Coating Content and Their Distribution on Chips Products by Automated Inspection Using Fuzzy-Based Image Processing

(2017) Journal of Food Process Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945302500&doi=10.1111%2fjfp.12302&partnerID=40&md5=7e69c709b3445e08ece3596bfadef3e8)

[84945302500&doi=10.1111%2fjfp.12302&partnerID=40&md5=7e69c709b3445e08ece3596bfadef3e8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945302500&doi=10.1111%2fjfp.12302&partnerID=40&md5=7e69c709b3445e08ece3596bfadef3e8)

AFFILIATIONS: Clinical Nutrition and Dietetics Department, Hashemite University, PO Box 330156, Zarqa, 13133, Jordan;

Department of Industrial Engineering, Hashemite University, PO Box 330156, Zarqa, 13133, Jordan;

Department of Mechanical Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This study proposed a method to develop an intelligent system using an adaptive neuro-fuzzy inference system (ANFIS)-based image processing which predicts the flavor distribution of the chips ring. This study was divided into three stages and different variables in each stage to obtain the best combination. These variables were the number of nozzles employed (one, two and three nozzles), flavor solution temperature (4, 50 and 60C) and the flavor spraying air flow rate (2.5, 3.0 and 3.5 psi). The results showed that the chips rings produced by the combinations of the three nozzles, 50C and with different air flowing rates exhibited significantly higher color distribution, flavor and overall acceptance compared with all other treatments (P < 0.05). These results were supported by the

flavor distribution images that were taken for each combination. The ANFIS predicted the experimental results with 100% accuracy. ANFIS processing indicated that the best treatment was the one that was produced by using three nozzles for spraying the flavor under 50C with 2.5 psi air flow rate. Practical Applications: This system was developed by using an adaptive neuro-fuzzy inference system (ANFIS)- based image processing to rapidly predict the flavor distribution of the chips ring for accepting or rejecting defects. © 2015 Wiley Periodicals, Inc.

Al-Dahoud, A., Fezari, M., Belhouchet, F., Al-Rawashdeh, T.A.

Remote monitoring system for solar power panels using intelligent sensors network

(2017) 24th Telecommunications Forum, TELFOR 2016, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013665019&doi=10.1109%2fTELFOR.2016.7818739&partnerID=40&md5=2adea8919d997054365c783cc71e45cf)

[85013665019&doi=10.1109%2fTELFOR.2016.7818739&partnerID=40&md5=2adea8919d997054365c783cc71e45cf](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013665019&doi=10.1109%2fTELFOR.2016.7818739&partnerID=40&md5=2adea8919d997054365c783cc71e45cf)

AFFILIATIONS: Al-Zaytoonah University, Amman, Faculty of IT, Amman, Jordan;

BadjiMokhtar Annaba University, Faculty of Engineering, BP:12, Annaba, Algeria

ABSTRACT: Improving pre-installed monitoring system for a set of Photovoltaic (PV) panels, using wireless sensor network (WNS) with embedded fuzzy controller, is our contribution in this work in order to control and detect faults within solar panels that affect considerably the energy produced by the solar panels. The new solution is to integrate the detection and classification of faults within the sensors node. The proposed classifier based on Fuzzy logic controller is integrated within the Node. The WSN nodes are implemented with appropriate sensors for more often occurred faults on the solar power panels. A simulation has been done on nodes distribution and a study for the design of a node with appropriate sensors taking into account the priorities of the processing faults. The primary results of simulation are very encouraging in point of fast detection of faults with minimum computation and minimum data transmission. © 2016 IEEE.

Allan, M., Ali, N.N.

Employing social media websites and its role in determining the targeted audience for marketing within cloth manufacturing sector in Jordan

(2017) Innovative Marketing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85106815594&doi=10.21511%2fim.13%282%29.2017.05&partnerID=40&md5=3e25956f8204e8d1bd550c6789ff3fa1)

[85106815594&doi=10.21511%2fim.13%282%29.2017.05&partnerID=40&md5=3e25956f8204e8d1bd550c6789ff3fa1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85106815594&doi=10.21511%2fim.13%282%29.2017.05&partnerID=40&md5=3e25956f8204e8d1bd550c6789ff3fa1)

AFFILIATIONS: Marketing Department, Faculty of Business, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Technology and internet is taking a huge chunk of our lives. Nowadays almost every activity we do can be done through the internet. Organizations are running their business through the means of technology and internet, many successful organization are running their business and managing their marketing plans through the social media website. The current research study seeks to examine the role of employing social media in marketing to reach the targeted audience within cloth manufacturing sector in Jordan. Through employing a questionnaire and distributing it on (444) consumers from different markets, malls and commercial complexes; the results of the study indicated that trust and content are the most influential factors which enable the organization to reach its target audience. However, the study recommends to carry out a research on how an organization can increase the equity of its brand through social media. © The author(s) 2019.

Abu Salem, Z.T., Khedawi, T.S., Baker, M.B., Abende, R.

Effect of waste glass on properties of asphalt concrete mixtures

(2017) Jordan Journal of Civil Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85071123613&partnerID=40&md5=3b6e3d7e4162f85e63a290444d7ef19d)

[85071123613&partnerID=40&md5=3b6e3d7e4162f85e63a290444d7ef19d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85071123613&partnerID=40&md5=3b6e3d7e4162f85e63a290444d7ef19d)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan;

Jordan University of Science and Technology, Irbid, Jordan

ABSTRACT: With the rapid economy growth and continuously increased consumption, a large amount of glass waste materials is generated. This study attends to study the performance of asphalt concrete mix, where some of fractional fine aggregate is substituted with different percentages of crashed glass materials of 5%, 10%, 15% and 20 %. The Marshall design was used to examine the influence of the Optimum Asphalt Content (O.A.C.) at different fine glass percentages and the resistance against water. Asphalt-concrete mix properties can be improved by using a hydrated lime admixture and other mixtures. It is expected that the recycling and use of waste glass in asphalt mixes is feasible. Subsequently, by obtaining low price and economic mixes that will reduce the O.A.C., increase the stability and the durability of the mix, in addition to increasing the skid resistance of the road surface, this will reduce accidents and save a lot of money. By crushing and sieving, waste glass materials can be used as fine aggregates in asphalt concrete, where this is called glassphalt. Satisfactory performance of upper asphalt pavement layers can be achieved by adding glass waste with 10% of the mix. © 2017 JUST. All Rights Reserved.

Baker, M.B.

The application of marble and granite as building materials in Jordan

(2017) Jordan Journal of Civil Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068133575&partnerID=40&md5=13949cdd41a293fa72a11d92da2203a3)

85068133575&partnerID=40&md5=13949cdd41a293fa72a11d92da2203a3

AFFILIATIONS: Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Marble and granite rocks are very important in construction industry. Importing these materials to Jordan from other countries is expensive. This research aims at studying the physical and mechanical properties of Jordanian marble and granite which are widely used as building materials in construction industry in Jordan to ensure their compliance with the minimum construction requirements. Marble was tested for absorption, specific gravity, compressive strength, modulus of rupture, abrasion resistance and hardness. Results showed that Jordanian marble satisfies the minimum requirements as per ASTM C170, C99, C241 and Mohs scale. Specific gravity, absorption, flexural index, modulus of rupture and compressive strength properties were tested for Jordanian granite. The results revealed that the minimum requirements were achieved as per ASTM C97, C241, C880 and C99. © 2017, Jordan University of Science and Technology. All rights reserved.

Al-Matubsi, H.Y., Oriquat, G.A., Abu-Samak, M., Al Hanbali, O.A., Salim, M.D.

Corrigendum to "Effects of Lipoic Acid Supplementation on Activities of Cyclooxygenases and Levels of Prostaglandins E 2 and F 2 α Metabolites, in the Offspring of Rats with Streptozotocin-Induced Diabetes"

(2017) Journal of diabetes research, .

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85063710921&doi=10.1155%2f2017%2f8135610&partnerID=40&md5=f0c2320082ed1d5841028fa3bbbbee35e

AFFILIATIONS: Faculty of Pharmacy, University of Petra, Amman, Jordan;

Faculty of Pharmacy and Medical Sciences, Al-Ahliyya Amman University, Amman, Jordan;

Faculty of Pharmacy, Applied Science Private University, Amman, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University, Amman, Jordan;

Middle East University, Amman, Jordan

ABSTRACT: [This corrects the article DOI: 10.1155/2016/9354937.].

Tamimi, A.A., Abdalla, A.M.

A variable circular-shift image-encryption algorithm

(2017) Proceedings of the 2017 International Conference on Image Processing, Computer Vision, and Pattern Recognition, IPCV 2017, .

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85062057221&partnerID=40&md5=62a1f778fbd8b1417f1ab88185ab3ba8

AFFILIATIONS: Department of Computer Science, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: A new algorithm is presented for lossless image encryption using a private key. The image is regarded as a stream of bytes, and grouped into variable-length blocks whose sizes depend on the key. Circular shifting is applied to the bits in each block where the number of shifted bits depends on the key. Empirical analysis using different types of test images of different sizes showed that this new algorithm is effective and resistant to statistical attacks. The idea presented by this algorithm may be generalized to apply to input data other than images, and may be combined with other encryption methods. CSREA Press ©

Ahmad, M., Tawalbeh, L., Sayyah, N., Shaikha, L.A., Safadi, R., Sahyoun, R.A.

The Jordanians' perception of the association between foods and other risk factors with cancer

(2017) International Journal of Cancer Research and Prevention, .

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85059227097&partnerID=40&md5=ee510244bd49558e63551c3b7796fa68

AFFILIATIONS: Clinical Nursing Department, School of Nursing, The University of Jordan, Amman, Jordan;

Faculty of Nursing, Al-AlBayt University, Al-Mafraq, Jordan;

Al-Zaytoonah Private University of Jordan, Amman, Jordan;

School of Nursing, University of Jordan, Amman, Jordan;

School of Nursing, The University of Jordan, Amman, Jordan

ABSTRACT: Objective: The main objective for this study was to explore the Jordanian's perception of foods and risk factors associated with cancer. Methods: A national survey with a cross-sectional sample was used in this study. The sample was composed of 3,196 participants was recruited through a stratified random sampling technique. The questionnaire of this study consists from participants' characteristics, belief and knowledge about cancer, foods and cancer, and barriers of seeking cancer information. Results: Many cancer cases such as colon, breast, uterus, esophagus, and kidney cancers are attributable to an unhealthy diet and an inactive lifestyle. Knowledge gap was found regarding

the association between certain types of foods and other factors with cancer. Conclusion: The findings of this study help in identifying the accuracy of the information among Jordanians regarding the possible risk factors related to cancer and it guides the policy makers and health workers for better actions to prevent cancer. © Nova Science Publishers, Inc.

Mohd, K.N.T., Latif, R.A., Saleh, I.H.

The influence of ownership patterns and board characteristics on firm cash holdings

(2017) International Journal of Economic Research, .

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[85057638205&partnerID=40&md5=73a5b5260828c73145cda47691c09cc4](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057638205&partnerID=40&md5=73a5b5260828c73145cda47691c09cc4)

AFFILIATIONS: School of Economic and Finance, Collage of Business, Universiti Utara Malaysia, Malaysia;

Tunku Puteri Intan Safinaz school of Accountancy, College of Business, Universiti Utara Malaysia, Malaysia;

Department of Accounting, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This study finds that corporate governance mechanisms can significantly influence corporate cash holdings level. Based on 2022 firm-year observations among nonfinancial listed firms from 2008 to 2010 in Malaysia, we find firms with high managerial, non-independent and non-executive (NINE), foreign and government link institutional companies' (GLICs) ownerships and large board size have high level of cash holdings whereas firms with high fraction of family directors serving on the board have low level of cash holdings. Growth and profitability have positive influence on cash holdings while leverage has negative relationship with cash holdings. © Serials Publications Pvt. Ltd.

Al-Shayea, Q.K.

Neural networks to predict stock market price

(2017) Lecture Notes in Engineering and Computer Science, .

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[85055041503&partnerID=40&md5=eafbbe8a5ad1751b9276401c89a9010](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85055041503&partnerID=40&md5=eafbbe8a5ad1751b9276401c89a9010)

AFFILIATIONS: Department of Management Information Systems, Al Zaytoonah University of Jordan, P. O Box 130, Amman, 11733, Jordan

ABSTRACT: The prediction of a stock market price has been influenced by a set of the highly nonlinear financial and non-financial indicators may serve as a warning system for investors. In this research, the predicting of the future close price of Dow Jones Index Stocks was conducted using artificial neural networks. Feed forward neural network was used to predict next day closing in Dow Jones stock market. Nonlinear Autoregressive Exogenous (NARX) model is implemented by using feed forward neural network. To optimize the stock market price prediction, the performance of NARX model was examined and compared with different training algorithms. Although these algorithms had adequate results in predicting the NARX model with training, validation and testing. The Bayesian regularization has had the best performance in testing compared with levenberg-marquardt algorithm and the scaled conjugate gradient algorithm. While, the levenberg-marquardt algorithm has had less epochs in the best training performance of the network than the other algorithms. The performance of this model is found as a dominant model for stock market prediction. © Copyright International Association of Engineers.

Jaber, K.M., Ibrahim, D.R., Al-Sanhani, A.H., Hamad, N.A.

A framework for parallel boyer-moore-quick search algorithm (P-BM-QS)

(2017) Proceedings of the 30th International Business Information Management Association Conference, IBIMA 2017 - Vision 2020: Sustainable Economic development, Innovation Management, and Global Growth, .

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[85048610378&partnerID=40&md5=7d92bffc1f63c28134ccb8db4c9bbf94](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048610378&partnerID=40&md5=7d92bffc1f63c28134ccb8db4c9bbf94)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The significant growth in biological data has driven computer scientists to create fast, efficient and accurate algorithms for searching databases at the fastest possible search responses, in order to assist the biologists to retrieve the existing information quickly from any biological database. Furthermore, the trends in parallel programming models have also encouraged the computer researchers to improve the searching approaches to cope with this exponential increase. This research provides a comprehensive summary of some searching methods, as well as the state-of-the-art for the Parallel Boyer-Moore-Quick Search Algorithm (P-BM-QS). The results of the literature review show that the hybrid technique of P-BM-QS will improve the searching speedup in comparison with one direction algorithms. It could be concluded from the literature review that the proposed P-BM-QS is appropriate for large data sets, in terms of searching time. © 2017 International Business Information Management Association IBIMA. All Rights Reserved.

Autoom, M.M., Alkam, S.A.

The image of woman in the poetry of Habib Zyoudi

(2017) Dirasat: Human and Social Sciences, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85043292203&partnerID=40&md5=7041ead0d70a0e2f98083511a86740b8)

85043292203&partnerID=40&md5=7041ead0d70a0e2f98083511a86740b8

AFFILIATIONS: Center of Languages, University of Jordan, Jordan;

Department of Arabic Language and Literature, Faculty of Arts, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: This paper deals with the image of women in Habib Zyoudi poetry. Where the poet presents his vision of the world and his views regarding art and life through women image. This represents the poet's special experience of poetry and its technical features and characteristics on one hand, and offers his perspective in the overall local, Arab and humanitarian issues on the other hand. The interest in the image of women reflects the high status of women for him and in his poem and, its true association in accordance with sensory metaphoric, symbolic, artistic and sacred. The researcher studies the image of women in relation to the poem and poetry, and then the image in relation to the place generally and especially homeland. Finally the researcher talks about the sensory indications and moral implications of women imagery, artistic and aesthetic impact on Zyoudi poetry. © 2017 DAR Publishers/The University of Jordan. All Rights.

Soda, M.Z., Al-Chahadah, A.R., Al Omari, R.

The balanced scorecard as a strategic introduction to the commercial banks performance assessment in Jordan

(2017) International Journal of Applied Business and Economic Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041242617&partnerID=40&md5=658176375af383ec71f324f3f85d00ff)

85041242617&partnerID=40&md5=658176375af383ec71f324f3f85d00ff

AFFILIATIONS: ISRA University in Jordan, Faculty of Business, Department of Accounting, Amman, 11622, Jordan;

Al-Zaytoonah University of Jordan, Faculty of Economics and Administrative Sciences, Department of Accounting, P. O. Box: 130, Amman, 11733, Jordan;

University of Jordan, Faculty of Business and Finance, Department of Accounting, P. O. Box: 2595, Aqaba, 77110, Jordan

ABSTRACT: The study aims to find out the preferable measurements of performance assessment in the commercial banks in Jordan, identify the factors that impact their performance assessments, as well as to determine the capacity of Jordanian commercial banks to develop and implement a financial and non-financial strategy by using the balanced scorecard approach. The descriptive analytical approach has been used based on the field study to obtain the data from its main sources, the validity of hypotheses have been tested and got answers to the study questions. The study concluded that the Jordanian commercial banks do not use the balanced scorecard as an approach assisting to formulate, implement and evaluate a financial and non-financial strategy. This indicates that these banks tend to use traditional assessment instruments, not the modern ones, although the study community members acknowledged the importance of this tool in evaluating the results of bank financial and nonfinancial operations of these banks. One of the most important recommendations is that the Jordanian commercial banks must adopt the balanced scorecard approach in their financial and non-financial evaluation process, due to the multifaceted alternatives and uses of this methodology in the performance evaluation and to rationalize the decisions of decision makers based on objective measurement indicators carefully selected to achieve the bank's mission. © Serials Publications Pvt. Ltd.

Al Omari, R., Soda, M.Z., Razzak, A., Al Rawashdeh, F.

The impact of profitability ratio on gross working capital of Jordanian industrial sector

(2017) International Journal of Applied Business and Economic Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85041176113&partnerID=40&md5=d43071a6c3c13d872f9e938bcff59bd8)

85041176113&partnerID=40&md5=d43071a6c3c13d872f9e938bcff59bd8

AFFILIATIONS: Jordan of University, Aqaba Branch, Faculty of Management and Finance, Jordan;

ISRA University in Jordan, Faculty of Economic and Administrative Sciences, Jordan;

Al-Chahadah, Al-Zaytoonah University of Jordan, Faculty of Economics and Administrative Sciences, Jordan

ABSTRACT: Working capital is one of the most critical aspects in business operations, because it plays a significant role in better performance of industrial sector companies. This paper aimed to discuss the impact of profitability ratios on gross working capital in some companies of Jordanian Industrial Sector covering the period from 2011 to 2015. For this purpose, the researchers studied the impact of profitability independent variables: Gross Profit margin (GPM), operating profit margin (OPM), Net profit margin (NPM) and the dependent variable gross working capital (GWC). The study showed that there is significant impact of independent variable gross profit margin (GPM), Operating profit margin (OPM) net profit margin(NPM), on the dependent variable gross working capital (GWC). © Serials Publications Pvt. Ltd.

Alkam, S.A., Al-Autoom, M.M.

The short dramatic script in modern Arab literature: Selected models as a sample

(2017) Dirasat: Human and Social Sciences, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040947296&doi=10.12816%2f0040547&partnerID=40&md5=1fa957130f1e4a19574a12c058507d6d)

[85040947296&doi=10.12816%2f0040547&partnerID=40&md5=1fa957130f1e4a19574a12c058507d6d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040947296&doi=10.12816%2f0040547&partnerID=40&md5=1fa957130f1e4a19574a12c058507d6d)

AFFILIATIONS: Faculty of Arts, Al-Zaytoonah University of Jordan; and Language Center, The University of Jordan

ABSTRACT: This study aims to analyze five short Arab Play texts: "Al-Sulook" (The Tramp) by the Egyptian writer Mohamoud Taymour, "Jutha Ala El-Raseef " (A Corpse on the Sidewalk) by the Syrian writer Saadallah Wanous, "Al-Sareer" (The Creak) by the Iraqi writer Yusef Al-Ani, "Annasu wal Hijarah " (People and the Stones) by the Moroccan writer Abdul-Kareem Barsheed, and "Rajulun wa Imraa Fi Hawd El-Samak" (A Man and a Woman in the Fish Aquarium) by the Syrian writer Waleed Fadel. Before analyzing the plays, the study introduced a theoretical framework about the short play: its definition, characteristics and roots, as well as the modern short play in both the western and the Arab world.

Al Aboushi, A.

Solar thermal hybrid heating system

(2017) Jordan Journal of Mechanical and Industrial Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040673706&partnerID=40&md5=3fb6ba28f2d50a10a8265f201d0f416b)

[85040673706&partnerID=40&md5=3fb6ba28f2d50a10a8265f201d0f416b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040673706&partnerID=40&md5=3fb6ba28f2d50a10a8265f201d0f416b)

AFFILIATIONS: Faculty of Engineering and Technology, Department of Mechanical Engineering, Al Zaytoonah University of Jordan, Jordan

ABSTRACT: In the present work, a solar hybrid system is used to heat up a swimming pool to maintain it at around 30 0C around the year. The solar energy is collected using evacuated tubes collectors, within which water is heated up as it flows inside the tubes, before it is introduced into a heat exchanger located inside a large well-insulated storage tank, where it cools down as it loses heat to water in the tank. In winter, during cloudy days, an auxiliary system (in addition to the solar thermal system) was used to provide the required heating load. Three types of auxiliary systems were used, namely natural gas, electrical power and diesel powered boiler. In addition, an energy management system is used to optimize the percentage of the heating load to be supplied by each auxiliary heating system. It was found that during summer season, the heating load may be completely provided by the solar system, while during the rest of the year an auxiliary system is required to maintain the pool temperature at the desired value. Furthermore, it was found and based on current costs of electrical power, diesel fuel and natural gas in Jordan, that natural gas is the most economical source of energy to be used as an auxiliary system. © 2017 Jordan Journal of Mechanical and Industrial Engineering.

Lafi, M., Qader, A.A.

A novel dynamic integrated model for automated requirements engineering process

(2017) International Journal of Computer Applications in Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040335572&doi=10.1504%2fIJCAT.2017.089084&partnerID=40&md5=9b6cdf543537b4fd8e003a2303d13a6f)

[85040335572&doi=10.1504%2fIJCAT.2017.089084&partnerID=40&md5=9b6cdf543537b4fd8e003a2303d13a6f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040335572&doi=10.1504%2fIJCAT.2017.089084&partnerID=40&md5=9b6cdf543537b4fd8e003a2303d13a6f)

AFFILIATIONS: Department of Software Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper proposes a new dynamic and integrated model to manage the requirements collection process automatically. The result of this paper is to generate an automated requirement template that is compatible with the standard templates and enhance the process accuracy. The proposed model converts the gathered information from a selected requirement collection method into a table format. This table will be analysed using the proposed algorithm to generate a normalised table and eliminate the inconsistent requirements. This normalised table will be processed using the proposed algorithm to generate one of the standard requirement documentation templates automatically. The proposed model is tested using several requirements collection examples and shows a high accuracy compared with some manual or automatic methods. Copyright © 2017 Inderscience Enterprises Ltd.

Bashayreh, E., Abdelhafez, E.

Estimation of power produced by PV generator by using artificial neural networks

(2017) International Journal of Applied Engineering Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040248137&partnerID=40&md5=bde6b5deff086fbdefaa985b4d05b633)

[85040248137&partnerID=40&md5=bde6b5deff086fbdefaa985b4d05b633](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040248137&partnerID=40&md5=bde6b5deff086fbdefaa985b4d05b633)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Department of Electrical Engineering, Communication and Computer, P.O. Box 130, Amman, 11733, Jordan;

Al-Zaytoonah University of Jordan, Department of Alternative Energy Technology, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: In this work, artificial neural network (ANN) approach is used to investigate the ability of different Artificial Neural Network models to estimate of power produced by PV generator in Amman,

Jordan. Three types of ANN is constructed and tested by using MATLAB neural network module to solve this problem and to test the ability of each ANN to estimate power produced by PV generator. The three layers network structure is two inputs variables (ambient temperature and solar radiation) are used in training three models of ANN network. One output variable is power produced by PV generator. It was found that NARX network is very much capable to estimate the power produced by PV generator. © Research India Publications.

Sharour, L.A., Suleiman, K., Yehya, D., AL-Kaladeh, M., Malak, M., Subih, K.M., Bani Salameh, A. Nurses' students' attitudes toward death and caring for dying cancer patients during their placement (2017) EuroMediterranean Biomedical Journal, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85037585973&doi=10.3269%2f1970-5492.2017.12.40&partnerID=40&md5=da4d43640d876345d15a5b0beae6db46>
AFFILIATIONS: AL-Zaytoonah University of Jordan (ZUJ), Faculty of Nursing, Ammam, Jordan
ABSTRACT: Caring of cancer patients requires special skills and knowledge that facilitates the professionals' care during the patients' illness and palliative phases. This study was conducted to explore the nursing students' attitudes toward death and caring for dying cancer patients during their Placement. A descriptive study was conducted using the Formmelt Attitude toward Care of the Dying (FATCOD) scale and Death Attitude Profile-Revised (DAP-R) scale. Nursing students from ALZaytoonah University of Jordan. A sample of one hundred nursing students was recruited. The current study showed statistically significant difference among age group in relation to total score of death scale (p-value: 0.000) and fear of death, neutral acceptance, approach acceptance, and escape-acceptance subscales. The results indicated that younger students have more negative thoughts, attitudes, and emotions toward caring for dying cancer patients. In addition the results indicated that students with higher academic levels have a more positive attitude and are more eligible to provide nursing care for dying cancer patients as compared to students with less experience. In addition, the results showed that students with less experience had a greater fear of death than students with a higher academic level. According to the study results, Nurses' attitudes toward caring for dying and dead cancer patients can be considered an important predictor of quality of life among cancer patients. © EuroMediterranean Biomedical Journal 2017.

Ismail, S., Alkhader, E., Ahmad, A.
Prison perimeter surveillance system using WSN
(2017) Journal of Computer Science, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85036646465&doi=10.3844%2fjccssp.2017.674.679&partnerID=40&md5=63c44ff24af0a8a341bb023a201bcf20>
AFFILIATIONS: Department of Computer Science and Engineering, American University of Ras AlKhaimah, United Arab Emirates;
Department of Electrical Engineering, University of Jordan, Jordan;
Department of Electrical Engineering /Computer and Communication, Al-Zaytoonah University of Jordan, Jordan
ABSTRACT: The aim of this paper is to introduce a prison hybrid surveillance system using two main technologies; Wireless Sensor Network (WSN) and Unmanned Aerial Vehicles (UAVs). The system consists of three tiers; Wireless Underground Sensor Network (WUSN) in tier 0, Wireless Ground Sensor Network (WGSN) in tier 1 and Wireless Vision Sensor Network (WVSN) in tier 2 that consists of surveillance towers and Unmanned Aerial Vehicles (UAVs) equipped with multimedia sensors. Those three tiers are independent in operation and can complement one another in functionality. Such a design that utilizes the most advanced technologies proves performance in flexibility, scalability and hierarchical surveillance for a high security prison or any other military site. © 2017 Shereen Ismail, Eman Alkhader and Amal Ahmad.

Ahmad, H.S., Bazlamit, I.M., Ayoush, M.D.
Investigation of Document Management Systems in Small Size Construction Companies in Jordan
(2017) Procedia Engineering, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85035072390&doi=10.1016%2fj.proeng.2017.03.101&partnerID=40&md5=bc8c7dab0602354f7531fa7260c76c34>
AFFILIATIONS: Al-Zaytoonah University of Jordan, P.O. Box: 130, Amman, 11733, Jordan
ABSTRACT: For successful management of construction projects and organizations, it is crucial to adopt effective management systems that can handle the various information and documents of project activities. Document Management System (DMS) is the system used to store, control, coordinate, process and/or retrieve documents whether it is in electronic or paper based format. This research aims at investigating existing electronic and paper based DMSs in a sample of small size contracting companies in Jordan. Interviews and questionnaire survey with contractors, contractors' representatives and practitioners of DMSs in a number of small contracting companies were carried out to investigate and evaluate the components, processes, motivations and challenges of the existing and intended DMSs. Electronic formats of documents and files used in small contracting companies will be

also investigated. The results of this research can help contracting companies to enhance their DMSs, and improve efficiency and performance of the processes of construction projects management. © 2016 The Authors. Published by Elsevier Ltd.

Bazlamit, S.M., Ahmad, H.S., Al-Suleiman, T.I.

Pavement Maintenance Applications Using Geographic Information Systems

(2017) Procedia Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034994050&doi=10.1016%2fj.proeng.2017.03.123&partnerID=40&md5=9f1bb9258509f0a87825d27823c1061b)

85034994050&doi=10.1016%2fj.proeng.2017.03.123&partnerID=40&md5=9f1bb9258509f0a87825d27823c1061b

AFFILIATIONS: Al-Zaytoonah University of Jordan, Department of Civil and Infrastructure Engineering, P.O. Box: 130, Amman, 11733, Jordan

ABSTRACT: The aim of this work is to develop a Pavement Maintenance Management System (PMMS) for the roads and parking network. An extensive review was carried out on previous PMMS projects used for roads in Jordan and other countries. This research focuses on the software called PAVER system that is used to create a comprehensive and integrated database and GIS-based map layers for the road pavement and engineering characteristics. The research will contribute to the provision of a systematic method for the control of the Maintenance and Rehabilitation (M&R) process for paved networks. Although many researches in Jordan discuss reasons and procedures for M&R of road networks, there is still a lack of the systematic strategy and prediction procedure. © 2016 The Authors. Published by Elsevier Ltd.

Al-Hazim, N., Salem, Z.A., Ahmad, H.

Delay and Cost Overrun in Infrastructure Projects in Jordan

(2017) Procedia Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034992148&doi=10.1016%2fj.proeng.2017.03.105&partnerID=40&md5=ec7e69ca3e245ef73d0978951f910f2b)

85034992148&doi=10.1016%2fj.proeng.2017.03.105&partnerID=40&md5=ec7e69ca3e245ef73d0978951f910f2b

AFFILIATIONS: Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan, P.O. Box: 130, Amman, 11733, Jordan

ABSTRACT: The aim of this study is to investigate the factors that may cause overrun of the planned cost, allocated resources and scheduled time of infrastructure engineering projects in Jordan. To achieve the goal of this study, final reports of a sample of 40 public infrastructure projects implemented during the period from 2000 to 2008 were collected and analysed. The final reports were collected from the Ministry of Public Works and Housing (MPWH) of Jordan, which administers the public infrastructure projects in the capital Amman. The analysis showed that delay and cost overrun of infrastructure projects were caused by 20 factors according to the records in the collected final reports of projects. The results showed that Terrain and Weather conditions are the top factors causing completion delay and cost overrun in infrastructure projects in Jordan. © 2016 The Authors. Published by Elsevier Ltd.

Sobol', O.V., Postelnyk, A.A., Mygushchenko, R.P., Al-Qawabeha, U.F., Tabaza, T.A., Al-Qawabah, S.M., Gorban', V.F., Stolbovoy, V.A.

Structure and properties of vacuum-arc coatings of chromium and its nitrides obtained under the action of constant and pulse high-voltage bias potential

(2017) Journal of Nano- and Electronic Physics, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034946895&doi=10.21272%2fjnep.9%286%29.06024&partnerID=40&md5=44c17b5b3abc7d4d57827256aac8f783)

85034946895&doi=10.21272%2fjnep.9%286%29.06024&partnerID=40&md5=44c17b5b3abc7d4d57827256aac8f783

AFFILIATIONS: National Technical University, 'Kharkiv Polytechnic Institute', 2, Kyrpychov Str., Kharkiv, 61002, Ukraine;

Tafila Technical University, At-Tafilah, P O Box 179, Tafila, 66110, Jordan;

Al-Zaytoonah University Queen Alia, 594, Airport Str., Amman, 11733, Jordan;

Frantsevich Institute for Problems of Materials Science, 3, Krzhizhanovsky Str., Kyiv-142, 03142, Ukraine;

National Science Center, 'Kharkov Institute of Physics and Technology', 1, Akademicheskaya Str., Kharkiv, 61108, Ukraine

ABSTRACT: To reveal the regularities of structural engineering of vacuum-arc coatings based on chromium and its nitrides, the influence of the main physicochemical factors (the pressure of the nitrogen atmosphere and the bias potential) in the formation of coatings was studied. It was discovered that during the deposition of chromium coatings the formation of the texture axis [100], as well as the macrodeformation of compression is happening. The supply of a high-voltage negative pulse potential to the substrate increases the mobility of the deposited atoms and leads to relaxation of the compression deformation. As the pressure increases from $2 \cdot 10^{-5}$ Torr to $4.8 \cdot 10^{-3}$ Torr, the phase composition of the coatings changes: Cr (JCPDS 06-0694) → Cr₂N (JCPDS 35-0803) → CrN (JCPDS 11-0065). The supply of high-voltage pulses leads to the formation of a texture of crystallites with parallel growth surfaces planes having $d \approx 0.14$ nm. The structure obtained by pulsed high-voltage action makes it possible to increase the hardness of the coating to 32 GPa and

reduce the friction coefficient to 0.32 in the "chromium nitride-steel" system and to 0.11 in the "chromium nitride-diamond" system. The results obtained are explained from the viewpoint of increasing the mobility of atoms and the formation of cascades of displacements when using an additional high-voltage potential in the pulse form during the deposition of chromium-based coatings. © 2017 Sumy State University.

Al-Rbaihat, R., Sakhrieh, A., Al-Asfar, J., Alahmer, A., Ayadi, O., Al-Salaymeh, A., Al-Hamamre, Z., Al-Bawwab, A., Hamdan, M.

Performance assessment and theoretical simulation of adsorption refrigeration system driven by flat plate solar collector

(2017) Jordan Journal of Mechanical and Industrial Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034733453&partnerID=40&md5=f2ac5ba4b671ed366cb4f47bce8c25f0)

[85034733453&partnerID=40&md5=f2ac5ba4b671ed366cb4f47bce8c25f0](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034733453&partnerID=40&md5=f2ac5ba4b671ed366cb4f47bce8c25f0)

AFFILIATIONS: Department of Mechanical Engineering, Al-Tafila Technical University, P. O. Box 179, Al-Tafila, 66110, Jordan;

Department of Mechanical and Industrial Engineering, American University of Ras Al Khaimah10021, United Arab Emirates;

Mechanical Engineering Department, The University of Jordan, Amman, 11942, Jordan;

Department of Mechanical Engineering, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Chemical Engineering Department, The University of Jordan, Amman, 11942, Jordan;

Department of Chemistry, The University of Jordan, Amman, 11942, Jordan

ABSTRACT: The performance of an 8.0 kW Solar Adsorption Refrigeration System (SARS) under Jordanian climate conditions was evaluated experimentally and theoretically. The solar cooling system under study consists of four subsystems, namely silica gel/water adsorption chiller, solar thermal collector, cooling tower and fan coil unit. The ambient temperature, global solar radiation, relative humidity, wind speed and the temperatures of the solar adsorption system at different locations of experimental setup were measured. Simulation of the solar adsorption system was carried out using the TRAnsientSystem Simulation software (TRNSYS). The solar adsorption system is based on adsorption chiller operated by hot water produced by flat plate solar collectors with a total surface area of 41m². The obtained results revealed chilling power and thermal COP of 4.5 kW and 0.34, respectively when the average chilled water outlet temperature, cooling water inlet temperature, and hot water inlet temperatures were 16.8 °C, 28.1°C and 80.2 °C, respectively. © 2017 Jordan Journal of Mechanical and Industrial Engineering.

Mazhar, A.A.J.A., Abdalla, A.M.A.

Trade-off of frame-rate and resolution in online game streaming

(2017) Journal of Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034218338&doi=10.3844%2fjcssp.2017.505.513&partnerID=40&md5=3ea5f4e7458c275d93cb3bb6eb48a6bc)

[85034218338&doi=10.3844%2fjcssp.2017.505.513&partnerID=40&md5=3ea5f4e7458c275d93cb3bb6eb48a6bc](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034218338&doi=10.3844%2fjcssp.2017.505.513&partnerID=40&md5=3ea5f4e7458c275d93cb3bb6eb48a6bc)

AFFILIATIONS: College of Computing and Informatics, Saudi Electronic University, Saudi Arabia; Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: Only limited research in the literature focused on assessment of different spatial and temporal resolutions. In addition, the field of synthetic video compression, such as video compression in game streaming, was the focus of only a few research papers. This paper will consider a wide range of synthetic video textures and motion speeds. The visual quality of the compressed video sequences is perceptually evaluated using the Double Stimulus Impairment Scale (DSIS) assessment metric. Extensive subjective viewing tests to evaluate user satisfaction are performed. A methodical analysis to study the influence of different dimensions on Mean Opinion Score (MOS) is presented. The study considers a wider scope of dimensions that affect the perceptual visual quality. MOS results are shown in details for different bit rates, frame rates and frame resolutions. This study contributes novel ideas that should provide common rules for online game streaming over transmissions with relatively low bit rates. © 2017 Ahmad Abdel Jabbar Ahmad Mazhar and Ayman Mahmoud Aref Abdalla.

Al-Zu'Bi, S., Al-Ayyoub, M., Jararweh, Y., Shehab, M.A.

Enhanced 3D segmentation techniques for reconstructed 3D medical volumes: Robust and Accurate Intelligent System

(2017) Procedia Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85033470657&doi=10.1016%2fj.procs.2017.08.318&partnerID=40&md5=0276660d498db59aee7f2ca789ad05c9)

[85033470657&doi=10.1016%2fj.procs.2017.08.318&partnerID=40&md5=0276660d498db59aee7f2ca789ad05c9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85033470657&doi=10.1016%2fj.procs.2017.08.318&partnerID=40&md5=0276660d498db59aee7f2ca789ad05c9)

AFFILIATIONS: Computer Science Department, School of Science and Information Technology, Zaytoonah University of Jordan, Amman, Jordan;

Computer Science Department, School of Science and Information Technology, Jordan University of Science and Technology, Irbid, Jordan

ABSTRACT: Medical images play an important role in treating a large number of ailments as they are integral and even indispensable to the diagnosis process of such ailments. Medical images come from different acquisition systems (such as PET, CT, MRI) and, in many situations, automated processing of these images can greatly aid physicians and make their jobs easier. In medical imaging and its applications, 2D segmentation (with its different approaches such as FCM, k-means, MRFM and NN) is the first step which is used to extract ROI. This helps in extracting ROI in each slice (2D medical image) separately regardless of its relation to the next and the previous slices. In this paper, a 3D model of FCM segmentation techniques is proposed to enhance the segmentation process and take in mind the overall 3D-Volume as one testing data. Peer-review under responsibility of the Conference Program Chairs. © 2017 The Authors. Published by Elsevier B.V.

Sabbah, D.A., Sweidan, K.

Molecular docking studies of novel thiosemicarbazone-based indoles as potential PI3K α inhibitors (2017) Letters in Drug Design and Discovery, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85033402467&doi=10.2174%2f1570180814666170619112647&partnerID=40&md5=7e1e854077e8936e6e97f91513e89094)

[85033402467&doi=10.2174%2f1570180814666170619112647&partnerID=40&md5=7e1e854077e8936e6e97f91513e89094](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85033402467&doi=10.2174%2f1570180814666170619112647&partnerID=40&md5=7e1e854077e8936e6e97f91513e89094)

AFFILIATIONS: Department of Pharmacy Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Chemistry, University of Jordan, Amman, 11942, Jordan

ABSTRACT: Background: Heterocyclic system is a common structure feature of widely used drugs such as anticancer, anticonvulsant, antiepileptic, and antiparasitic agents. Methods: Structure-based drug design and Glide docking studies were employed to rationalize the toxicity of a new series of thiosemicarbazone-based indole derivatives against human colon carcinoma (HCT116) cell line. Results: Glide docking studies showed that the verified compounds fit PI3K α kinase catalytic site and form H-bonding with K802, Y836, V851, S854, Q859, S919, and D933. The pharmacophore modeling of PI3K α active inhibitors displayed that verified compounds matched four out of five functionalities of PI3K α inhibitors. Conclusion: Our findings suggest that further optimization of the core structure of this series would be beneficial for colon cancer treatment. ©2017 Bentham Science Publishers.

Belozеров, V., Sobol, O., Mahatilova, A., Subbotina, V., Tabaza, T.A., Al-Qawabeha, U.F., Al-Qawabah, S.M.

The influence of the conditions of microplasma processing (microarc oxidation in anode-cathode regime) of aluminum alloys on their phase composition

(2017) Eastern-European Journal of Enterprise Technologies, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032746949&doi=10.15587%2f1729-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032746949&doi=10.15587%2f1729-4061.2017.112065&partnerID=40&md5=c8792ab3aea0d658adac92e919cc6e09)

[4061.2017.112065&partnerID=40&md5=c8792ab3aea0d658adac92e919cc6e09](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032746949&doi=10.15587%2f1729-4061.2017.112065&partnerID=40&md5=c8792ab3aea0d658adac92e919cc6e09)

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ABSTRACT: Investigations have been performed on the effect of microplasma oxidation regimes in electrolytes with activating additives on the phase-structural state of coatings formed on the basis of aluminum. In microarc oxidation (MAO), the surface layer of the processed aluminum-based alloy was converted to a coating consisting of aluminum oxides with increased hardness. Such a modification of the surface layers makes it possible to use the properties of base materials and modified layers most rationally, sparing expensive and rare metals and alloys. The study has revealed the formation of intermediate phases (multistage) during the formation of coatings on aluminum alloys in the alkali-silicate electrolyte and the anode-cathode mode of microplasma oxidation. The main intermediate phases are γ -Al₂O₃ and 3Al₂O₃·2SiO₂. The composition of the electrolyte has a significant effect on the initial stages of the process during which strong passivating layers are formed on the metallic surface. These layers determine the possibility of spark explosions of sufficient intensity and, thus, the implementation of the MAO process. The obtained results indicate that during the oxidation process, the γ -Al₂O₃ phase is alloyed with the base components and the electrolyte components to form solid substitutional solutions. The change in the lattice period in this case will be determined, on the one hand, by the difference in the ionic radii of atoms in the lattice and, on the other hand, by the difference in valence. The paper discloses the influence of the crystal-chemical characteristics of the cations of the processed alloy and the cations that make up the electrolyte on the γ -Al₂O₃→ α -Al₂O₃. The absence of the hardest phase of α -Al₂O₃(corundum) in the coating is explained by the low power of microdischarges, at which the temperature of the polymorphic γ → α transformation is not ensured. Pilot-industrial tests were performed on friction pair parts, and recommendations have been given on the change in the composition of the electrolyte and the parameters of electrolysis that ensure an increase in the content of the α -Al₂O₃ phase in the coating composition. © V. Belozеров, O. Sobol, A. Mahatilova, V. Subbotina, Taha A. Tabaza, Ubeidulla F. Al-Qawabeha, Safwan M. Al-Qawabah,

2017.

Hmood, K.F.

Traditional markets in islamic architecture: Successful past experiences

(2017) WIT Transactions on the Built Environment, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85031740534&doi=10.2495%2fSTR170231&partnerID=40&md5=46938cd2dbb8d1dfc024dedcfbe32bc5)

85031740534&doi=10.2495%2fSTR170231&partnerID=40&md5=46938cd2dbb8d1dfc024dedcfbe32bc5

AFFILIATIONS: Department of Architecture, Alzaytoonah University of Jordan, Jordan

ABSTRACT: Contemporary cities are aiming to deal with architectural and urban heritage as a vital entity that can adapt to the modern life style and needs without sacrificing the region's identity and uniqueness, especially those cities that are historically and culturally profound, which has resulted in the possession of the architectural and urban heritage. Many Islamic cities worldwide are proud of their traditional markets. The market in Islamic cities has revived the city through its presence, while the city has formed the market according to its needs. The main aim of this research is to verify the importance of lessons learned from old traditional markets in Islamic architecture which is characterized by the effective response to their physical environment. This main aim leads to many secondary aims. Firstly, the research aim to explain the relationship between the specialization of goods and the architectural form and general planning of the market, where the perpendicular or broken (bend) axis or any change in direction was an indication of the in change the types of goods. Secondly, the research aim to explore the relationship between the diversity of the physical environment of markets and the diversity of goods and then the diversity of the corridors width and the roofing style, and how this diversity affects shoppers and generates a state of pleasure and social interaction between the market and the shoppers and among the shoppers themselves. This leads to the importance of studying the concept of "traditional markets", resulting in the awareness of the importance of contemporary architecture which is linked to its' historical background and the population's awareness of that important relationship. To fulfill the research aim, this research studies and analyzes some successful effective case studies in the Islamic and the Arab world in an attempt to set a framework to design contemporary markets which have their distinct identity and special characteristics that meet the needs of the community. Based on the research findings and data analysis, the research anticipates setting its conclusions and recommendations. © 2017 WIT Press.

Mosleh, R.S., Abd Aziz, N., Ali, S.M., Manan, M.M., Zyoud, S., Shah, I.M., Jarrar, Y.B.

Predictors of good glyceimic control among type II diabetes patients in Palestine

(2017) Asian Journal of Pharmaceutical and Clinical Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85029573113&doi=10.22159%2fajpcr.2017.v10i9.19453&partnerID=40&md5=875a6e684863ac60348dd62630ccf806)

85029573113&doi=10.22159%2fajpcr.2017.v10i9.19453&partnerID=40&md5=875a6e684863ac60348dd62630ccf806

AFFILIATIONS: Department of Pharmacy Practice, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM), UiTM Puncak Alam, Bandar Puncak Alam, Selangor Darul Ehsan 43600, Malaysia;

College of Pharmacy, Al-Zaytoonah University, Amman, Jordan

ABSTRACT: Objectives: The aim of this study is to assess glyceimic control and its relationship with patient characteristics, health-care system factors, and self-care management in type II diabetes patients. Methods: A retrospective cross-sectional study was conducted among 330 type II diabetes patients who met the inclusion criteria and whose medical records covered a period of 1 year. Data concerning patient characteristics, health-care system factors, self-care management, and available last reading of hemoglobin A1c (HbA1c) were collected through personal interviews and a medical records' review using structured questionnaires and data collection forms. Good glyceimic control was defined as HbA1c $\leq 7\%$. To assess the results, the Statistical Package for Social Sciences (version 16) was used to undertake descriptive, univariate, and multivariate analyses. Results: The mean \pm standard deviation age was 60 \pm 9.7 years. More than half of the participants were male (51.2%), and the majority had additional chronic diseases (88.5%). Of the total 271 participants whose HbA1c levels have been monitored, 16.7% had good glyceimic control. Multivariate analysis showed that unemployment was significantly related to a decreased odds of good glyceimic control (odds ratio=0.34; 95% confidence interval=0.12-0.98; $p<0.05$). Conclusion: The study noted that the proportion of patients with good glyceimic control was low, a result comparable to studies from many countries. Further investigation and improvement of inappropriate health-care system factors and self-care management together with educational programs that emphasize the importance of self-care management and the health-care providers' role would be of great benefit in glyceimic control. © 2017 The Authors.

Al Naimi, H., Al Khasawneh, M.H.

Switching behaviour model in the Jordanian internet sector: An integration of the TPB and customer loyalty

(2017) International Journal of Electronic Marketing and Retailing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028707842&doi=10.1504%2fIJEMR.2017.086130&partnerID=40&md5=ba4331c8ef18d694e9f6af23e4d83b0b)

85028707842&doi=10.1504%2fIJEMR.2017.086130&partnerID=40&md5=ba4331c8ef18d694e9f6af23e4d83b0b

AFFILIATIONS: Marketing Department, Al-Zaytoonah University of Jordan, Jordan;
Department of E-Marketing and Social Media, Princess Sumaya University for Technology (PSUT), Khalil Al Saket St 112, Amman, 11941, Jordan

ABSTRACT: While consideration has been given to the traditional model of relationship marketing, the current research is concerned with advancing our understanding of customer switching behaviour by exploring the influence of customer loyalty on customer switching behaviour. In order to provide a more comprehensive clarification of the switching behaviour of Jordanian internet users, a more in-depth study of the switching behaviour model was conducted by including customer loyalty as the main outcome of the relationship marketing model. The current research is designed to explore the TPB and investigate the influence of including customer loyalty in switching behaviour model in order to present a more comprehensive model of switching behaviour in Jordan. As such, a conceptual model along with four hypotheses are tested with a sample of 464 internet users, and then analysed quantitatively using structural equation modelling - partial least squares (SEM-PLS) method. The findings of the current research provided support for the research model as well as for most of the hypotheses regarding the relationship among the model variables. Particularly, in this paper, the research model presented is distinctive in that it synergistically combines the TPB variables along with customer loyalty in evaluating the switching behaviour of the Jordanian internet users.
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Sweidan, K., Sabbah, D.A., Bardaweel, S., Abu Sheikha, G., Al-Qirim, T., Salih, H., El-Abadelah, M.M., Mubarak, M.S., Voelter, W.

Facile synthesis, characterization, and cytotoxicity study of new 3-(indol-2-yl)bicyclotetrazatridecahexaens

(2017) Canadian Journal of Chemistry, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026836628&doi=10.1139%2fcjc-2017-0120&partnerID=40&md5=a5cffb32a0cdd935278dd2178bb43ecc>

AFFILIATIONS: Department of Chemistry, University of Jordan, Amman, 11942, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Pharmaceutical Sciences, Faculty of Pharmacy, University of Jordan, Amman, 11942, Jordan;

Interfakultäres Institut für Biochemie, Universität Tübingen, Hoppe-Seyler-Straße 4, Tübingen, 72076, Germany

ABSTRACT: A new series of thiosemicarbazone-based indole derivatives 12-15 has been prepared by condensation reaction of indole-2-carboxamide derivatives 8-11 with thiosemicarbazide. The former compounds underwent intracyclization in the presence of chloroacetic acid and sodium acetate to afford a set of new 3-(indol-2-yl)bicyclotetrazatridecahexaens 16-19. These newly synthesized compounds have been characterized by means of FTIR, ¹H NMR, ¹³C NMR, and HRMS and by elemental analyses. Cytotoxic activities of the prepared compounds along with LY294002 were evaluated in vitro against normal human skin fibroblast, human colon carcinoma (HCT116), and leukemia (K562) cell lines; results revealed that the series inhibits only HCT116 cell line. In addition, results showed that compound 18 exerts moderate potency in HCT116 with an IC₅₀ value of 54 µmol/L and significantly induces apoptosis. © 2017 Published by NRC Research Press.

Zraiqat, A.

Boubaker pivotal iteration scheme (BPIS)

(2017) Italian Journal of Pure and Applied Mathematics, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026677231&partnerID=40&md5=9c5f9977fb222d2bb74e899f1b7a7428>

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: In this paper, we present a numerical scheme for the solution of fourth-order boundary value problems with two-point boundary conditions. The Boubaker Pivotal Iteration Scheme (BPIS) is applied to construct the numerical solution. This approach provides the solution in the form of analytical function and not at grid points. Some examples are displayed to demonstrate the computational efficiency of the method.

Al-Hamidi, H., Al Asfar, J.

Hybrid renewable energy system with minimum noise wind turbine

(2017) Renewable Energy, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85025161310&doi=10.1016%2fj.renene.2017.07.015&partnerID=40&md5=134eb7d5e3bf6f04bb9fc13e52697b47>

AFFILIATIONS: Mechanical Engineering Department, The University of Jordan, Amman, 11942, Jordan;
Mechanical Engineering Department/ Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: In this study, a photovoltaic-wind hybrid renewable energy system has been examined and analyzed, with concentration on wind turbine to minimize generated noise. Mechanical and electrical analyses were performed. Harmonic electrical analysis on the wind turbine generator and electronic

devices within the conversion system was conducted to get better performance. Mechanical vibration analysis was also done on selected wind turbine to estimate the forces and frequencies that may affect the blade during operation and cause noise and disturbance effects. It was found that Harmonics and total Harmonic Distortion were minimized after implementing an AC/DC/AC conversion system consisting of a diode full wave rectifier and an LC filter to stabilize the DC bus. Finally IGBT inverter was used to convert the DC signal into AC output signal with a useful frequency of 50 Hz after reshaping. The total harmonic distortion was minimized to 2.81%, less than the IEEE standards of 5% of the fundamental current frequency. Furthermore, it was also found that according to suggested arrangement of the hybrid system in this study, the blade of the proposed wind turbine, if operated even under its natural frequencies, its performance will be slightly affected resulting in minimized resonance effect. © 2017 Elsevier Ltd

Yassin, M.M.

The determinants of internet financial reporting in Jordan: Financial versus corporate governance (2017) International Journal of Business Information Systems, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85025094990&doi=10.1504%2fIJBIS.2017.085176&partnerID=40&md5=0c8c0c98828df1e0575e1314f7c56105)

[85025094990&doi=10.1504%2fIJBIS.2017.085176&partnerID=40&md5=0c8c0c98828df1e0575e1314f7c56105](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85025094990&doi=10.1504%2fIJBIS.2017.085176&partnerID=40&md5=0c8c0c98828df1e0575e1314f7c56105)

AFFILIATIONS: Faculty of Economics and Administrative Sciences, Al-Zaytoonah University of Jordan, P.O. Box: 130, Amman, 11733, Jordan

ABSTRACT: The internet has become widely used as a channel to disseminate financial information by Jordanian listed companies in response to the cross-listing agreement among the Amman Stock Exchange (ASE), Abu Dhabi Securities Exchange (ADX) and Dubai Financial Market (DFM). This study aimed to investigate the determinants of internet financial reporting (IFR). The results should help policy makers and regulators in building a framework for mandating IFR. An IFR index was developed to measure the level of each firm's information content and format disclosures. IFR determinants were divided into financial characteristics and corporate governance mechanisms. The analysis determined that firms that are larger, profitable, and more leveraged, with a separation between chairperson and CEO positions, with larger board size numbers, and with fewer independent non-executive directors are more likely to engage in IFR. By extending the analysis using OLS and 2SLS regression, the findings suggest that IFR was predicted using size, liquidity, leverage, market-to-book ratio, chairperson/CEO separation, independent non-executive directors, board size, and shareholder number. Corporate governance mechanisms can predict IFR and its components, content and format more accurately than firms' financial characteristics. Copyright © 2017 Inderscience Enterprises Ltd.

Al-Allaf, O.N.A.

Particle swarm optimization for optimizing learning parameters of function fitting artificial neural network for speech signal enhancement

(2017) Journal of Theoretical and Applied Information Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020896680&partnerID=40&md5=f3baee85c004372de60b0473a153e4c3)

[85020896680&partnerID=40&md5=f3baee85c004372de60b0473a153e4c3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020896680&partnerID=40&md5=f3baee85c004372de60b0473a153e4c3)

AFFILIATIONS: Dept. of CIS, Faculty of Sciences and Information Technology, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: Speech signals are effected by noise generated by various sources of interferences. Removing noise from speech signals can be regarded as an active research area in signal processing. Thus, we need powerful methods in this area. Therefore, Function Fitting (FitNet) Artificial Neural Networks model was used in this paper for enhancing speech signals. Particle Swarm Optimization (PSO) was used during FitNet learning process to optimize the FitNet learning parameters (such as learning rate, momentum variable and network weights) to achieve best results of speech signal enhancement. At the same time, different optimization techniques for optimizing the values of learning parameters were suggested in this work. This is done to improve the performance of FitNet model for signal enhancement. Better results (320 learning steps, PSNR equal 38 and mean square error (MSE) equal 0.0027) from experiments were achieved when adopting PSO with FitNet with swarm size equal 40 and PSO number of iterations equal 100. Good results (312 learning steps, PSNR equal 35.94 and MSE equal 0.00002) were obtained also when adopting the suggested optimization techniques (learning rate equal 0.00003, 5 hidden units in one hidden layer with the using of Levenberg-Marquardt (LM) as learning algorithm) for optimizing the learning parameters. © 2005 - ongoing JATIT & LLS.

Damhoureyeh, S.

Effects of simulated grazing (clipping) on plant population responses and resource allocation patterns in a semi-arid environment

(2017) Pakistan Journal of Botany, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020836805&partnerID=40&md5=ff8ef83e87b3133ae488c5f1942ea415)

[85020836805&partnerID=40&md5=ff8ef83e87b3133ae488c5f1942ea415](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020836805&partnerID=40&md5=ff8ef83e87b3133ae488c5f1942ea415)

AFFILIATIONS: Department of Biological Sciences, Faculty of Science, University of Jordan, Amman, 11942, Jordan;

Zaytoonah University of Jordan, Faculty of Pharmacy, Amman, Jordan

ABSTRACT: Surra rangeland reserve is a Steppe rangeland, located in the northwest part of Jordan. The vegetation composition of Surra semi-arid rangeland slopes (North and South facing slopes) were studied. In addition, the study focuses some population aspects of *Salsola vermiculata* at the reserve under natural conditions. Moreover, the effect of clipping (simulation of grazing) on the regrowth of *S. vermiculata* plants were studied in order to promote the conservation and sustainable use of this important forage plant. Randomly transects on each site to sample vegetation at 10 m intervals along each transect were delineated. For each sampling point, quadrates of 1 m² were placed and coverage, species composition, plant density and life form were assessed. The vegetation inside each quadrat was clipped and separated into forage and non-forage components. Fresh and dry weights for each component and relative density and dry biomass for *S. vermiculata* were determined. The overall shrub species recorded at the site showed a higher species richness at the south facing slopes of 15 shrub species. Density of shrubs (plant/ quadrates) were almost similar except for *S. vermiculata* where it was more frequent at the north facing slopes (7.5 P/Q) with high relative density (1.2 P/ Q). Moreover, a detailed vegetation analysis (herbs and shrubs) for north facing and south facing slopes showed higher values of plant densities at the south facing slopes and mostly attributed to herbaceous vegetation. Shrubs were more abundant at the north facing slopes. In general, forage plants constituted more than 90% of the vegetation present in the reserve. Plant cover and vegetation dry biomass was higher at the south facing slopes and mostly was forage vegetation. Herbaceous forage (grass and non-grass) vegetation had the highest densities in the north facing slopes, while only forage grass had the maximum density overall in the south facing slopes. The average *S. vermiculata* plant size was 0.026 m³ with average biomass of 43 gm. Relative growth rate (RGR) were positive for the unclipped and 30% clipped plants and showed no difference indicating that 30 % clipping could be tolerated by these plants and could be classified as moderate grazing. However, the 60% treatment showed a negative RGR indicating a severe grazing effect of this clipping treatment, emphasizing that native shrubs constituted important forage for the livestock since they tolerate moderate grazing, in addition to soil conservation and reduction of non-forage plant species. © 2017, Pakistan Botanical Society. All rights reserved.

Khamis, F.G., Hanoon, M.F.

Spatial and temporal analyses on exploring the relationship between wastes and mortality in UAE (2017) International Journal of Economics and Business Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020424025&doi=10.1504%2fIJEBR.2017.084379&partnerID=40&md5=340866c7f9efddf219460d8e246d61b7)

[85020424025&doi=10.1504%2fIJEBR.2017.084379&partnerID=40&md5=340866c7f9efddf219460d8e246d61b7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020424025&doi=10.1504%2fIJEBR.2017.084379&partnerID=40&md5=340866c7f9efddf219460d8e246d61b7)

AFFILIATIONS: College of Business Administration, Al-Ain University of Science and Technology, Al-Ain, United Arab Emirates;

Faculty of Economics and Administrative Sciences, AL-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Wastes have a number of negative consequences, such as infecting by many dangerous diseases or illnesses, leading likely to the mortality and causing in environmental pollution. The objectives are to investigate whether the spatial autocorrelation in wastes and in mortality exists in the UAE and to explore the spatial relationship between wastes and mortality in the UAE over time. The study design was a cross-sectional time-series analysis. The data of seven emirates over six years (2009-2014) for wastes and four years (2009-2012) for mortality were obtained from the National Bureau of Statistics in the UAE. Descriptive statistics and a spatial and temporal analysis were carried out using global and local Moran measures. Global Moran's I for wastes was found significant but for standardised mortality ratio (SMR) was not found significant in all years. Local Moran's I_i for wastes was found significant only in Abu Dhabi and Dubai, but for SMR was not found significant in all emirates. Therefore, it does not make any sense to investigate the spatial relationship between wastes and SMR over time. © 2017 Inderscience Enterprises Ltd.

Maria, K.A., Nagham, A.A., Kanan, T., Maria, E.A.

Using cognitive agent in manufacturing systems

(2017) Journal of Theoretical and Applied Information Technology, .

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[85020177304&partnerID=40&md5=f7691d61d809674d3a165da8f1474085](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020177304&partnerID=40&md5=f7691d61d809674d3a165da8f1474085)

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Cognitive agents for business and industrial environments are one of the most dominant ideas in multi-agent scheme today. We propose a general, flexible, and powerful architecture to build software agents that embed artificial cognitive factors. The propose agent possesses sensible knowledge and reactive abilities, and interacts with the external complex business environment, including other agents. We examine if artificial cognitive states can improve the performance of agents in some business and industrial conditions. Our agent model generates responsive actions in reaction to certain stimuli. Cognitive Agent Model (CAM) is proposed for this purpose. Sales and Production Planning (SPP) (as business and manufacturing application) is chosen to demonstrate the

use of our agent. Netlogo is used as an agent programming language. It is the agent-oriented language used to simulate and implement our proposed models. © 2005 - ongoing JATIT & LLS.

Eletter, S.F., Yaseen, S.G.

Loan decision models for the Jordanian commercial banks

(2017) Global Business and Economics Review, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019024030&doi=10.1504%2fGBER.2017.083960&partnerID=40&md5=7138ec625f7a2af65b1b99a6edff8918)

85019024030&doi=10.1504%2fGBER.2017.083960&partnerID=40&md5=7138ec625f7a2af65b1b99a6edff8918

AFFILIATIONS: College of Business Administration, Al Ain University of Science and Technology, Al Ain, United Arab Emirates;

College of Economics and Business, AL Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Credit risk remains the most critical challenge facing bank's management as it adversely affects the profitability and stability of the bank. However, despite the rise in loan delinquency and the serious competition in the banking market, loan application evaluations at the Jordanian commercial banks are subjective in nature. Additionally, the ability to discriminate between 'good' and 'bad' risk applications is critical. Rejecting a good application might cause loss of future potential profit while approving a bad application might cause loss of principal money and interest. The current research aims to develop credit decision support using linear discriminant analysis (LDA), multi-layer perceptron (MLP) and CART decision trees for the protection against credit risk. A pooled data set of personal loans from Jordanian commercial banks was used to build the decision models. The discriminative power of the developed models was assessed using average correct classification rate (ACC) and the estimated misclassification cost (EMC). The results showed that the MLP model achieved the highest ACC as well as the lowest EMC. Copyright © 2017 Inderscience Enterprises Ltd.

Al-Rashdi, A.A., Ebqa'ai, M., Harb, M.K., Faidi, F.

A solid phase extraction procedure for the determination of heavy metals in street dust from Dammam, Kingdom of Saudi Arabia and Estimation of the health risk

(2017) Journal of Materials and Environmental Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85017385962&partnerID=40&md5=fbb8695b5188a380195845df25e839c6)

85017385962&partnerID=40&md5=fbb8695b5188a380195845df25e839c6

AFFILIATIONS: Department of Chemistry, University College in Al-Qunfudah, Umm Al-Qura University, Makkah Al-Mukarramah, 1109, Saudi Arabia;

Al-Qunfudah Center for Scientific Research (QCSR), Al-Qunfudah, 21912, Saudi Arabia;

Department of Pharmacy, Al-Zytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: A relatively rapid, accurate and precise solid phase extraction procedure is developed for the determination of Fe, Mn, Zn, Cu, Pb and Co in street dust samples. Quantitation is performed by flame atomic absorption spectrometry (FAAS) . The proposed method is based on the retention of the metal ions on DowexMarathon C, a strong acid cation exchange resin. The precision and accuracy of the proposed procedure were evaluated by comparison with certified reference material (BCR 701). To best of our knowledge, there is no any study for separation and pre-concentration of heavy metals using Dowex Marathon C resin as a solid phase extraction. This method was applied to the determination of the analytes in street dust samples collected from Dammam city, capital of the Eastern Province and fifth largest city in Saudi Arabia. The results showed that the dust samples contained significant levels of the studied metals (except Cd), in comparison with the control values. In order to evaluate the contamination by heavy metals and to study their effect on the human health, contamination factor, enrichment factors, Pollution Load Index, and modified contamination degree were calculated. The models used in present study to evaluate exposure risk of adults and children to heavy metals in street dust are based on models according to US Environmental Protection Agency (USEPA) . Health risk analysis indicates that there is probably no risk to health from oral ingestion, dermal contact with dust particles and inhalation of dust particles from the air of street dust. © 2017, University of Mohammed Premier Oujda Morocco.

Al-Jazzar, S.O., Hamici, Z., Aldalahmeh, S.

Two-Dimensional AOA Estimation Based on a Constant Modulus Algorithm

(2017) International Journal of Antennas and Propagation, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011629752&doi=10.1155%2f2017%2f3214021&partnerID=40&md5=cc8c3176a135b3e6437e704b0621de2a)

85011629752&doi=10.1155%2f2017%2f3214021&partnerID=40&md5=cc8c3176a135b3e6437e704b0621de2a

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: We propose a two-dimensional (2D) angle of arrival (AOA) estimator using the algebraic constant modulus algorithm (ACMA). This algorithm was originally introduced to estimate the one-dimensional (1D) AOA. An extension to estimate and automatically pair the elevation and azimuth angles for different sources is derived and proved in this paper. The ACMA method factorises a matrix into two different matrices; one is of constant modulus and contains the azimuth AOA information; however the second was previously ignored. In this paper we will prove that this second matrix

contains the elevation AOA information. Thus, 2D AOA estimation is proved possible using the ACMA method. Simulation results are presented to illustrate the proposed method's performances under different conditions. © 2017 Saleh O. Al-Jazzar et al.

Hikmat, S., Al-Qirim, T., Alkabbani, D., Shattat, G., Sheikha, G.A., Sabbah, D., Abu Khalaf, R., Al-Hiari, Y.

Synthesis and in vivo anti-hyperlipidemic activity of novel n-benzoylphenyl-2-furamide derivatives in Wistar rats

(2017) Tropical Journal of Pharmaceutical Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011356980&doi=10.4314%2ftjpr.v16i1.26&partnerID=40&md5=30137cdd77c2c6d87c589126e5922e00)

[85011356980&doi=10.4314%2ftjpr.v16i1.26&partnerID=40&md5=30137cdd77c2c6d87c589126e5922e00](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011356980&doi=10.4314%2ftjpr.v16i1.26&partnerID=40&md5=30137cdd77c2c6d87c589126e5922e00)

AFFILIATIONS: Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

College of Science and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia;

Faculty of Pharmacy, University of Jordan, Amman, Jordan

ABSTRACT: Purpose: To synthesize and evaluate the anti-hyperlipidemic activity of a novel series of N-(benzoylphenyl)-2-furamides (3a, 3b, 4a, 4b and 4c). Methods: Compounds (3a, 3b, 4a, 4b and 4c) were successfully synthesized by reacting activated furan-2-carbonyl-chloride derivatives with aminobenzophenones at 60 °C for 36 h. Hyperlipidemia was induced in overnight fasted rats by intraperitoneal administration of Triton WR-1339 (300 mg/kg). to overnight fasted rats. The rats were divided into six groups: control, hyperlipidemic, hyperlipidemic plus compounds 3b, 4b, 4c, and hyperlipidemic plus bezafibrate-treated. Eighteen hours later, blood samples were collected and plasma lipid profile determined using enzymatic methods. Results: At a dose of 15 mg/kg body weight, the elevated plasma triglyceride (TG) levels, total cholesterol (TC) and low density lipoprotein cholesterol (LDL-C) levels were significantly reduced by compounds 4b ($p < 0.001$) and 4c ($p < 0.0001$) 18 h later, compared to the hyperlipidemic group. Furthermore, compounds 4b and 4c significantly increased high density lipoprotein cholesterol (HDL-C) levels by 29 and 34%, respectively.

Conclusion: The findings indicate the high potency of N-(benzoylphenyl)-2-furamides (4b and 4c) as lipid-lowering agents. Thus, these compounds 4b and 4c may used as lead compounds for the development of new derivatives and agents for targeting dyslipidemia and cardiovascular diseases. ©

Pharmacotherapy Group, Faculty of Pharmacy, University of Benin, Benin City, 300001 Nigeria. All rights reserved.

Alsboui, T., Alrifaa, M., Etaywi, R., Jawad, M.A.

Mobile agent itinerary planning approaches in wireless sensor networks- State of the art and current challenges

(2017) Lecture Notes of the Institute for Computer Sciences, Social-Informatics and

Telecommunications Engineering, LNICST, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011319821&doi=10.1007%2f978-3-319-52569-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011319821&doi=10.1007%2f978-3-319-52569-3_13&partnerID=40&md5=5d45cace6f3d8fd33e9871f5f447d8b8)

[3_13&partnerID=40&md5=5d45cace6f3d8fd33e9871f5f447d8b8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011319821&doi=10.1007%2f978-3-319-52569-3_13&partnerID=40&md5=5d45cace6f3d8fd33e9871f5f447d8b8)

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University, Amman, Jordan

ABSTRACT: A ubiquitous embedded network, such as wireless sensor network (WSN), is characterised by its capability to carry out common tasks by sharing resources that are placed in-node or in-network domains. One of the most critical properties of mobile agent (MA) based wireless sensor network is how to design the itinerary through the WSN for mobile agent. In addition to that, a huge amount of redundant data is generated by sensors due to node density and placement. This consumes network resources such as bandwidth and energy, thus decreasing the life time of sensor network. Several studies have demonstrated the benefits of using mobile agent technology as an effective technique to overcome these limitations. MA itinerary planning techniques can be classified into three categories depending on the factors that define the route of the MA: static-itinerary, dynamic-itinerary, and hybrid-based. This paper presents a survey of the state-of-the-art MA itinerary planning techniques in WSN. The benefits and shortcomings of different MA itinerary planning approaches are presented as motivation for future work into energy efficient MA itinerary planning mechanism. © ICST Institute for Computer Sciences, Social Informatics and Telecommunications Engineering 2017.

Masoud, M., Jaradat, Y., Jannoud, I.

A measurement study of internet exchange points (IXPs): History and future prediction

(2017) Turkish Journal of Electrical Engineering and Computer Sciences, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010773960&doi=10.3906%2felk-1412-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010773960&doi=10.3906%2felk-1412-23&partnerID=40&md5=210ce505229c7d8ece976228f8490f9a)

[23&partnerID=40&md5=210ce505229c7d8ece976228f8490f9a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010773960&doi=10.3906%2felk-1412-23&partnerID=40&md5=210ce505229c7d8ece976228f8490f9a)

AFFILIATIONS: Computer and Communication Engineering Department, Faculty of Engineering and Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Internet exchange points (IXPs) emerged to remedy the deficiency of peering connections among autonomous systems (ASes). IXPs play an important role in reducing the cost of transit connections over the Internet. This work attempts to study the popularity of IXPs over the Internet.

This work consists of two main parts. The first part is a measurement study of multihistorical snapshots of IXPs. These historical data have been harvested for different European IXPs with emphasis on Amsterdam (AMS-IX) IXP. In the second part, two nonlinear autoregressive exogenous (NARX) back-propagation neural network models (BPNN) have been implemented to predict the following: The future traffic volume that the AMS-IX IXP will transit and the number of participant networks that will use the AMX-IX IXP services. We utilized AMX-IX IXP collected data to implement these models. Our results show that ASes have understood the important roles that IXPs play on the Internet. Moreover, the traffic size that is carried by the IXPs is rapidly growing. Finally, our implemented NARX BPNN models show a considerable degree of fidelity, in which we obtained more than 99% in regression value with negligible error. © 2017 TÜBITAK.

Abu-Qatouseh, L., Abu-Sini, M., Mayyas, A., Al-Hiari, Y., Darwish, R., Aburjai, T.
Synthesis of new nitrofluoroquinolone derivatives with novel anti-microbial properties against metronidazole resistant H. Pylori
(2017) Molecules, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85009724066&doi=10.3390%2fmolecules22010071&partnerID=40&md5=ba2087ebf3eac2f4de1d5fa74bafa268)

[85009724066&doi=10.3390%2fmolecules22010071&partnerID=40&md5=ba2087ebf3eac2f4de1d5fa74bafa268](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85009724066&doi=10.3390%2fmolecules22010071&partnerID=40&md5=ba2087ebf3eac2f4de1d5fa74bafa268)

AFFILIATIONS: Faculty of Pharmacy, University of Petra, Amman, 11914, Jordan;

Faculty of Pharmacy, University of Jordan, Amman, 11914, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Faculty of Health Sciences, American University of Madaba, Madaba, 11821, Jordan

ABSTRACT: One of the major therapeutic approaches to preventing relapse and accelerating the healing of duodenal and gastric ulcers is the eradication of *Helicobacter pylori*. Due to the emergence of antibiotic resistance among clinical strains of *H. pylori*, alternative approaches using newly discovered antimicrobial agents in combination with the standard regimens for the treatment of *H. pylori* are increasingly needed. The purpose of the present study was to investigate the effect of newly synthesized 8-nitrofluoroquinolone derivatives when used either alone or when combined with metronidazole against metronidazole-resistant *H. pylori*. Based on the standard antimicrobial susceptibility testing methods and checkerboard titration assay, all of the tested compounds showed interesting antimicrobial activity against 12 clinical strains of *H. pylori*, with the best in vitro effect for compound 3c. In addition, synergistic and additive activities of some of the tested compounds were observed when combined with metronidazole. Furthermore, among the tested nitrofluoroquinolone derivatives, compound 3b showed significant urease inhibition activity with IC₅₀ of 62.5 µg/mL. These results suggest that 8-nitrofluoroquinolone derivatives may have a useful role in combination with anti-*H. pylori* drugs in the management of *H. pylori*-associated diseases. © 2017 by the authors; licensee MDPI, Basel, Switzerland.

Hnaif, A.A.

WEMA to speed up NIDS packet header detection engine

(2017) Advances in Intelligent Systems and Computing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994516366&doi=10.1007%2f978-3-319-48308-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994516366&doi=10.1007%2f978-3-319-48308-5_50&partnerID=40&md5=49d8c4d2df7c67ffd4dce57d731ce582)

[5_50&partnerID=40&md5=49d8c4d2df7c67ffd4dce57d731ce582](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994516366&doi=10.1007%2f978-3-319-48308-5_50&partnerID=40&md5=49d8c4d2df7c67ffd4dce57d731ce582)

AFFILIATIONS: Computer Networks Department, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: The traditional firewall provides the first level of defense for computer networks and prevents unauthorized people to access the internal networks from the external attacks. Thus, the Network Intrusion detection System (NIDS) is complementary to the firewall. One of the major functions of NIDS is to act as misuse detection. In This paper we used A Neural network with multi-connect architecture and Weighted Exact Matching Algorithm (WEMA) to enhance the speed of matching process between the incoming packets header and SNORT-NIDS rule sets. © Springer International Publishing AG 2017.

Ahmad Alia, M.

Combining public-key encryption with digital signature scheme

(2017) Advances in Intelligent Systems and Computing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994499315&doi=10.1007%2f978-3-319-48308-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994499315&doi=10.1007%2f978-3-319-48308-5_83&partnerID=40&md5=ceb60efb4292eb406d9c872fcd48471f)

[5_83&partnerID=40&md5=ceb60efb4292eb406d9c872fcd48471f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994499315&doi=10.1007%2f978-3-319-48308-5_83&partnerID=40&md5=ceb60efb4292eb406d9c872fcd48471f)

AFFILIATIONS: Computer Information Systems Department, Faculty of Sciences and IT, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper presents the possibilities of combining public-key encryption and digital signature algorithms which are actually based on different mathematical hard problems. Since the output of the combination produces an Encrypted signed message. In general, most of the currently used public-key algorithms are computationally expensive with relatively lengthy key requirement due to the dependency on the number theory. Therefore, it's important to show a combinational protocols which are based on different mathematical hard problem. In some sense, difficult to solve. In the combined scheme, we present the powerful and practical encryption digital signature scheme and its

security level and execution time. © Springer International Publishing AG 2017.

Al-Ani, H.R., Al-Amiri, A.A.R.

Effect of through crack size on strength of shell structures

(2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997497820&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000179&partnerID=40&md5=76f6804fcec37c0a4af9a12d86ffd070>

AFFILIATIONS: Dept. of Civil Engineering, Al-Zaytoonah Univ. of Jordan, Amman, 11733, Jordan; Private Sector, Bahdad, Iraq

ABSTRACT: The analysis of numerous cases of failure in shell structures has shown it occurs at stresses lower than the design stresses. The origin of these failures has been attributable to flaws or cracks. To determine which size of crack is admissible, one must study how the structural strength is affected by cracks. In this paper, the analysis is done using a finite-element program developed by the authors. The stress intensity factor, K , of the shell structure is calculated and compared with that of the theoretical one, and excellent results were achieved, as shown in the figures and tables of the results. The load-carrying capacity of cracked shell structures were also evaluated and compared with that of the uncracked shell structures' capacity to determine the crack size that is admissible. The results obtained were also compared with that of theoretical solutions, and excellent results were achieved, as shown in the figures. The elements used in this program are eight-nodes shell elements, six-nodes singular triangular shell elements, and eight-nodes transition singular shell element, all elements with a 5 degree of freedom per node. © 2014 American Society of Civil Engineers.

Sakhrieh, A., Abdullat, Y., Hamdan, M.A.

Enhancement of thermal energy storage using phase-change material under Jordanian climate

(2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997402707&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000187&partnerID=40&md5=fe63b6cd1f7881c99ff50bea3d5370c1>

AFFILIATIONS: Mechanical Engineering Dept., Univ. of Jordan, Amman, 11942, Jordan; Industrial Engineering Dept., Univ. of Jordan, Amman, 11942, Jordan; Al-Zaytoonah Private Univ. of Jordan, Amman, 11733, Jordan

ABSTRACT: In this paper, the effect of using a phase-change material (PCM) on the storage capacity of a conventional solar storage system was carried out. This was obtained by using encapsulated spheres that contain paraffin wax as PCM; this enables the control of the quantity of the PCM. The quantity of the solar energy stored was indicated by the rise in both inlet and outlet water temperatures of the collectors used in the system. Hourly storage temperatures were recorded during the charging of the system. The maximum increase in water temperature was recorded when the volume flow rate of the water was found to be 4 L/min; this value was used throughout the work to study the enhancement of thermal energy storage using PCM. It was found that the amount of energy stored increases with the quantity of phase-change material, with a percent increase in the inlet and outlet water temperatures of 8 and 9%, respectively. © 2014 American Society of Civil Engineers.

Hamdan, M.A., Abdelhafez, E.A., Hamdan, A.M., Haj Khalil, R.A.

Heat transfer analysis of a flat-plate solar air collector by using an artificial neural network

(2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997254270&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000213&partnerID=40&md5=2ed0cf239bc9d595c71f46a666828133>

AFFILIATIONS: Dept. of Mechanical Engineering / Air Conditioning and Refrigeration Systems, Al-Zaytoonah Univ. of Jordan, Amman, 11733, Jordan; Dept. of Mechanical Engineering, Philadelphia Univ., Amman, 19392, Jordan

ABSTRACT: An artificial neural network (ANN) model was developed to study the heat transfer analysis in an unglazed flat-plate solar collector with air passing behind the absorbing plate. The construction of the solar air collector included the absorber plate, the structural layer under the plate, the air channel, and the back insulation layer. The mean inside temperature at each surface of the solar collector and the heat added to the airflow were estimated by a nonlinear autoregressive exogenous (NARX) model. The obtained results were verified against the mathematical calculation that was used to find the aforementioned values by the optimization technique. It was found that the NARX model may be used to estimate the mean inside temperature at each surface of the flat-plate collector with excellent accuracy with a coefficient of determination of 0.99997. The advantages of the ANN model compared to the conventional testing methods are speed, simplicity, and the capacity of the ANN to learn from examples. © 2014 American Society of Civil Engineers.

Hamdan, M.A., Badran, A.A., Abdelhafez, E.A., Hamdan, A.M.

Comparison of neural network models in the estimation of the performance of solar collectors

(2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997236586&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000209&partnerID=40&md5=c389a3ebe8318adf710db49686375bb3>

AFFILIATIONS: Dept. of Mechanical Engineering, Al-Zaytoonah Univ. of Jordan, Amman, 11733, Jordan; Mechanical Engineering Dept., Univ. of Jordan, Amman, 11942, Jordan

ABSTRACT: Three artificial neural network models [feedforward, Elman, and nonlinear autoregressive exogenous (NARX)] were used to find the performance of two flat-plate collectors operating under Jordanian climate. One collector used water as a working fluid, while the other used fuel oil as a working fluid. Previously obtained experimental data on the performance of solar collectors were used to train the neural network. Density of fluid, input temperature, output temperature, ambient temperature, and solar radiation were used as input parameters in the input layer of the network while the efficiency of the flat-plate solar collector was in the output layer. It was found that the artificial neural network technique may be used to estimate the efficiency of the flat-plate collector with excellent accuracy. The obtained results showed that the multilayer feedforward model with five inputs has the best ability to estimate the required performance, while the other models, the feedforward, NARX, and Elman networks, have the lowest ability to estimate it. Furthermore, using the sensitivity analysis, it was found that the NARX and Elman models have the least ability to estimate the solar collector's thermal efficiency, while the feedforward model with the input parameters of density, Tout, Tin, Tamb, and Gt, has the best performance in both training and validation period. © 2014 American Society of Civil Engineers.

Mahasneh, B.Z.

Use of aluminum residue and recycled asphalt pavement materials to stabilize silty clay soil (2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997207728&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000250&partnerID=40&md5=0510f1c7232872dfc8ca787389dca4b3>

AFFILIATIONS: Dept. of Civil and Environmental Engineering, Mutah Univ., P.O. Box 7, Al-Kerak, 61710, Jordan;

Geotechnical Division, Al-Zaytoonah Univ., Amman, Jordan

ABSTRACT: The effectiveness of mixing aluminum residue and recycled asphalt pavement materials (RAPs) with silty clay soil on the soil's physical properties was discussed. The mixing material that is used enhances the silty clay soil's volume changes and bearing capacity and reduces settlement. Different percentages of aluminum and asphalts by weight, ranging from 2 to 10% in increments of 2%, were used to determine the enhancement in soil properties gained using these materials. Physical and mechanical testing was carried out according to applicable ASTM and AASHTO testing methods. Soil mixtures of various ratios were studied in the laboratory to note the enhancements in the swelling behavior, shear strength parameters, Atterberg's limits, optimum moisture content, and corresponding maximum dry density. Moreover, this investigation also included evaluation of the bearing capacity of subgrade material. The results of this investigation showed that the addition of aluminum residue and recycled asphalt materials to a silty clay soil with proper compaction would lead to an increase in the bearing capacity and dry density. In addition, an increase in the unconfined shear strength and a decrease in swelling and the shrinkage potential of the silty clay soil were also observed. © 2015 American Society of Civil Engineers.

Abdelhafez, E.A., Hamdan, M.A., Abu-Mallouh, M.A., Mohammad, L.B., Aboushi, A.R.

Effect of an insulation layer to prevent water vapor condensation along the inside surface of a building wall using an artificial neural network

(2016) Journal of Infrastructure Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84997174233&doi=10.1061%2f%28ASCE%29IS.1943-555X.0000207&partnerID=40&md5=ff95c2c6e9933bf0c66289a60fc20225>

AFFILIATIONS: Dept. of Mechanical Engineering, Al-Zaytoonah Univ. of Jordan, Amman, 11733, Jordan; Dept. of Mechatronics Engineering, Hashemite Univ., Zarqa, 13115, Jordan

ABSTRACT: A theoretical analysis was performed to study the attenuation of a heat wave through two composite walls. Each wall was made of three homogenous layers in addition to an insulation layer, all of which were made of local materials. One way to attenuate this heat wave was to apply insulation inside the wall. In this work, an artificial neural network (ANN) was developed to study the effect of insulation materials on a building wall through a four-layered wall. The layer material type, the layer thickness, and the inside and outside temperature were used in the input layer of the network, whereas the temperature distribution was in the output layer of the network. Data that were obtained from previous experiments were used to train the neural network. It was found that the algorithm used (Levenberg-Marquardt) was very much capable of estimating the temperature distribution within each of the four-layered walls with excellent accuracy. © 2014 American Society of Civil Engineers.

Hamed, R., Al Baraghthi, T., Alkilani, A.Z., Abu-Huwaij, R.

Correlation Between Rheological Properties and In Vitro Drug Release from Penetration Enhancer-Loaded

Carbopol® Gels

(2016) Journal of Pharmaceutical Innovation, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84992740765&doi=10.1007%2fs12247-016-9262-9&partnerID=40&md5=914c60fa4f3e97881b6e9501d2365904>

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Pharmacy, Faculty of Pharmacy, Zarqa University, P.O. Box 132222, Zarqa, 13132, Jordan;

Department of Pharmacy, Faculty of Pharmacy, Al-Ahliyya Amman University, P.O. Box 19328, Amman, Jordan

ABSTRACT: Purpose: The aim of this study was to investigate the effect of commonly used penetration enhancers on the viscoelastic properties and in vitro drug release from topical gel formulations. Methods: Three penetration enhancers, diethylene glycol monoethyl ether (Transcutol®-P, TC), propylene glycol (PG), and 70 % ethanol were selected in this study. The non-steroidal anti-inflammatory drug diclofenac sodium (DNa) was used as a model drug. DNa gels were prepared using the gelling agent Carbopol® 971P with or without different concentrations of the three penetration enhancers. Each gel formulation was characterized in terms of its viscoelastic properties (elastic or storage modulus G' and viscous or loss modulus G'') using a controlled stress rheometer (CSR) and in vitro release using Franz diffusion cells. Results: DNa gels containing TC, PG, and ethanol demonstrated a significant decrease in the viscoelastic properties compared to gels containing no penetration enhancers, and an enhancement in drug release. Gels containing TC at the highest tested concentration (40 %) exhibited the lowest viscoelastic properties and showed the highest enhancement in drug release. Both TC and ethanol showed a concentration-dependent effect in promoting steady-state flux values for DNa, unlike PG. DNa release kinetics from all gels followed super case II transport as fitted by the Korsmeyer–Peppas model. Conclusions: Our results provide valuable insights into the mechanisms by which different penetration enhancers can modulate drug release from topical gels by altering the rheological properties of the gelling agent. © 2016, Springer Science+Business Media New York.

Hammad, S., Mahmoud, H.Y.A.H., Hamadneh, L., Elsherief, A.M., Meindl-Beinker, N.M., Kotb, A.M.

Highlight report: pluripotent stem cells in translational research

(2016) Archives of Toxicology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84991110691&doi=10.1007%2fs00204-016-1867-8&partnerID=40&md5=dd13947ea1a23eb9412fb86067697118>

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Aldalahmeh, S.A., Ghogho, M., McLernon, D., Nurellari, E.

Optimal fusion rule for distributed detection in clustered wireless sensor networks

(2016) Eurasip Journal on Advances in Signal Processing, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84954409274&doi=10.1186%2fs13634-016-0303-9&partnerID=40&md5=4d5ffbd382f23f0f8e70856f35af69f9>

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan;

University of Leeds, Leeds, United Kingdom;

International University of Rabbat, Rabbat, Morocco

ABSTRACT: We consider distributed detection in a clustered wireless sensor network (WSN) deployed randomly in a large field for the purpose of intrusion detection. The WSN is modeled by a homogeneous Poisson point process. The sensor nodes (SNs) compute local decisions about the intruder's presence and send them to the cluster heads (CHs). A stochastic geometry framework is employed to derive the optimal cluster-based fusion rule (OCR), which is a weighted average of the local decision sum of each cluster. Interestingly, this structure reduces the effect of false alarm on the detection performance. Moreover, a generalized likelihood ratio test (GLRT) for cluster-based fusion (GCR) is developed to handle the case of unknown intruder's parameters. Simulation results show that the OCR performance is close to the Chair-Varshney rule. In fact, the latter benchmark can be reached by forming more clusters in the network without increasing the SN deployment intensity. Simulation results also show that the GCR performs very closely to the OCR when the number of clusters is large enough. The performance is further improved when the SN deployment intensity is increased. © 2016, Aldalahmeh et al.

Hamed, R., Basil, M., AlBaraghthi, T., Sunoqrot, S., Tarawneh, O.

Nanoemulsion-based gel formulation of diclofenac diethylamine: design, optimization, rheological behavior and in vitro diffusion studies

(2016) *Pharmaceutical Development and Technology*, .

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[84941671065&doi=10.3109%2f10837450.2015.1086372&partnerID=40&md5=74b1c89d0cbd28ae091becbb2019863](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84941671065&doi=10.3109%2f10837450.2015.1086372&partnerID=40&md5=74b1c89d0cbd28ae091becbb2019863)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Chronic oral administration of the non-steroidal anti-inflammatory drug, diclofenac diethylamine (DDEA), is often associated with gastrointestinal ulcers and bleeding. As an alternative to oral administration, a nanoemulsion-based gel (NE gel) formulation of DDEA was developed for topical administration. An optimized formulation for the o/w nanoemulsion of oil, surfactant and cosurfactant was selected based on nanoemulsion mean droplet size, clarity, stability, and flowability, and incorporated into the gelling agent Carbopol® 971P. Rheological studies of the DDEA NE gel were conducted and compared to those of conventional DDEA gel and emulgel. The three gels exhibited an elastic behavior, where G' dominated G'' at all frequencies, indicating the formation of strong gels. NE gel exhibited higher G' values than conventional gel and emulgel, which indicated the formation of a stronger gel network. Strat-M® membrane, a synthetic membrane with diffusion characteristics that are well correlated to human skin, was used for the in vitro diffusion studies. The release of DDEA from conventional gel, emulgel and NE gel showed a controlled release pattern over 12 h, which was consistent with the rheological properties of the gels. DDEA release kinetics from the three gels followed super case II transport as fitted by Korsmeyer–Peppas model. © 2015 Taylor & Francis.

Jaber, K.M., Alqatawneh, S.M.

P-CC-NN: Parallel cascade correlation neural network methods for pattern recognition applications using multicore techniques

(2016) *Journal of Theoretical and Applied Information Technology*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84995543681&partnerID=40&md5=e4f6534e5688f521733fd08f219929e1)

[84995543681&partnerID=40&md5=e4f6534e5688f521733fd08f219929e1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84995543681&partnerID=40&md5=e4f6534e5688f521733fd08f219929e1)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Faculty of Science and Information Technology, Amman, Jordan

ABSTRACT: This paper presents a multi-core programming model that implements the cascade correlation neural networks technique, to enhance the classification phase of any pattern recognition system. It is based on combining the strengths of both approaches in order to construct an efficient Parallel Cascade Correlation Neural Network (P-CC-NN) system. In this work a complex case of pattern recognition system which is a 3D facial data has been used to examine the proposed system and ensure its effectiveness, experimental results are presented using 360 3D facial images, each image contains 96 distinguishable features. Results show significant improvement in execution time about 31 minutes (4.6 times speedup) in comparison with 146.5 minutes for serial time, this topology generated an accuracy of 94 %. This work is the first approach to handle the classification challenges for different pattern recognition applications using multi-core techniques. © 2005 - 2016 JATIT & LLS. All rights reserved.

Abu Farha, R., Bustanji, Y., Al-Hiari, Y., Al-Qirim, T., Abu Shiekha, G., Albashiti, R.

Lipid lowering activity of novel N-(benzoylphenyl)pyridine-3-carboxamide derivatives in Triton WR-1339-induced hyperlipidemic rats

(2016) *Journal of Enzyme Inhibition and Medicinal Chemistry*, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84983514114&doi=10.1080%2f14756366.2016.1222581&partnerID=40&md5=f6310c9166fc32d0fad9569727674081)

[84983514114&doi=10.1080%2f14756366.2016.1222581&partnerID=40&md5=f6310c9166fc32d0fad9569727674081](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84983514114&doi=10.1080%2f14756366.2016.1222581&partnerID=40&md5=f6310c9166fc32d0fad9569727674081)

AFFILIATIONS: Faculty of Pharmacy, The University of Jordan, Amman, Jordan;

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ABSTRACT: Context: Dyslipidemia is a major risk factor for the development of cardiovascular diseases. Many dyslipidemic patients do not achieve their target lipid levels with the currently available medications, and most of them may experience many side effects. Objective: The present work aimed toward identifying a new class of novel nicotinic acid-carboxamide derivatives as promising antihyperlipidemic compounds. Materials and methods: Six novel N-(benzoylphenyl)pyridine-3-carboxamide derivatives were synthesized using acid chloride pathways. All structures were confirmed using ¹H-NMR, ¹³C-NMR, IR, and HRMS. The evaluation of biological activity was conducted using Triton WR-1339-induced hyperlipidemic rats model. Results: This study revealed that some of the newly synthesized novel N-(benzoylphenyl)pyridine-3-carboxamide derivatives mainly C4 and C6 possessed significant antihyperlipidemic activities on lipid components TG and TC (p value ≤ 0.05). Discussion and conclusion: This research opens the door for new potential antihyperlipidemic compounds derived from nicotinic acid that need further optimization of their biological activities. © 2016 Taylor & Francis.

Kanan, T., Fox, E.A.

Automated arabic text classification with P-Stemmer, machine learning, and a tailored news article taxonomy

(2016) Journal of the Association for Information Science and Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84983465234&doi=10.1002%2fasi.23609&partnerID=40&md5=b6363b7c81b04e895d5bfa17e5dc1669)

[84983465234&doi=10.1002%2fasi.23609&partnerID=40&md5=b6363b7c81b04e895d5bfa17e5dc1669](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84983465234&doi=10.1002%2fasi.23609&partnerID=40&md5=b6363b7c81b04e895d5bfa17e5dc1669)

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ABSTRACT: Arabic news articles in electronic collections are difficult to study. Browsing by category is rarely supported. Although helpful machine-learning methods have been applied successfully to similar situations for English news articles, limited research has been completed to yield suitable solutions for Arabic news. In connection with a Qatar National Research Fund (QNRF)-funded project to build digital library community and infrastructure in Qatar, we developed software for browsing a collection of about 237,000 Arabic news articles, which should be applicable to other Arabic news collections. We designed a simple taxonomy for Arabic news stories that is suitable for the needs of Qatar and other nations, is compatible with the subject codes of the International Press Telecommunications Council, and was enhanced with the aid of a librarian expert as well as five Arabic-speaking volunteers. We developed tailored stemming (i.e., a new Arabic light stemmer called P-Stemmer) and automatic classification methods (the best being binary Support Vector Machines classifiers) to work with the taxonomy. Using evaluation techniques commonly used in the information retrieval community, including 10-fold cross-validation and the Wilcoxon signed-rank test, we showed that our approach to stemming and classification is superior to state-of-the-art techniques. © 2015 ASIS&T

Al-Momani, M.M., Al-Barmawi, M.A., Al-Hadid, L., Aljabery, A.

Developing a tool that explores factors influencing the adoption of evidence-based principles in nursing practice in Jordan

(2016) Applied Nursing Research, .

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[84978641596&doi=10.1016%2fj.apnr.2016.07.004&partnerID=40&md5=0a6ff8b432643c170c0eeade2c41458a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84978641596&doi=10.1016%2fj.apnr.2016.07.004&partnerID=40&md5=0a6ff8b432643c170c0eeade2c41458a)

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ABSTRACT: Aim To measure the psychometric properties, reliability and validity of a tool that explores factors influencing the adoption of principles of evidence-based in nursing practice in Jordan. Background The use of principles of evidenced-based practice in nursing practice has been widely endorsed in many countries around the world; these principles have not yet been implemented in Jordan. Factors influencing the adoption of evidence-based practice in Jordanian nursing context were not identified to date. Methods A descriptive, cross-sectional research design approached experienced nurses from different specialties across Jordan (3 military, 3 governmental and 5 private hospitals). Results The psychometric properties indicated a valid and reliable tool. It consisted of three factors: personal characteristics; source of professional knowledge; and organizational environment. Conclusions: Findings provided evidence on the impact of the identified factors on nurses' adoption of evidence-based practice. Although tests in this report showed the validity of this new tool, it still requires further testing to ensure its stability over time. © 2016 Elsevier Inc.

Aldalahmeh, S., Hamdan, A., Ghogho, M., McLernon, D.

Enhanced-Range Intrusion Detection Using Pyroelectric Infrared Sensors

(2016) 2016 Sensor Signal Processing for Defence, SSPD 2016, .

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[85009726297&doi=10.1109%2fSSPD.2016.7590597&partnerID=40&md5=af7915bdf1a30c1e92bd3239c23944a3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85009726297&doi=10.1109%2fSSPD.2016.7590597&partnerID=40&md5=af7915bdf1a30c1e92bd3239c23944a3)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Jordan;

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International University of Rabbat, Morocco

ABSTRACT: In this paper, the problem of intrusion detection using pyroelectric infrared (PIR) sensors is investigated. We study the output PIR signal in the light of the intruder's trajectory and the geometry of the sensor's field of view (FOV) and propose an inverse-square law that describes the relation of incident heat flux to the distance. The signal is modeled by a sum of exponentially

modulated sinusoids. Consequently, the intrusion detection is formulated as a hypothesis testing problem and we propose an exponentially windowed periodogram (EWP) detector, which is also able to detect the direction of movement. The simulation results shows the superior performance of the EWP detector when compared to conventional detectors such as the traditional periodogram detector and the energy detector over large distances. Furthermore, results show nearly 100% correct detection of the direction of movement. © 2016 IEEE.

Odeh, I., Hussein, T.

Activity pattern of urban adult students in an eastern mediterranean society

(2016) International Journal of Environmental Research and Public Health, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84989225676&doi=10.3390%2fijerph13100960&partnerID=40&md5=ef8ffea2e7a54006dc7a1c5225060cf2)

[84989225676&doi=10.3390%2fijerph13100960&partnerID=40&md5=ef8ffea2e7a54006dc7a1c5225060cf2](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84989225676&doi=10.3390%2fijerph13100960&partnerID=40&md5=ef8ffea2e7a54006dc7a1c5225060cf2)

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ABSTRACT: Knowledge of human activity patterns is needed in air pollution exposure and health risk assessment. However, human activity patterns have never been evaluated in the Eastern Mediterranean societies. Therefore, we investigated the activity pattern of 285 subjects (17-63 years) in Amman, Jordan during October to November, 2015. The subjects spent >80% of their time indoors during weekend days and >85% on workdays. They spent ~4.8% and ~5.7% in transportation during weekend days and workdays, respectively. Males had a different activity pattern than females on weekend days, but both genders had similar activity patterns on workdays. On workdays, males spent less time indoors than females. The activity pattern found in this study is a bit different than that for North Americans and Europeans, who spend more time indoors and in transit. The activity pattern found in this study was very different than that observed for Koreans, who spent about 59% and 67% indoors on workdays and weekend, respectively. The main outcomes of this survey can be utilized in human exposure studies. This study and the upcoming future studies have been encouraged and supported by the regional WHO office in Amman. © 2016 by the authors; licensee MDPI, Basel, Switzerland.

Muhairat, M.I., Abdelqader, A., Al Rawajbeh, M.

A novel approach to generate distributed global and local use cases: A new notation

(2016) Journal of Theoretical and Applied Information Technology, .

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[84987837588&partnerID=40&md5=f8ad2be169ab1f172bae9356c3d18f9f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84987837588&partnerID=40&md5=f8ad2be169ab1f172bae9356c3d18f9f)

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ABSTRACT: Requirements analysis is very important phase of the software development life cycle (SDLC). It is used to build domain or conceptual models from requirements analysis. These models are helpful for defining stakeholders and functional requirements. Also, these functional requirements are easy to define for local systems, but they are very difficult to define for distributed stakeholders or systems. In this paper, we proposed a new approach to generate integrated requirements for a distributed system. This approach is composed of four steps: The first one is to generate an event table with a proposed template that suitable for requirements collection. This event table will be filled for each department and branch. The second one is to generate a normalized event table for all departments and branches. The third one is building and analyzing an integrated table to define the redundancy of functional requirements for all departments and branches. The final one is to generate and propose a new UML notation for distributed functional requirements. This approach is applied to a real ERP system as a case study and shows a significant result. © 2005 - 2016 JATIT & LLS. All rights reserved.

Khalaf, R.A.

Exploring natural products as a source for antidiabetic lead compounds and possible lead optimization

(2016) Current Topics in Medicinal Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979232563&doi=10.2174%2f1568026616666160414123602&partnerID=40&md5=3c665c8ed4a087fdf2dbac0e2dbdd052)

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AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Natural products are characterized by their chemical diversity and being a good source of a range of bioactive structures including antidiabetic compounds. Diabetes mellitus (DM) is considered a major worldwide health concern. Rational drug design has been widely accomplished, to discover and optimize innovative leads for different molecular targets of type 2 DM including α -glucosidase, PPAR γ , DPP-IV, PTP1B, AR, GSK-3 β , 11 β -HSD1, GK, etc. Objective: This review illustrates

the potential of natural products as a rich source of lead compounds for antidiabetic drug discovery with some examples of computational studies carried out to determine the possible molecular target, structure activity relationship, and further optimization chances. Conclusion: Natural products will remain an attractive source for researchers to explore their therapeutic potential against DM. Guided by the computational studies; systematic lead optimization via structural modifications will speed up the generation of potential new clinical candidates for the treatment of type 2 DM. © 2016 Bentham Science Publishers.

Yaseen, S.G., Dajani, D., Hasan, Y.

The impact of intellectual capital on the competitive advantage: Applied study in Jordanian telecommunication companies

(2016) Computers in Human Behavior, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84962826245&doi=10.1016%2Fj.chb.2016.03.075&partnerID=40&md5=a44e681611ff688d653d97a12b67d787)

[84962826245&doi=10.1016%2Fj.chb.2016.03.075&partnerID=40&md5=a44e681611ff688d653d97a12b67d787](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84962826245&doi=10.1016%2Fj.chb.2016.03.075&partnerID=40&md5=a44e681611ff688d653d97a12b67d787)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Jordan;

Marketing Department, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: This research investigates the impact of intellectual capital components on the competitive advantage in the Jordanian telecommunication companies. The empirical findings indicate that the relational capital and the structural capital have positive impact on competitive advantage. Both the relational capital and the structural capital account for 48.4% of the competitive advantage. It is unexpected to find that the human capital does not have a significant direct impact on competitive advantage. However, it is valid to state that the human capital indirectly and significantly influences competitive advantage as it is embedded in the relational capital. The effect of the relational capital on competitive advantage is moderated by gender and age. The effect is strongest among younger men. In the case of the structural capital its effect is moderated by gender only such that the effect is slightly stronger for females rather than males. © 2016 Elsevier Ltd. All rights reserved.

Al-Qerem, W.A., Ling, J., Pullen, R., McGarry, K.

Reported prevalence of allergy and asthma in children from urban and rural Egypt

(2016) Air Quality, Atmosphere and Health, .

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[1&partnerID=40&md5=57ca508ecf506dcb3f5693689487cc88](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84946129419&doi=10.1007%2F11869-015-0372-1&partnerID=40&md5=57ca508ecf506dcb3f5693689487cc88)

AFFILIATIONS: AlZaytoonah University, Amman, Jordan;

University of Sunderland, Sunderland, United Kingdom

ABSTRACT: Previous studies have shown an association between the urban environment and the risk of developing asthma and allergic rhinitis (AR) in children. This is the first longitudinal study to examine risk factors associated with asthma, eczema and AR in a comparison between Cairo, one of the world's most polluted cities, and a rural area, Shben El-Kom. Two groups of school children were selected. One group was from inner-city Cairo, and the other was from a low-polluted rural area, Shben El-Kom in the Nile Delta region. The children were studied four times, with testing taking place every 6 months over an 18-month period using the ISAAC questionnaire. Two generalized mixed logistic regressions showed that living in Cairo increased the risk of current wheeze, wheeze ever, asthma ever, current AR, AR ever, hay fever ever, current rash, rash ever and eczema ever. Other risk factors that effected asthma included maternal eczema, paternal asthma, maternal asthma and passive smoking. Exposure to farm animals decreased the odds of having asthma. Children living in urban Cairo had a higher risk of allergic conditions than those living in the rural area of Shben El-Kom. This was not fully explained by passive smoking, breastfeeding, parental allergy or exposure to animals. © 2015, Springer Science+Business Media Dordrecht.

Nurellari, E., McLernon, D., Ghogho, M., Aldalahmeh, S.

Distributed binary event detection under data-falsification and energy-bandwidth limitation

(2016) IEEE Sensors Journal, .

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[84982245257&doi=10.1109%2FJSEN.2016.2583060&partnerID=40&md5=ec0b098329132a290486418c329de212](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84982245257&doi=10.1109%2FJSEN.2016.2583060&partnerID=40&md5=ec0b098329132a290486418c329de212)

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ABSTRACT: We address the problem of centralized detection of a binary event in the presence of falsifiable sensor nodes (SNs) (i.e., controlled by an attacker) for a bandwidth constrained under-attack spatially uncorrelated distributed wireless sensor network. The SNs send their quantized test statistics over orthogonal channels to the fusion center (FC), which linearly combines them to reach a final decision. First (considering that the FC and the attacker do not act strategically), we derive: 1) the FC optimal weight combining; 2) the optimal SN to FC transmit power; and 3) the test

statistic quantization bits that maximize the probability of detection (P_d). We also derive an expression for the attacker strategy that causes the maximum possible FC degradation. But in these expressions, both the optimum FC strategy and the attacker strategy require a-priori knowledge that cannot be obtained in practice. The performance analysis of sub-optimum FC strategies is then characterized, and based on the (compromised) SNs willingness to collaborate, we also derive analytically the sub-optimum attacker strategies. Then, considering that the FC and the attacker now act strategically, we recast the problem as a minimax game between the FC and the attacker and prove that the Nash equilibrium (NE) exists. Finally, we find this NE numerically in the simulation results and this gives insight into the detection performance of the proposed strategies. © 2001-2012 IEEE.

Zamanian, M., Qader Hamadneh, L.A., Veerakumarasivam, A., Abdul Rahman, S., Shohaimi, S., Rosli, R. Calreticulin mediates an invasive breast cancer phenotype through the transcriptional dysregulation of p53 and MAPK pathways

(2016) Cancer Cell International, .

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ABSTRACT: Background: The introduction of effective novel biomarkers of invasion and metastasis is integral for the advancement of breast cancer management. The present study focused on the identification and evaluation of calreticulin (CRT) as a potential biomarker for breast cancer invasion. Methods: Two-dimensional gel protein electrophoresis and MALDI-TOF were utilized in the analysis of fresh-frozen invasive intra-ductal carcinoma specimens. Calreticulin-associated expression was analyzed using immunohistochemistry of FFPE non-malignant/malignant breast specimens. A CRT-knockdown model of MCF7 cell line was developed using siRNA and the CRT genotype/phenotype correlations based on migration and trans-well invasion assays were determined. Finally, microarray-based global gene expression profiling was conducted to elucidate the possible calreticulin pro-invasive regulatory pathways. Results: Two-dimensional gel protein electrophoresis and MALDI-TOF analysis showed upregulation of calreticulin expression in tumor tissues as compared to the normal adjacent tissues. Meta-analysis of the immunohistochemical results confirmed significantly higher expression of calreticulin ($p < 0.05$) in the stromal compartments of malignant tissues as compared to non-malignant tissues. Migration and transwell invasion assays showed significant loss in the migratory and invasive potential of CRT-knockdown cells ($p < 0.05$). Global gene expression profiling successfully identified various putative gene networks such as p53 and MAPK pathways that are involved in calreticulin breast cancer signaling. Conclusion: Besides confirming calreticulin overexpression in invasive breast cancer tissues, this study reveals a calreticulin-dependent pro-invasive potential and suggests possible contributing pathways. Defining the mechanistic role of invasion and characterizing the possible calreticulin-dependent molecular targets will be the focus of future work. © 2016 The Author(s).

Al Sibahee, M.A., Lu, S., Masoud, M.Z., Hussien, Z.A., Hussain, M.A., Abduljabbar, Z.A.

LEACH-T: LEACH clustering protocol based on three layers

(2016) Proceedings - 2016 International Conference on Network and Information Systems for Computers, ICNISC 2016, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85023193630&doi=10.1109%2fICNISC.2016.59&partnerID=40&md5=7006a8b2178ae171930683e65b852d4e)

[85023193630&doi=10.1109%2fICNISC.2016.59&partnerID=40&md5=7006a8b2178ae171930683e65b852d4e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85023193630&doi=10.1109%2fICNISC.2016.59&partnerID=40&md5=7006a8b2178ae171930683e65b852d4e)

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ABSTRACT: Power consumption of routing protocols is one of the main issues that wireless sensor networks (WSNs) encounter in their lifetime. Low-Energy Adaptive Clustering Hierarchy (LEACH) clustering protocol was introduced to reduce power consumption. However, in LEACH, power consumption

increases massively as the distance between sink node and cluster heads (CHs) increases. This drawback introduces distance as one major issue in LEACH since it does not contain routing. In this work, a LEACH based protocol consists of three layers (LEACH-T) is proposed. Each layer has its own CHs. The layers attempt to reduce the distance between sink node and CHs. The third layer is utilized if the distances between CHs and sink node exceed a threshold value. To measure the performance of LEACH-T, simulation is utilized to compare its consumption to pure LEACH. Results show that the proposed protocol extends network lifetime and reduces power consumption. © 2016 IEEE.

Alzu'Bi, S., Shehab, M.A., Al-Ayyoub, M., Benkhelifa, E., Jararweh, Y.

Parallel implementation of FCM-based volume segmentation of 3D images

(2016) Proceedings of IEEE/ACS International Conference on Computer Systems and Applications, AICCSA,

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021888343&doi=10.1109%2fAICCSA.2016.7945811&partnerID=40&md5=0b7f0561eff9298dd99f36b3229ddfc2)

[85021888343&doi=10.1109%2fAICCSA.2016.7945811&partnerID=40&md5=0b7f0561eff9298dd99f36b3229ddfc2](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85021888343&doi=10.1109%2fAICCSA.2016.7945811&partnerID=40&md5=0b7f0561eff9298dd99f36b3229ddfc2)

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ABSTRACT: Parallel programming has many benefits that can help developers and researchers to improve the performance of some algorithms to become more efficient in real life. This is especially true for systems involving medical images. Image segmentation for volume extraction is a famous segmentation process that takes long time to finish execution. In this paper, we consider a new version of the Fuzzy C-Means (FCM) segmentation algorithm (known as IT2FCM) and provide a parallel implementation of it that is 12X time faster than the sequential implementation. The considered algorithm is based on Interval Type-2 FCM and combines fuzzy and possibilistic ideas in order to obtain higher accuracy. We conduct our experiments using two different machines and the results show that the improvement gains for both machines 11X and 12X, respectively. © 2016 IEEE.

Sabbah, D.A., Zhong, H.A.

Modeling the protonation states of β -secretase binding pocket by molecular dynamics simulations and docking studies

(2016) Journal of Molecular Graphics and Modelling, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979644215&doi=10.1016%2fj.jmgs.2016.07.005&partnerID=40&md5=c562df3e537ecb05ecbc3e00dc010465)

[84979644215&doi=10.1016%2fj.jmgs.2016.07.005&partnerID=40&md5=c562df3e537ecb05ecbc3e00dc010465](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979644215&doi=10.1016%2fj.jmgs.2016.07.005&partnerID=40&md5=c562df3e537ecb05ecbc3e00dc010465)

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ABSTRACT: β -secretase (BACE1) is an aspartyl protease that processes the β -amyloid peptide in the human brain in patients with Alzheimer's disease. There are two catalytic aspartates (ASP32 and ASP228) in the active domain of BACE1. Although it is believed that the net charge of the Asp dyad is -1, the exact protonation state still remains a matter of debate. We carried out molecular dynamic (MD) simulations for the four protonation states of BACE1 proteins. We applied Glide docking studies to 21 BACE1 inhibitors against the MD extracted conformations. The dynamic results infer that the protein/ligand complex remains stable during the entire simulation course for HD32D228 model. The results show that the hydrogen bonds between the inhibitor and the Asp dyad are maintained in the 10,000th ps snapshot of HD32D228 model. Our results also reveal the significant loop residues in maintaining the active binding conformation in the HD32D228 model. Molecular docking results show that the HD32D228 model provided the best enrichment factor score, suggesting that this model was able to recognize the most active compounds. Our observations provide an evidence for the preference of the anionic state (HD32D228) in BACE1 binding site and are in accord with reported computational data. The protonation state study would provide significant information to assign the correct protonation state for structure-based drug design and docking studies targeting the BACE1 proteins as a tactic to develop potential AD inhibitors. © 2016 Elsevier Inc.

Abendeh, R., Ahmad, H.S., Hunaiti, Y.M.

Experimental studies on the behavior of concrete-filled steel tubes incorporating crumb rubber

(2016) Journal of Constructional Steel Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84962195877&doi=10.1016%2fj.jcsr.2016.03.022&partnerID=40&md5=e4a37fb786459eb484c9ed24570bc4fb)

[84962195877&doi=10.1016%2fj.jcsr.2016.03.022&partnerID=40&md5=e4a37fb786459eb484c9ed24570bc4fb](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84962195877&doi=10.1016%2fj.jcsr.2016.03.022&partnerID=40&md5=e4a37fb786459eb484c9ed24570bc4fb)

AFFILIATIONS: Department of Civil and Infrastructure Engineering, Al Zaytoonah Univeristy of Jordan, Jordan;

Department of Civil Engineering, University of Jordan, Amman, Jordan

ABSTRACT: This study summarizes the results of experimental push-out tests conducted on concrete-filled steel tubes (CFST) incorporating rubberized concrete with the main variables being the recycled rubber replacement ratio, certain sizes of steel tubes having circular and square sections

and ages of testing (at 28 days and one year). In addition, 150 mm-cubes were prepared using rubberized concrete mixtures to investigate the impact of shredded rubber contents on the compressive strength of concrete. Four concrete mixtures were designed at a constant water-to-cement ratio of 0.5 and with a cement content of 400 kg/m³. The mixtures were produced by replacing the fine aggregate with crumb-shredded tires at designated replacement levels of zero, 10%, 20% and 30% by total fine aggregate volume. Test results indicated that the use of rubber crumb increased the fresh-state workability and had an adverse influence on the compressive strength of concrete. The details of bond stress and the interface core slip in CFST specimens were estimated and the developed bond mechanisms were explained. The push-out testing of CFST specimens displayed a reduction in the bond strength and the ductility with increasing concrete age. © 2016 Elsevier Ltd. All rights reserved.

Al-Kalaldeh, M., El-Rahman, M.A., El-Ata, A.

Effectiveness of Nurse-Driven Inhaler Education on Inhaler Proficiency and Compliance Among Obstructive Lung Disease Patients: A Quasi-Experimental Study

(2016) Canadian Journal of Nursing Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049835153&doi=10.1177%2f0844562116676119&partnerID=40&md5=5abe2586eacdc23ab9c17a8124073c7a)

[85049835153&doi=10.1177%2f0844562116676119&partnerID=40&md5=5abe2586eacdc23ab9c17a8124073c7a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85049835153&doi=10.1177%2f0844562116676119&partnerID=40&md5=5abe2586eacdc23ab9c17a8124073c7a)

AFFILIATIONS: Faculty of Nursing, Al-Zaytoonah University of Jordan, Jordan;

Medical Surgical Nursing, Faculty of Nursing, Port-Said University, Egypt

ABSTRACT: Background: Health education on proper inhaler usage is the most feasible and accessible strategy to increase inhaler effectiveness. Purpose: To assess the impact of nurse-driven inhaler education on the compliance and proficiency of using inhalers among inhaler users. Methods: This single-center, quasi-experimental study included the implementation of an individualized 60-min educational session on inhalers use. Health education and pretest and posttest outcomes were assessed by the Inhaler Proficiency Schedule and Patient Reported Behaviour tools. Results: One hundred and twenty-one participants joined the study. At pretest, participants showed inadequate knowledge of general inhaler use. No previous training had been received by participants and difficulty with use and complications from using the inhalers were reported. At posttest, participants reported improvement in inhaler proficiency scores from 5.72 to 8.60 ($t = 17.99$, $df = 220$, $p < 0.001$). Likewise, they showed a significant reduction towards the noncompliant behaviors from 15.21 to 11.19 ($t = 16.388$, $df = 238$, $p < 0.001$). Conclusions: Nurse-driven inhaler education yielded positive outcomes in both inhaler proficiency and compliance. The patients' assessment of using inhalers is crucial to determine the patients' educational deficits. © The Author(s) 2016.

Kamel, A.A.

'There is a dependent patient in our home': Designing and disseminating a family caregiving program through YouTube

(2016) Journal of the Egyptian Public Health Association, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979587718&doi=10.1097%2f01.EPX.0000482111.88197.5a&partnerID=40&md5=55206df0a63f4cdc496cf2120b7248a)

[84979587718&doi=10.1097%2f01.EPX.0000482111.88197.5a&partnerID=40&md5=55206df0a63f4cdc496cf2120b7248a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979587718&doi=10.1097%2f01.EPX.0000482111.88197.5a&partnerID=40&md5=55206df0a63f4cdc496cf2120b7248a)

AFFILIATIONS: Department of Nursing, Al-Zaytoonah University of Jordan (ZUJ), Amman, 11733, Jordan

ABSTRACT: Background Family members play a major role in providing care for older people and long-term dependent patients, especially in developing countries where there is a lack of specialized nursing homes and specialized home-visiting programs. Family members are rarely provided with sufficient information or training to provide home care for their dependent relatives. There are inadequate home caregiving educational resources directed to Arabic-speaking caregivers, either in written or in audiovisual presentations. Objectives The aims of the present study were (i) to present the process of designing a caregiving educational program entitled 'there is a dependent patient in our home', with an intention to be culturally and linguistically appropriate for a specific Arab-speaking population, and (ii) to present the experience of disseminating the program through YouTube, to be accessible for a wide range of caregivers. Materials and methods The program was a product of a process involving seven phases, starting with a review of the literature and ending with disseminating 17 short 'caregiving' videos on YouTube, the most popular video-sharing website. The program presented necessary skills, instructions, and information that enabled caregivers to provide safe and competent daily caring activities for their functionally dependent relative or older adults at home. Results The program was registered in the Jordan National Library. After 2 months of broadcasting it on YouTube, the number of views exceeded 6800. Many constructive comments were received from caregivers. Language, simplicity, and attractiveness of the program were judged as the areas of satisfaction by the viewers, whereas lack of a few topics such as verbal communication with patients and dealing with daily caregivers' burden and stressors were the main reasons of dissatisfaction. Conclusion This program was an endeavor to provide the Arabic library with a home caregiving resource. Adequate advertisement of the program would encourage health providers to search for and use the currently available social media as means of delivering educational services to family caregivers. © 2016 Egyptian Public Health Association.

Almansour, M., Jarrar, Y., Jarrar, B.M.

Propolis protective role against morphological, hormonal biochemical and histological alterations induced by sildenafil overdoses [Rol protector del propóleo contra las alteraciones morfológicas, hormonales, bioquímicas e histológicas inducidas por sobredosis de sildenafil]

(2016) International Journal of Morphology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84978427368&doi=10.4067%2f50717-95022016000200020&partnerID=40&md5=08f7c993729daf3e84e5c4649136f19c>

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ABSTRACT: Sildenafil is widely used for the treatment of erectile dysfunction with few studies are available on the protective role of propolis against its reproductive toxicity. The present study aims to investigate the hormonal biochemical and histomorphometric alterations induced in the testicular tissues by sildenafil overdoses. Four groups of rabbits were exposed to sildenafil with or without propolis as follows: Group I received the formulated vehicle, Group II received sildenafil (3 mg/kg), Group III received propolis (50 mg/ kg), Group IV received sildenafil plus propolis. Sildenafil lowered body weight gain, testosterone and follicular stimulating hormone concentration but increased testis index while luteinizing hormone was almost not affected. Moreover, sildenafil treated rabbits showed degenerative seminiferous tubules and disturbance of spermatogenesis together with spermatocytes sloughing and nuclear alterations. Exposure to sildenafil plus propolis ameliorated tubular alterations, spermatogenesis disturbances, hormonal levels changes and partially protected spermatocytes from morphological nuclear alterations but could not ameliorate the effect on the body weight gain and testis index. The findings of the present work may indicate that propolis can ameliorate partially the reproductive toxicity induced by sildenafil overdoses with more need for further studies on the adverse effect of these doses on the other vital organs. © 2016, Universidad de la Frontera. All rights reserved.

Jarrar, N., Alzweiri, M., Al-Hiari, Y., Farah, S., Khanfar, M.A.

Modified hummel-dreyer method and molecular modeling studies identified nicotinic acid analogues as carbonic anhydrase III ligands

(2016) Letters in Drug Design and Discovery, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84966331042&doi=10.2174%2f1570180812666150821002900&partnerID=40&md5=43660e51e865e3c5ed07cfb470455955>

AFFILIATIONS: Department of Pharmaceutical Sciences, Faculty of Pharmacy, University of Jordan, Amman, 11942, Jordan;

Faculty of Pharmacy, Al-Zaytoonah Private University of Jordan, Amman, 11733, Jordan

ABSTRACT: The anti-hyperlipidemic effect of nicotinic acid and its ability to overexpress PPAR combined with the recently elucidated role of carbonic anhydrase III (CAIII) in of PPAR expression, suggested the possibility that nicotinic acid inhibits CAIII. To validate this hypothesis we docked nicotinic acid into the binding pocket of CAIII. Apparently, nicotinic acid shared at least four critical binding interactions with potent CAIII inhibitor. Subsequent experimental validation using Hummel- Dreyer method indicated that nicotinic acid indeed inhibited the enzymatic activity of CAIII with an K_i value of 203 μM . Additional eighteen nicotinic acid analogues were tested and seven compounds were more active than nicotinic acid with k_i values ranging 69.7- 115.2 μM . Docking studies and QSAR analysis were applied to explore the structural requirements for inhibiting CAIII and to build self-consistent and predictive model. Our findings strongly suggest that CAIII inhibition is at least one of the mechanisms for the reported anti-hyperlipidemic properties of nicotinic acid. Keywords: Nicotinic acid, QSAR, docking, carbonic anhydrase, hummel-dreyer. © 2016 Bentham Science Publishers.

Sweidan, K., Sabbah, D.A., Bardaweel, S., Dush, K.A., Sheikha, G.A., Mubarak, M.S.

Computer-aided design, synthesis, and biological evaluation of new indole-2-carboxamide derivatives as PI3K α /EGFR inhibitors

(2016) Bioorganic and Medicinal Chemistry Letters, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84964319907&doi=10.1016%2fj.bmcl.2016.04.011&partnerID=40&md5=0868e6fa7771690596534e0dff2b4c3d>

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ABSTRACT: Structure-based drug design and molecular modeling were employed to identify a new series of indole-2-carboxamides as potential anticancer agents. These compounds were synthesized and characterized with the aid of several spectroscopic techniques, such as FT-IR, NMR, and mass

spectrometry as well as by elemental analysis. Molecular docking studies confirmed that the newly synthesized compounds accommodate PI3K α and EGFR kinase catalytic sites and form H-bonding with the key binding residues. The antitumor activity of these new compounds against an array of cancer cell lines (human colon carcinoma (HCT116), leukemia (K562), and breast cancer (MDA231) was evaluated. Results revealed that these compounds were selective against the kinase domain, and none of them showed any inhibitory activity against K562. In addition, results showed that compound 13 exhibited high potency in HCT116 and MDA231 with IC₅₀ values of 19 and 15 μ M, respectively. Our findings recommend that further optimization of this series would be beneficial for colon and breast cancer treatment. © 2016 Elsevier Ltd. All rights reserved.

Sabbah, D.A., Hu, J., Zhong, H.A.

Advances in the development of class I phosphoinositide 3-kinase (PI3K) inhibitors
(2016) Current Topics in Medicinal Chemistry, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961728596&doi=10.2174%2f1568026615666150915115823&partnerID=40&md5=a4c484222be6c57a6280d897d6f3ee0a)

84961728596&doi=10.2174%2f1568026615666150915115823&partnerID=40&md5=a4c484222be6c57a6280d897d6f3ee0a
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ABSTRACT: The PI3K signaling cascade is the key moderator of cell proliferation, survival, motility, and apoptosis. Class I PI3K proteins are well characterized and linked to thrombosis (PI3K β), rheumatoid arthritis (PI3K δ), and cancer (PI3K α). In this review, we explore the latest progress in the design and development of selective Class I PI3K inhibitors from the perspective of drug design and structure activity relationships. © 2016 Bentham Science Publishers.

Mukattash, T.L., Alzoubi, K.H., Abu El-Rub, E., Jarab, A.S., Al-Azzam, S.I., Khmour, M., Shara, M., Al Hamarneh, Y.N.

Prevalence of non-adherence among psychiatric patients in Jordan, a cross sectional study
(2016) International Journal of Pharmacy Practice, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84958012583&doi=10.1111%2fijpp.12239&partnerID=40&md5=c18f8bcc0a708309b1daaebf983f8b75)

84958012583&doi=10.1111%2fijpp.12239&partnerID=40&md5=c18f8bcc0a708309b1daaebf983f8b75

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EPICORE Centre, Department of Medicine, University of Alberta, Edmonton, AB, Canada

ABSTRACT: Background It has been estimated that up to 50% of any patient population is at least partially non-adherent to their prescribed treatment. Identifying barriers to adherence is required to develop effective interventions for psychiatric patients. Objective To explore the prevalence and factors of non-adherence among psychiatric patients present at four psychiatric clinics. Method A cross-sectional questionnaire-based study. A sample of psychiatric patients attending outpatient psychiatric clinics was enrolled between March and April 2011. Results A total of 243 psychiatric patients took part in this study with the majority of patients (92.5%) being prescribed more than one psychiatric disorder. The majority (64.2%) of the patients was classified as non-adherent according to the Morisky adherence questionnaire and forgetfulness was the most prevalent reason for that. Conclusions Non-adherence is a common and important issue among psychiatric patients. Polypharmacy, safety concerns and lack of insight towards the prescribed treatment were reported as the main reasons of non-adherence. © 2016 Royal Pharmaceutical Society.

Al Ganideh, S.F., Good, L.K.

The magic of soccer: Transforming animosity into love (An empirical study of Arab fans and major European soccer leagues)

(2016) International Journal of Sport and Exercise Psychology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84959055662&doi=10.1080%2f1612197X.2016.1149873&partnerID=40&md5=e7a40b57aff924eec100aeffdf1b22c3)

84959055662&doi=10.1080%2f1612197X.2016.1149873&partnerID=40&md5=e7a40b57aff924eec100aeffdf1b22c3

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ABSTRACT: Sports are a vital tool that could be used to promote better global awareness and to support better cross-cultural understanding. The literature of sports psychology provides a rich body of work that studied fans' behaviour towards in-group teams and home team identification.

Nonetheless, out-group sports favouritism receives little attention in the literature. Our study explores whether Arabs' fanship of European soccer clubs influences their feelings of animosity towards those countries. We collected data from 154 Arab Jordanians who live in two major cities in the central and northern parts of Jordan and analysed data using descriptive statistics and linear regression. The results revealed that Jordanians who admire soccer clubs from England, Italy, and Spain have lower feelings of animosity towards these countries. Also, such feelings may potentially translate into Jordanians' desire to purchase products from these countries. The research highlights the importance of European soccer as a tool to disseminate and promote peace and to curb hostility. The paper concludes with a discussion on the implications of findings and recommendations for future research. © 2016 International Society of Sport Psychology.

Hamed, R., Awadallah, A., Sunoqrot, S., Tarawneh, O., Nazzal, S., AlBaraghthi, T., Al Sayyad, J., Abbas, A.

pH-Dependent Solubility and Dissolution Behavior of Carvedilol—Case Example of a Weakly Basic BCS Class II Drug

(2016) AAPS PharmSciTech, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84937677520&doi=10.1208%2fs12249-015-0365-2&partnerID=40&md5=0f6cdac51a8dc42a515ce37db971efad>

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College of Health and Pharmaceutical Sciences, School of Pharmacy, University of Louisiana at Monroe, Monroe, LA 71201, United States;

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ABSTRACT: The objective of this study was to investigate the pH-dependent solubility and dissolution of weakly basic Biopharmaceutical Classification Systems (BCS) class II drugs, characterized by low solubility and high permeability, using carvedilol, a weak base with a pKa value of 7.8, as a model drug. A series of solubility and in vitro dissolution studies was carried out using media that simulate the gastric and intestinal fluids and cover the physiological pH range of the GI from 1.2 to 7.8. The effect of ionic strength, buffer capacity, and buffer species of the dissolution media on the solubility and dissolution behavior of carvedilol was also investigated. The study revealed that carvedilol exhibited a typical weak base pH-dependent solubility profile with a high solubility at low pH (545.1–2591.4 µg/mL within the pH range 1.2–5.0) and low solubility at high pH (5.8–51.9 µg/mL within the pH range 6.5–7.8). The dissolution behavior of carvedilol was consistent with the solubility results, where carvedilol release was complete (95.8–98.2% released within 60 min) in media simulating the gastric fluid (pH 1.2–5.0) and relatively low (15.9–86.2% released within 240 min) in media simulating the intestinal fluid (pH 6.5–7.8). It was found that the buffer species of the dissolution media may influence the solubility and consequently the percentage of carvedilol released by forming carvedilol salts of varying solubilities. Carvedilol solubility and dissolution decreased with increasing ionic strength, while lowering the buffer capacity resulted in a decrease in carvedilol solubility and dissolution rate. © 2015, American Association of Pharmaceutical Scientists.

Mazhar, A.A., Abdalla, A.M.

Joint reference frame inter-mode selection for fast H.264 video coding

(2016) Signal, Image and Video Processing, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930364022&doi=10.1007%2fs11760-015-0785-1&partnerID=40&md5=31e95ae04568156950f5af63c41eb4c3>

AFFILIATIONS: Faculty of Science and I.T., Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: The H.264/AVC video coding standard uses multiple reference frames and variable-size macroblock partitions in inter-prediction. This flexibility allows the standard to achieve excellent rate-distortion performance at the cost of high encoding complexity. We present an algorithm for fast joint selection of the reference frames and macroblock partitions in rate-distortion-based coding. Experimental results for eight standard test video sequences show that, compared with exhaustive search, our algorithm can save up to 74.9 % of the encoding time with negligible loss in rate-distortion performance. The presented algorithm is also evaluated using a subjective assessment metric; quality evaluation measures based on user satisfaction. Diverse types of video sequences were used with different frame rates, quantization parameters, and resolutions. The effects of changing bit rate and resolution on compression efficiency and viewers' satisfaction are also presented. Results show that our algorithm provides high scores of perceptual satisfaction that are significantly affected by the compression technique. As a result, we claim that our algorithm presents original and significant enhancement compared with exhaustive search. In addition, overall test results showed that our technique outperformed three of the best previously proposed methods and gave higher viewer satisfaction. © 2015, Springer-Verlag London.

Alkhatib, A.A.A.

Sub-network coverage method as an efficient method of wireless sensor networks for forest fire detection

(2016) ACM International Conference Proceeding Series, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84976473747&doi=10.1145%2f2896387.2896450&partnerID=40&md5=8fe823d71ae0ddf3624501f8f0352084)

[84976473747&doi=10.1145%2f2896387.2896450&partnerID=40&md5=8fe823d71ae0ddf3624501f8f0352084](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84976473747&doi=10.1145%2f2896387.2896450&partnerID=40&md5=8fe823d71ae0ddf3624501f8f0352084)

AFFILIATIONS: Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Wireless sensor networks are dependent on signal sending and receiving; the system will not be able to function if communication between sensors are not established. In this study, the use of subnetworks in randomly distributed nodes converts the network from a random distribution to an organized one and saves operation time and energy per node. It was found out that using coverage subnetworks by dividing the network into three sub-networks with operation time of 10 minutes per sub-network every 30 minutes increases the network life time by 2.7% and increases the energy performance by 63% as compared to normal fire detection networks. © 2016 ACM.

Al-Saket, A.

Some results for the zeros of a class of Fibonacci-type polynomials

(2016) Journal of Mathematical Inequalities, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961595268&doi=10.7153%2fjmi-10-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961595268&doi=10.7153%2fjmi-10-04&partnerID=40&md5=120e24636071df0ab9f3573a5b592a9e)

[04&partnerID=40&md5=120e24636071df0ab9f3573a5b592a9e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961595268&doi=10.7153%2fjmi-10-04&partnerID=40&md5=120e24636071df0ab9f3573a5b592a9e)

AFFILIATIONS: Department of Mathematics, Al-Zaytoonah Univrsity of Jordan, Jordan

ABSTRACT: In this article, we obtain a rectangle that contains all the zeros of a class of Fibonacci-like polynomials. Then we obtain some relations and majorizations for the real and imaginary parts of the zeros of such polynomials. © Element, Zagreb.

Hamadneh, I., Yaseen, N., Abdallat, Y., Hamadneh, L., Tarawneh, O.

The Sintering Effect on the Phase Formation and Transport Current Properties of SmBa₂Cu₃O_{7-δ} Ceramic Prepared from Nano-Coprecipitated Precursors

(2016) Journal of Superconductivity and Novel Magnetism, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84958762856&doi=10.1007%2fs10948-015-3341-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84958762856&doi=10.1007%2fs10948-015-3341-x&partnerID=40&md5=5ce94c2a70a825ccd1540343612b5753)

[x&partnerID=40&md5=5ce94c2a70a825ccd1540343612b5753](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84958762856&doi=10.1007%2fs10948-015-3341-x&partnerID=40&md5=5ce94c2a70a825ccd1540343612b5753)

AFFILIATIONS: Department of Chemistry, The University of Jordan, Amman, 11942, Jordan;

Department of Geology, The University of Jordan, Amman, 11942, Jordan;

Department of Industrial Engineering, The University of Jordan, Amman, 11942, Jordan;

Al-Zaytoonah University, P. O. Box 130, Amman, 11733, Jordan

ABSTRACT: High-temperature superconducting ceramic with the formula SmBa₂Cu₃O_{7-δ} was prepared from metal oxalate precursors with an average grain size $\lt; 35\text{ nm}$ using the coprecipitation method. The metal oxalate powders were heated at 900 °C for 12 h, where they were pelletized and then sintered at different temperatures (920, 930, 940, and 950 °C) for 15 h. All sintered samples exhibited a metallic behavior with zero-resistance transition temperatures, $TC(R = 0)$, of 92.8, 92.5, 89.5, and 84.0 K when the samples sintered from 920–950 °C, respectively. The critical current density (JC) decreased as the sintering temperature increased due to the formation of non-superconducting phases or insulator that enhanced the weak-link effect. X-ray diffraction (XRD) data showed the formation of impurity phases (Sm-211 and Sm210) at 930 and 940 °C, respectively. The crystalline size remains unchanged for all samples, and the best results were obtained for the sample sintered at 920 °C, where the single phase of an orthorhombic structure was detected and the highest TC was recorded. Scanning electron microscope (SEM) micrographs showed large grain sizes that were randomly distributed; the number of gaps between the grains increased as the sintering temperature increased due to the decomposition mechanism that enhanced the weak links between the grains and suppressed the transport current properties. The obtained results proved that high-quality Sm123 superconductor with minimum or no impurities can be produced when the sintering was applied at 920 °C for 12 h. This sintering temperature is sufficient to convert the nano-sized metal oxalates as a starting precursor to pure and high-quality polycrystalline SmBa₂Cu₃O_{7-δ}. These results are important to simplify the preparation of SmBa₂Cu₃O_{7-δ} at a lower temperature for HTSC device applications. © 2016, Springer Science+Business Media New York.

Masoud, M., Jannoud, I., Ahmad, A., Al-Shobaky, H.

The power consumption cost of data encryption in smartphones

(2016) 2015 International Conference on Open Source Software Computing, OSSCOM 2015, .

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[84964798258&doi=10.1109%2fOSSCOM.2015.7372685&partnerID=40&md5=68e581420ac44a17d754a91bdb047cfa](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84964798258&doi=10.1109%2fOSSCOM.2015.7372685&partnerID=40&md5=68e581420ac44a17d754a91bdb047cfa)

AFFILIATIONS: Computer and Communication Engineering Department, Engineering and Technology Faculty, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: This paper provides a performance evaluation of four different symmetric encryption algorithms in Android mobile platform. DES, Bluefish, RC6 and AES algorithms have been written and implemented in Java for Android platform utilizing an open source library called Bouncy castle.

Different file sizes have been encrypted and power consumption has been measured. The results demonstrated that the cost of implementing these encryption algorithms in smartphones is high. Power consumption may prevent developers from utilizing encryption algorithms in their communication applications through smartphones. In addition, our results demonstrate the requirements of new power-saving 'Green' encryption algorithms. Finally, encryption algorithms are not about security only, power should be one requirement in designing these algorithms for smartphones. © 2015 IEEE.

Abushihab, I.

Foreign words in Jordanian Arabic among Jordanians living in Irbid city: The impact of foreign languages on Jordanian Arabic

(2016) Journal of Language Teaching and Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059845902&doi=10.17507%2fjltr.0702.06&partnerID=40&md5=00ccbe20e1fc724b63b3e9e510253756)

[85059845902&doi=10.17507%2fjltr.0702.06&partnerID=40&md5=00ccbe20e1fc724b63b3e9e510253756](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059845902&doi=10.17507%2fjltr.0702.06&partnerID=40&md5=00ccbe20e1fc724b63b3e9e510253756)

AFFILIATIONS: English Department, Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The paper investigates the foreign words used in spoken Jordanian Arabic in Irbid city. It also examines the causes behind using them. The data are collected by means of direct interviews and observations. The sample of the study was chosen from fifty participants living in Irbid city. They were thirty males and twenty females who cover different ages, genders and different educational background. The results show that Jordanians use different borrowed words in their daily conversations. English and Turkish are the main source of borrowing these words. © 2016 ACADEMY PUBLISHER.

Ahmad, H.

A quantitative comparison between chemical coagulation and biological treatment of municipal wastewater

(2016) International Journal of Applied Engineering Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057637493&partnerID=40&md5=766b6915555a2cbe8f70cb464fe4ec49)

[85057637493&partnerID=40&md5=766b6915555a2cbe8f70cb464fe4ec49](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057637493&partnerID=40&md5=766b6915555a2cbe8f70cb464fe4ec49)

AFFILIATIONS: Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, P.O. Box: 130, Amman, 11733, Jordan

ABSTRACT: This study provides comparative assessment of two processes of chemical coagulation and biological treatment considering removal efficiencies and the possibility to recycle wastewater for agriculture. The study is providing a comparison between the quality of treated municipal wastewater produced by a biological treatment plant and a designed chemical coagulation unit. The quality of treated wastewater is characterized by various global quality indicators such as Chemical Oxygen Demand (COD), Total Suspended Solids (TSS) and Turbidity. Jar test experiments were performed to assess COD, TSS and Turbidity reduction at the laboratory. Various alum dosages of (10 to 80) mg/l as $Al_2(SO_4)_3 \cdot 5H_2O$ were added to samples of wastewater with adjusted pH from 5.5 to 8.5. The jar tests were run at 250 rounds per minute (rpm) for 30 seconds, then 30 rpm for 20 minutes and finally settling for 120 minutes. Jar tests aim at identifying the optimum coagulant dose. The COD value was reduced to 83% by using biological wastewater treatment plant at Al-Zaytoonah University of Jordan, while by using the designed chemical coagulation unit it was reduced to 78% at pH 7.7. In this study, the measurements of TSS reduction by biological and chemical methods were relatively close, about 90% and 93% respectively. The main difference between the two methods is the time needed to obtain these results. © Research India Publications.

Ahmad, H., Lafi, W.K., Abushgair, K., Assbeihat, J.M.

Comparison of coagulation, electrocoagulation and biological techniques for the municipal wastewater treatment

(2016) International Journal of Applied Engineering Research, .

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AFFILIATIONS: Al-Zaytoonah University of Jordan, Department of Civil and Infrastructure Engineering, P.O. Box: 130, Amman, 11733, Jordan;

Al-Zaytoonah University of Jordan, Department of Civil and Infrastructure Engineering, at sabbatical leave from Al-Balqa Applied University, Department of chemical Engineering, Jordan;

Al-balqa Applied University, Department of Mechanical Engineering, Amman, Jordan;

Al-balqa Applied University, Department of Civil Engineering, Amman, Jordan

ABSTRACT: The present study provides comparative assessment of chemical coagulation, electrocoagulation (EC) and biological treatment for the removal of pollutants expressed in chemical oxygen demand (COD) and total suspended solids (TSS) from municipal wastewater for further reuse in agriculture. The performance of the electrocoagulation, chemical coagulation and biological are presented comparatively, as wastewater treatment technologies taken into consideration to reach above the minimum requirements of Jordanian standards, guidelines and regulations. The reduction efficiency of COD and TSS were %87 and 93%, 78% and 98%, and 83% and 90% for biological treatment plant (BTP),

coagulation large scale unit (CLSU) and electrocoagulation lab scale unit (ELSU), respectively. The treatment time to achieve these results was varied from 45 minutes to four hours for CLSU and BTP, respectively. © Research India Publications.

Rawajbeh, M.A., Sayenko, V., Muhairat, M.I.

Simplified CBA concept and express choice method for integrated network management system (2016) International Journal of Computer Networks and Communications, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044312387&doi=10.5121%2fijcnc.2016.8304&partnerID=40&md5=d403d04e991735876ced201bbd5c3b4a)

[85044312387&doi=10.5121%2fijcnc.2016.8304&partnerID=40&md5=d403d04e991735876ced201bbd5c3b4a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85044312387&doi=10.5121%2fijcnc.2016.8304&partnerID=40&md5=d403d04e991735876ced201bbd5c3b4a)

AFFILIATIONS: Department of Computer Networks, Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan;

Kharkov National University of Radio Electronics (KhNURE) Kharkiv, Ukraine;

Department of Software Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The process of choosing and integrating a network management system (NMS) to an existing computer network became a big question due to the complexity of used technologies and the variety of NMS options. Most of computer networks are being developed according to their internal rules in cloud environments. The use of NMS requires not only infrastructural changes, consequently increasing the cost of integration and maintenance, but also increases the risk of potential failures. In this paper, conception and method of express choice to implement and integrate a network management system are presented. Review of basic methods of cost analysis for IT systems is presented. The simplified conception of cost benefits analysis (CBA) is utilized as a basis of the offered method. A final estimation is based on three groups of parameters: parameters of expected integration risk evaluation, expected effect and level of completed management tasks. The explanation of the method is provided via example. © 2016, Academy and Industry Research Collaboration Center (AIRCC).

Al-Sraheen, D.A.-D., Alkhatib, K.

Proposing a model for limiting earning management practices: The case of Jordanian listed firms (2016) Corporate Board: Role, Duties and Composition, .

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[85019509421&doi=10.22495%2fcbv12i3art9&partnerID=40&md5=6b405cfcf0d4e5a59d524e133765f5b0](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019509421&doi=10.22495%2fcbv12i3art9&partnerID=40&md5=6b405cfcf0d4e5a59d524e133765f5b0)

AFFILIATIONS: Al-Zaytoonah University of Jordan, Faculty of Economics and Administrative Sciences, Department of Accounting, Jordan;

Department of Computer and Information Systems, Jordan University of Science and Technology, Jordan

ABSTRACT: The key objective of this paper is to propose a model for limiting earning management practices among manufacturing firms in Jordan. In order to do so, two independent variables are examined in this paper, namely, political influence and CEO Duality. Discretionary total accruals according to the modified Jones model (1991) was used in order to estimate the level of earnings management, which is the dependent variable. The sample comprised 64 companies for financial year 2013. The results suggest that a positive and significant association existed among both political influence and CEO duality and earning management. This means that both independent variables exacerbated earnings management. Further research is required to determine what urgent legislation should be developed to restrict the presence of members who have political connections in the board of directors. Also, the need exists for the separation of roles of Chairman and CEO to ensure the independence and complying with the requirements of corporate governance . © 2016, Virtus Interpress. All rights reserved.

Jaradat, Y.M., Masoud, M., Jannoud, I., Azzawi, H.

Basic review of low rate denial of service attack on wired and wireless networks

(2016) International Journal on Communications Antenna and Propagation, .

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[85016567451&doi=10.15866%2firecap.v6i6.10932&partnerID=40&md5=1ecd336c783b08fd4cb7ea182581cae6](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85016567451&doi=10.15866%2firecap.v6i6.10932&partnerID=40&md5=1ecd336c783b08fd4cb7ea182581cae6)

AFFILIATIONS: Electrical Engineering/Communications and Computer Department, Faculty of Engineering and Technology, Al-Zaytoonah University of Jordan, P.O.Box 130, Amman, 11733, Jordan;

Klipsch School of Electrical and Computer Engineering, New Mexico State University NMSU, Las Cruces, NM, United States

ABSTRACT: Denial of service (DoS) attack is a serious security threat in networks. It threatens the normal operation of networks by consuming their underlying links/channels bandwidths, devices' memory and CPU cycles, and then denies access to network resources to legitimate users. In this paper a special type of DoS attacks is investigated, the low rate DoS (LR-DoS) attack. LR-DoS attack is unique in that it is easy to launch and automated, hard to detect and respond to. LR-DoS attack mainly targeted the normal operation of network protocols and services. LR-DoS attack utilizes vulnerabilities in the targeted network protocol and service. TCP targeted LR-DoS attack in wired networks and routing protocol targeted LR-DoS attack in wireless networks are reviewed. It was shown that to launch a successful LR-DoS attack in wired and wireless network, a deep understanding of the internal operations and timer-based strategies are needed for the targeted network protocols and

services in any layer of the Internet protocol stack. © 2016 Praise Worthy Prize S.r.l. - All rights reserved.

Hawashin, B., Mansour, A.

An efficient agent-based system to extract interests of user groups

(2016) Lecture Notes in Engineering and Computer Science, .

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85013456462&partnerID=40&md5=400cde3fdc9c187316bdc2d71a231a5a

AFFILIATIONS: Department of Computer Information Systems, Alzaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Communication and Computer Engineering, Tafila Technical University, Tafila, 66110, Jordan

ABSTRACT: This work proposes an agent-based system to extract the interests of user groups based on certain category values such as males, teens, singles, and so on. Many previous works proposed recommender systems but their concentration was on users as individuals. Finding interests per group would have two main benefits. First, it would improve the recommender system accuracy. Second, it would give important and interesting information to optimize the market according to the interests of the various groups. Experiments show that the system is efficient in term of the execution time and accuracy.

Abusukhon, A., Mohammad, Z., Talib, M.

A novel network security algorithm based on encrypting text into a White-Page Image

(2016) Lecture Notes in Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85013384831&partnerID=40&md5=ae03738a25a88cf167a319d52a91dbee)

85013384831&partnerID=40&md5=ae03738a25a88cf167a319d52a91dbee

AFFILIATIONS: Department of Computer Networks, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Computer Science, Khazar University, Baku, Azerbaijan

ABSTRACT: Nowadays, data security becomes a big issue and a challenge when sending sensitive data through the Internet. For example; sending user password, performing money transaction (e-business) using a master card, and invoking methods on a remote PC. All these activities require a secure algorithm for protecting data from hackers and thus keep information private and save. There are various methods for securing data when they are sent through the global network. Some of these techniques are based on data encryption algorithms where the text message is encrypted (scrambled) to another form that is not readable by humans. One of the encryption techniques is based on the transformation of a text into an image. In this paper, we propose a simple and a novel data encryption algorithm based on encrypting a text into a white page image (White-Page Image Encryption Algorithm or the WPI algorithm). In this paper, the proposed White-Page Image Encryption Algorithm is tested and analyzed.

Al-Zoubi, H., Stamatakis, S.

Ruled and quadric surfaces satisfying $\Delta IIIx = \Lambda x$

(2016) Journal for Geometry and Graphics, .

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85011697916&partnerID=40&md5=356e07870e949a32da454875805255df

AFFILIATIONS: Department of Basic Sciences, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Department of Mathematics, Aristotle University of Thessaloniki, Greece

ABSTRACT: We consider ruled and quadric surfaces in the 3-dimensional Euclidean space which are of coordinate finite type with respect to the third fundamental form III, i.e., their position vector x satisfies the relation $\Delta IIIx = \Lambda x$ where Λ is a square matrix of order 3. We show that helicoids and spheres are the only classes of surfaces mentioned above satisfying $\Delta IIIx = \Lambda x$. © 2016 Helder mann Verlag.

Jaber, K.M., Shuaib, M.M., Maraqa, R., Alia, O.M.

A comparative taxonomy of parallel algorithms for crowd dynamics models and their simulators

(2016) International Journal of Soft Computing, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85011410588&doi=10.3923%2fijsc.2016.427.436&partnerID=40&md5=f9b227e1d7ff55f46c3563e42441d163)

85011410588&doi=10.3923%2fijsc.2016.427.436&partnerID=40&md5=f9b227e1d7ff55f46c3563e42441d163

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah Unlversity of Jordan, Amman, Jordan;

Department of Computer Sciences, College of Sharia and Islamic Studies in Al Ahsaa, Al-Imam Muhammad Ibn Saud Islamic Unlversity (IMSILJ), Al Ahsaa, 31982, Saudi Arabia;

Department of Computer Science, Faculty of Computers and Information Technology, Unlversity of Tabuk, PO. Box 741, Tabuk, 71491, Saudi Arabia

ABSTRACT: Massive congestion is a very serious concern that can lead to disasters. The development of crowd dynamics models and crowd simulation tools is essential to better represent congestion aspects as well as to evaluate proposed solutions. However, model development normally involves increasing the mathematical complexity, imposing higher computational demands. This has led researchers to investigate solutions that can reduce or minimize the computational demands of such models where among them is the parallel computing approaches. In this study we highlight the application of parallel computing in reducing computational demands for crowd dynamic simulators while simultaneously improving their performances. This study also includes a comprehensive overview of the state-of-the-art parallel computing approaches used in crowd dynamic simulators. © Medwell Journals, 2016.

Al-Smoul, K.M., Al-Rawashdeh, T.A., Al-Dahoud, A.A.

An improved solar Low Energy Adaptive Clustering Hierarchy (IS-LEACH) technique (2016) International Journal of Communication Networks and Information Security, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85010928623&partnerID=40&md5=2cd05d81b829329b291c7144133243b9>

AFFILIATIONS: School of Information Technology, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: In recent years, the Wireless Sensor Networks (WSNs) have grown dramatically in many fields such as military applications, environmental applications, and health assistant applications. However, there are numerous problems associated with applying the WSNs. Such problems are related to power consumption, performance, reliability, installation cost, and hardware cost. Thus, many algorithms in the WSNs context have been considered to propose an improved solar Low Energy Adaptive Clustering Hierarchy (LEACH) technique for maximizing the lifetime, increasing the performance, increasing the reliability, and decreasing the costs. This proposed technique improves the selecting Cluster Heads (CHs) process and powering it with a renewable energy (solar cell). The OMNeT++ tool has been employed to simulate such technique. After many scenarios have taken place with different data sets, this study finds that the lifetime of WSNs has been maximized, the performance has been improved, the reliability has also been improved, and finally the cost has decreased.

Al-Kubaisy, K.N., Al-Essa, L.Y., Shawagfeh, M.T.

Stimulation of hepatocytes repair by fruit juice of opuntia ficus indica in anti cancer drug cyclophosphamide (CP)-induced liver toxicity in mice (2016) Annual Research and Review in Biology, .

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AFFILIATIONS: Department of Biomedical Science, Zarqa University College, Applied Balqa University, Zarqa, Jordan;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University, Amman, Jordan

ABSTRACT: Cyclophosphamide (CP) is a cytotoxic alkylating agent that has been used extensively in medicine as anti neoplastic agent for the treatment of different cancers worldwide. Chemotherapy with CP is associated with significant toxicity due to overproduction of reactive oxygen species (ROS) and free radicals resulting in increased levels of oxidative stress (OS) aiming to identify natural substances that would be effective in reducing the severity of CP. Cactus (*Opuntia ficus indica*) is an indigenous medicinal plant possesses wide range of medicinal properties. It is used in traditional folk medicine and nutrition in many countries. In this study, we examined the effects of prickly pear fruit's juice on liver damage in order to evaluate its hepatoprotective effects against hepatotoxicity, oxidative stress, and cytotoxicity induced in mice by CP at a dosage of (75 mg/kg) body weight. The degree of liver injury was analyzed using serum biochemical markers such as aspartate aminotransferase (AST), alanine aminotransferase (ALT) and lactate dehydrogenase (LDH), the total protein and albumin contents. Further, the liver analyzed for the degree lipid peroxide (LPO) as (MDA) and enzymatic and non-enzymatic antioxidants. Moreover, the cytotoxicity induced by CP treatment was substantiated by the reduction of hepatic cells nucleic acids, protein, glutathione and increased lipid peroxide levels due its prooxidant nature. Treatment of mice with cactus fruit juice after CP- dosing statistically restored the serum hepatic markers (AST, ALT, LDH), total protein and albumin, hepatic cells nucleic acids and antioxidant levels. © 2016 Al-Kubaisy et al.

Al-Matubsi, H.Y., Oriquat, G.A., Abu-Samak, M., Al Hanbali, O.A., Salim, M.D.

Effects of lipoic acid supplementation on activities of cyclooxygenases and levels of prostaglandins E2 and F2 metabolites, in the offspring of rats with streptozotocin-induced diabetes (2016) Journal of Diabetes Research, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85006275627&doi=10.1155%2f2016%2f9354937&partnerID=40&md5=8ea2705a10d4deb362be3b87b0e5ff30>

AFFILIATIONS: Faculty of Pharmacy, University of Petra, Amman, Jordan;

Faculty of Pharmacy and Medical Sciences, Al-Ahliyya Amman University, Amman, Jordan;

Faculty of Pharmacy, Applied Science University, Amman, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University, Amman, Jordan;
Middle East University, Amman, Jordan

ABSTRACT: Background. Our aim was to evaluate the protective effect of lipoic acid (LA) on fetal outcome of diabetic mothers. Methods. Diabetes was induced in female rats using streptozotocin and rats were made pregnant. Pregnant control (group 1; n=9; and group 2; n=7) or pregnant diabetic (group 3; n=10; and group 4; n=8) rats were treated daily with either LA (groups 2 and 4) or vehicle (groups 1 and 3) between gestational days 0 and 15. On day 15 of gestation, the fetuses, placentas, and membranes were dissected, examined morphologically, and then homogenized, to measure cyclooxygenase (COX) activities and metabolisms of prostaglandin (PG) E2 (PGEM) and PGF2 (PGFM) levels. The level of total glutathione was measured in the maternal liver and plasma and in all fetuses. Results. Supplementation of diabetic rats with LA was found to significantly ($p<0.05$) reduce resorption rates in diabetic rats and led to a significant ($p<0.05$) increase in liver, plasma, and fetuses total glutathione from LA-TD rats as compared to those from V-TD. Decreased levels of PGEM and elevated levels of PGFM in the fetuses, placentas, and membranes were characteristic of experimental diabetic gestation associated with malformation. The levels of PGEM in malformed fetuses from LA-TD mothers was significantly ($p<0.05$) higher than those in malformed fetuses from V-TD rats. Conclusions. LA treatment did not completely prevent the occurrence of malformations. Thus, other factors may be involved in the pathogenesis of the diabetes-induced congenital malformations. © 2016 Hisham Y. Al-Matubsi et al.

Abu Mallouh, M., Salah, M., Abdelhafez, E., Hamdan, M.A., Surgenor, B.

Modeling, simulation and performance comparison of conventional vehicle against three configurations of hybrid vehicles

(2016) International Review on Modelling and Simulations, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84995550776&doi=10.15866%2firemos.v9i4.9580&partnerID=40&md5=2312401b279e2b49ff23cdf460211786)

[84995550776&doi=10.15866%2firemos.v9i4.9580&partnerID=40&md5=2312401b279e2b49ff23cdf460211786](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84995550776&doi=10.15866%2firemos.v9i4.9580&partnerID=40&md5=2312401b279e2b49ff23cdf460211786)

AFFILIATIONS: Mechatronics Engineering Department, Hashemite University, Zarqa, Jordan;

Mechanical Engineering Department, Al-Zaytoonah University of Jordan, Amman, Jordan;

Mechanical Engineering Department, University of Jordan, Amman, Jordan;

Mechanical and Materials Engineering Department, Queen's University, Kingston, ON, Canada

ABSTRACT: In the last two decades, an extensive research work has been conducted in the automotive industry to develop and improve vehicles' performance. Different vehicular powertrain configurations such as electric vehicles, hybrid ICE/battery vehicles, and recently hybrid FC/battery vehicles have been investigated to find more efficient alternatives for conventional combustion engines vehicles. Because of the many hybrid and electrical vehicle configurations and powertrain technologies, modeling and simulation of such vehicles are very important tools for final design development. Simulation saves time and cost in predicting performance, selecting powertrain components, and tuning control systems. In this paper, three hybrid vehicle models are developed and tested based on forward looking modeling technique and utilizing the Powertrain System Analysis Toolkit (PSAT) software package. Unlike most of the literature, this paper shows more details about sizing of the major components of the proposed powertrains. The main hybrid powertrain components were sized such that acceptable drivability, performance, and fuel economy are achieved. The performance of developed vehicle models is compared with an internal combustion engine (ICE) Nissan Sunny vehicle model using a non-standard driving cycle that was developed to reflect a local driving pattern. The hybrid models under investigation are hybrid fuel cell/battery vehicle, and two hybrid ICE/battery vehicles; one with series configuration, and the other with parallel configuration. The performance of the models is investigated in terms of fuel economy, drivability, emissions, and efficiency. The introduced simulation results demonstrate that the hybrid FC/battery configuration performs the best and is consequently recommended as the powertrain of choice for future vehicles. © 2016 Praise Worthy Prize S.r.l. - All rights reserved.

Badinjki, T.

Dickens's dichotomous formula for social reform in Oliver Twist

(2016) International Journal of Applied Linguistics and English Literature, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994571998&doi=10.7575%2faiac.ijalel.v.5n.7p.209&partnerID=40&md5=79f5a1554543763fb6a2ba684ba112c1)

[84994571998&doi=10.7575%2faiac.ijalel.v.5n.7p.209&partnerID=40&md5=79f5a1554543763fb6a2ba684ba112c1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994571998&doi=10.7575%2faiac.ijalel.v.5n.7p.209&partnerID=40&md5=79f5a1554543763fb6a2ba684ba112c1)

AFFILIATIONS: Dept of English, Faculty of Arts, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Oliver Twist was a direct appeal to society to take action against poverty, exploitation of children, oppression of women, and was meant to be a picture of the "dregs of life" in all their deformity and wretchedness. Among the most miserable inhabitants of the world of Oliver Twist, Nancy appears as a key figure. Dickens was anxious to expose the truth about such a woman because he believed it would be a service to society. Dickens's portrayal of Nancy illustrates the power of the dual conception of womanhood held at the time. On the one hand, a woman might be conceived as someone refined and somewhat remote from ordinary life like Rose Maylie. On the other hand, there was a certain fascination in a woman's degradation, even though that could be shown only indirectly. Nancy

is a demonstration of the two elements combined together. Dickens took the ideal nature of womanhood and the depravity of the prostitute, and combined them in a remarkable dramatization which he had some right to claim was also true to life. The book is an astounding rebuttal of contemporary prejudice, and a call for more humane and liberal attitudes. These attitudes are based on the concepts that there is now a radically different way of looking at human nature, that everything ought to depend on what one is in oneself, and that it is only in love that humans can live purposefully and happily with each other. © 2016, Australian International Academic Centre PTY LTD. All rights reserved.

Ahmad, A.Q., Masoud, M., Ismail, S.S.

Average memory access time reduction via adding victim cache

(2016) International Journal of Applied Engineering Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994477277&partnerID=40&md5=bf619c76e04892000d18b5a807ddeb5b)

[84994477277&partnerID=40&md5=bf619c76e04892000d18b5a807ddeb5b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84994477277&partnerID=40&md5=bf619c76e04892000d18b5a807ddeb5b)

AFFILIATIONS: Computer and Communication Engineering Department, Al-Zaytoonah University of Jordan, Amman, Jordan;

Computer Science and Engineering Department, American University of Ras Al-Khaimah, Ras Al-Khaimah, United Arab Emirates

ABSTRACT: Memory hierarchy performance, specifically cache memory performance, is an increasingly important factor in the performance of modern computers. Victim caching is an improvement to miss caching by placing a small fully-associative cache between a cache and its refill path [1]. This paper presents simulation results of two level cache memory using victim caching, and examines the impact of using the victim cache in improving system performance. Many experiments were conducted and results were recorded, and the performance was illustrated using the percentage of reduction of the average memory access time (AMAT) metric. Experiments indicated that significant performance advantages can be gained through the use of victim caching. © Research India Publications.

Alrajoula, M.T., Al Zayed, I.S., Elagib, N.A., Hamdi, M.R.

Hydrological, socio-economic and reservoir alterations of Er Roseires Dam in Sudan

(2016) Science of the Total Environment, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84989166046&doi=10.1016%2Fj.scitotenv.2016.05.029&partnerID=40&md5=d267e9baea30ee07c778eb9b7941a639)

[84989166046&doi=10.1016%2Fj.scitotenv.2016.05.029&partnerID=40&md5=d267e9baea30ee07c778eb9b7941a639](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84989166046&doi=10.1016%2Fj.scitotenv.2016.05.029&partnerID=40&md5=d267e9baea30ee07c778eb9b7941a639)

AFFILIATIONS: Institute for Technology and Resources Management in the Tropics and Subtropics (ITT), Technische Hochschule Köln, Betzdorferstr. 2, Cologne, 50679, Germany;

Nile Basin department, Water Resources Research Institute (WRI), Delta Barrage 13621, Egypt;

Department of Civil & Infrastructure Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Er Roseires Dam plays a key role in controlling the Blue Nile flow in Sudan. This study explores the influence of the dam on the hydrological regimes, which in turn have implications for the ecosystem. The Range of Variability Approach (RVA) - based on a set of 32 indicators - was applied over the period 1965 to 2014 to establish a safe range of river flow. Moreover, remotely-sensed data of the Normalized Difference Vegetation Index (NDVI) was used to analyse the spatio-temporal variation of the dam's reservoir area over the period 2000-2014. Significant influence on the dry-season hydrological indicators is expressed by high negative hydrological alteration of the range from - 47% to - 100%, but the dam contributes positively through flow regulation during the flood season. Impounding water procedure and fluctuation of water flow caused by the dam are found to induce significant alterations. Releasing less water during the dry season and more gradual impounding process, which are not expected to affect the power generation or irrigation practices, are recommended for better ecological restoration. The total surface area of the reservoir has changed post the implementation of the dam heightening project. Since 2012, the lake surface area has expanded by 250%. Relationships between the lake size and the head have been developed to help in the monitoring of the hydrological conditions and, accordingly, in managing the dam operation. A field survey showed that the dam plays a positive social role as the reservoir supports local activities, such as fishery, farming, and collection of wood and fruits. But increased humidity and health problems have also been noted. The Grand Ethiopian Renaissance Dam (GERD) would have a direct effect on Er Roseires Dam and the river flow downstream. High level of coordination among the riparian countries is recommended for better river water management. © 2016 Elsevier B.V.

Al-Debei, M.M., Al-Lozi, E., Al-Hujran, O., Aloudat, A.

Why 'i-mode' mobile platform failed to succeed outside Japan: An analysis from a business model perspective

(2016) International Journal of Business Innovation and Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84986232856&doi=10.1504%2FIJBIR.2016.078873&partnerID=40&md5=157166b93e4fa91bb8339424312df618)

[84986232856&doi=10.1504%2FIJBIR.2016.078873&partnerID=40&md5=157166b93e4fa91bb8339424312df618](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84986232856&doi=10.1504%2FIJBIR.2016.078873&partnerID=40&md5=157166b93e4fa91bb8339424312df618)

AFFILIATIONS: Department of Management Information Systems, University of Jordan, Amman, Jordan;

Department of Management Information Systems, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Management Information Systems, Princess Sumaya University for Technology, Amman, Jordan

ABSTRACT: Mobile data platforms were firstly introduced to the world by the Japanese telecommunication company, NTT DoCoMo, through its i-mode service which was developed on the basis of modest technology. I-mode mobile platform offers a portfolio of bundled and well-balanced services. In Japan, i-mode is huge and the number of its current users is substantial. After a few years from its roll-out in Japan, NTT DoCoMo launched the service in many other countries in different parts of the world. Unlike the service success in Japan, i-mode seems unsuccessful in the chosen international markets. Hence, this paper aims at examining why i-mode service is very successful in Japan and not in the overseas markets where the service has been launched. To this end, this paper utilises the business model concept as an analytical lens. The outcome of this study suggests that the success or failure of mobile platforms can hardly be attributed to a single reason. Based on our analysis, the success of mobile platforms is heavily driven by the design of the service business model, and the fit between the business model (BM) of the mobile platform and its context. © 2016 Inderscience Enterprises Ltd.

Dajani, D., Yaseen, S.G.

The applicability of technology acceptance models in the Arab business setting (2016) Journal of Business and Retail Management Research, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84981318359&partnerID=40&md5=c088941c5798d0412135459252934aec>

AFFILIATIONS: Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Information Technology acceptance is one of the most advanced streams of Information Systems Research (Venkatesh et al., 2012; Venkatesh and Bala, 2008). Research work indicates that the most important strength of Technology Acceptance Models is their generalizability and applicability across a wide range of technologies and settings. However, the literature lacks research that explains technology adoption and use in developing countries; specifically the Arab business settings. Therefore, the aim of this paper is to review the most recent work on Technology Acceptance Models examined in Arab organizations. It highlights different drivers and impediments to the adoption decision of different information technologies in Arab businesses. The study outcome holds implications and provides recommendations for future research.

Abushihab, I., Abushihab, E.

Marriage in renaissance drama: Defiance of patriarchal authority and social conventions (2016) International Journal of Applied Linguistics and English Literature, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84978977506&doi=10.7575%2faiac.ijalel.v.5n.5p.92&partnerID=40&md5=b9ca245b8bf74873617c888f7703acdb>

AFFILIATIONS: English Department, Alzaytoonah University of Jordan, Amman, Jordan;

Yarmouk, University of Jordan, Irbid, Jordan

ABSTRACT: This paper focuses on the miserable position of women and marriage issues in Renaissance drama. Women were generally considered as a threat to male authority. Girls did not have the right to choose their future husbands and were mostly obliged to marry men they did not like because their choice was based on the principles of the law and norms. Under these miserable conditions, some writers of the period strived to change the negative position of society and challenged the tyranny of male authority. In Elizabeth Cary's *The Tragedy of Mariam* (1613) and John Webster's *The Duchess of Malfi* (1612), Mariam and the Duchess reject the demands of their society to be obedient, and raise voices to assert their selfhood. Mariam decides to get rid of these restrictions by breaking the convention of the silent women and to challenge her husband's authority, and that of her patriarchal society. On a parallel line, The Duchess attempts to deny the authority of social conventions and impose her identity in a patriarchal society. They are rebellious women who refuse to be under male authority and represent the contradictions of female identity in patriarchal cultures. They could not bear their humiliation in their society, and they want to lead a normal life without being controlled. Both die at the end and pay their lives for defying patriarchal authority and social conventions. © 2016, Australian International Academic Centre PTY LTD. All rights reserved.

Mallah, E.M., Rayyan, W.S.A., Dayyih, W.A.A., Elhajji, F.D., Mansour, K.A., Al-Majali, I.S., Arafat, T.A.

Dose-dependent synergistic effect of pomegranate juice on the bioavailability of sildenafil in rats by using HPLC method

(2016) Latin American Journal of Pharmacy, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84978159443&partnerID=40&md5=40e55034bac1339c68326a5898f677ca>

AFFILIATIONS: Department of Pharmaceutical Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy and Medical Sciences, University of Petra, Amman, Jordan;

Al-Zaytoonah University of Jordan Faculty of Pharmacy Department of Basic Sciences, Jordan;

Faculty of Pharmacy, Applied Science Private University, Amman, Jordan;

Al-Ghad International College for Applied Medical Sciences, Tabuk, Saudi Arabia

ABSTRACT: World widely, the prevalence of erection dysfunction (ED) ranged from 2% in men younger than 40 years to 86% in men 80 years or older. Sildenafil citrate, a potent and selective inhibitor of cyclic guanosine monophosphate (cGMP), is widely prescribed for ED treatment. Pomegranate (*Punica granatum*) juice has a high content of polyphenolic flavonoids with antioxidant and anti-atherosclerotic properties. The food-drug interaction was assessed in this study to elucidate the role of pomegranate uptake on the pharmacokinetics of sildenafil citrate in a dose-dependent manner. A set of 30 rats was divided into 5 groups (group A to group E). In the experiment, group (A) had received sildenafil aqueous solution alone, while groups from (B) to (E) had received sildenafil solution with 2, 4, 6, and 8 mL of pomegranate juice, respectively. There was a significant increase in AUC for sildenafil in a proportion of 6% and 9% in groups of D and E, respectively. The maximum serum concentration (C_{max}) of Sildenafil in the control group and the time required to reach maximum concentration (T_{max}) were 131.12 ± 33.82 ng/mL and 0.5 h, respectively. The area under the serum curve (AUC) was 520.96 ± 64.04 (ng/mL*hr). The C_{max} of Sildenafil with pomegranate in group D (129.11 ± 30.12) and group E (127.35 ± 27.9689) ng/mL were lower than Sildenafil alone, whilst T_{max} was longer 1 and 1.5 h and AUC bigger (564.19 ± 54.46 and 547.78 ± 39.12 ng/mL.h, P < 0.05). There was a sustained release for sildenafil when administered with pomegranate as the elimination rate has decreased and the values of T_{1/2} have increased. Pomegranate has increased the bioavailability of sildenafil by affecting both absorbance and concentrations of sildenafil in blood stream in a dose-dependent manner; therefore, food-drug interactions should be taken in consideration when treating ED patients. © 2016, Colegio de Farmaceuticos de la Provincia de Buenos Aires. All rights reserved.

Al-Dahoud, A., Fezari, M., Wassila, A., Al-Rawashdeh, T.

Multiclass SVM/HMM vowels recognition system towards improving human computer interaction

(2016) *Advances in Intelligent Systems and Computing*, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-84976427812&doi=10.1007%2f978-3-319-39639-2_1&partnerID=40&md5=a50f2c23b965f7fc5b653326be61eccc

AFFILIATIONS: Faculty of IT, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Faculty of Engineering, Badji Mokhtar Annaba University, BP: 12, Annaba, 23000, Algeria

ABSTRACT: In this paper, we present experimental results on using vowels and one syllable words (VOSW) to activate some input device such as the control of mouse pointer on the screen. This type of Human Computer Interface might be used by a category of disabled person such as upper arm and finger stroke. Our goal is to design a system for the control of mouse cursor based on voice input command, using the pronunciation of certain vowels and some syllable words which can be produced even by persons affected by chronic inflammation of the larynx and vocal fold nodules. Linear predictive coefficients (LPC) and Mel Frequency Cepstral Coefficients (MFCCs) with derivatives are selected as features. Multiclass SVM then Hidden Markov Models (HMMs) have been tested as classifiers for matching components (vowels and short words). Tests and results using different features were presented on tables, then the two classifiers were experimented independently and results were registered. Finally a verbal user interface has been designed and experienced on web page browser. © Springer International Publishing Switzerland 2016.

Muhairat, M.I., AbdelQader, A.

A mathematical model to verify a reverse engineering approach which convert form fill format into UML class diagram

(2016) *International Journal of Software Engineering and its Applications*, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84971543390&doi=10.14257%2fijseia.2016.10.5.05&partnerID=40&md5=2a6597aa4ac83a762fe8c8b6e5658249>

AFFILIATIONS: Department of Software Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan; Department of Multimedia Systems, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper proposes a mathematical model to verify a reverse engineering approach which converts a form fill format document into a UML class diagram. The proposed approach used to convert a form fill format document into a UML class diagram consists of the following phases. The first phase is the capturing process that scans the form document and identifies the form components into tables; the second step is the normalization process that normalizes the tables in the first phase. The third phase is the mapping process to construct and build the relationship diagram. Finally, the translation process is conducted to construct and build the class diagrams. To verify the correctness of algorithms Interpreted Petri Nets Models will be generated to implement the proposed transformation processes (i.e. Capturing, normalization, mapping, and translation process). This verification is done because the importance of this approach as a helpful algorithm for researchers and practitioners in the Software Engineering field, since most of the reverse engineering approaches are based on source code. This approach is tested by using several word form fill format documents and shows a significant result. © 2016 SERSC.

Badinjki, T.

Agitation for social justice and moral reform in Yeast and Alton Locke: Dialectical interplay between rigid attitudes and humanistic approach

(2016) International Journal of Applied Linguistics and English Literature, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84970031359&doi=10.7575%2faiac.ijalel.v.5n.4p.1&partnerID=40&md5=5567791f43072c9b97a42b9d7b880570)

84970031359&doi=10.7575%2faiac.ijalel.v.5n.4p.1&partnerID=40&md5=5567791f43072c9b97a42b9d7b880570

AFFILIATIONS: Department of English, Al-Zaytoonah University, Amman, 11732, Jordan

ABSTRACT: In his attempt to bring about social reform of the appalling conditions of the working class, Charles Kingsley turned his fictional works into serious instruments of social justice and platforms to spread his views to the public. He envisioned his novels, as opportunities for readers to see with new eyes the possibilities of cooperation between classes, and called for a change of heart and for the prevailing of fellow-feeling and human brotherhood. The shadowy and degraded figures of Alton Locke and Yeast, are shown as victims of the prevailing social class division and morally irresponsible industrial relationships. Kingsley draws attention to their miserable conditions but does not delve deep into their problems. He makes touching pictorial description of their miserable conditions for the sake of raising his readers' pity, and he uses them as instruments of bringing about social reform. © 2016, Australian International Academic Centre PTY LTD. All rights reserved.

Tamimi, A.A.

A key dependent encryption algorithm based on multiple bitwise-shuffling and XOR variable-length partitions

(2016) Journal of Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84969577632&doi=10.3844%2fjcssp.2016.98.105&partnerID=40&md5=b194c843297546233f5b77d434e88d7c)

84969577632&doi=10.3844%2fjcssp.2016.98.105&partnerID=40&md5=b194c843297546233f5b77d434e88d7c

AFFILIATIONS: Department of Computer Science, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This new algorithm employs shuffling procedures combined with variable-length key-dependent XOR and S-box substitutions to perform lossless image encryption. This algorithm was implemented and tested by performing different permutations of shuffling, XOR encryption and S-box substitution. Empirical analysis using different types of test images of different sizes showed that this new algorithm is effective and resistant to statistical attacks. The idea presented by this algorithm may be generalized to apply to input data other than images and may be combined with other encryption methods. © 2016 Abdelfatah Aref Tamimi.

Al-Qawabah, S.M.A., Zaid, A.I.O., Qandil, A.

Comparison between Mo addition to Al grain refined by Ti and Ti+B on its metallurgical and mechanical characteristics in the cast and after ECAP process conditions

(2016) Key Engineering Materials, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84967240074&doi=10.4028%2fwww.scientific.net%2fKEM.689.23&partnerID=40&md5=880912b033a59ed5ea49c8498862fb6f)

84967240074&doi=10.4028%2fwww.scientific.net%2fKEM.689.23&partnerID=40&md5=880912b033a59ed5ea49c8498862fb6f

AFFILIATIONS: Mechanical Engineering Department, Al-Zaytoonah University of Jordan, Amman, Jordan; Mechanical and Industrial Engineering Department, Applied Science Private University, Amman, 11931, Jordan;

Applied Science Private University, Civil Engineering Department, Amman, 1193, Jordan

ABSTRACT: Aluminum and its alloys are widely used materials; they are next to steel in use mainly in the automobile industry due to their high strength - to - weight ratio and corrosion resistance beside its other attractive properties. Against their attractive properties; they have the disadvantage of solidifying in columnar structure which tends to reduce their mechanical characteristics and surface quality. Therefore it became customary to grain refine them either by Ti or Ti+B to overcome this discrepancy. In this paper, comparison between Molybdenum addition to commercially pure aluminum grain refined by Ti and Ti+B on its grain size and mechanical characteristics both in the cast and after pressing by the ECAP process is investigated and the obtained results are presented and discussed. © 2016 Trans Tech Publications, Switzerland.

Abdallah, M.M.A., Tamimi, H.A.

Clouser: Clause slicing tool for C programs

(2016) International Journal of Software Engineering and its Applications, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84963799327&doi=10.14257%2fijseia.2016.10.3.05&partnerID=40&md5=ced1d2882ce8ea28c18478ce9b8f9312)

84963799327&doi=10.14257%2fijseia.2016.10.3.05&partnerID=40&md5=ced1d2882ce8ea28c18478ce9b8f9312

AFFILIATIONS: Department of Software Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan; Department of Computer Science, University of Koblenz-Landau, Koblenz, Germany

ABSTRACT: The Clause slicing technique is a static slicing technique. The clause slice criterion is the clause, which is the smallest part of the code line, with the clause number. In this paper, we

introduce the "Clouser," which is a new clause slicing tool for C programs. The Clouser is a slicing tool that divides the program code lines into clauses, depending on certain rules, and then it slices the clauses by applying the rules of clause slicing and returns the slices of the slice criterion. Compared to other static slicing techniques, clause slicing is more accurate because it considers all code phrases that may affect the program flow. Implementation results showed that the Clouser succeeded in automating a part of clause slicing. © 2016 SERSC.

Srouji, A.F., Ab Halim, M.S., Lubis, Z., Hamdallah, M.E.

International standards as corporate governance mechanisms and credibility gap in Jordan financial managers' point of view

(2016) International Business Management, .

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[84953791847&doi=10.3923%2fibm.2016.751.758&partnerID=40&md5=4fa09d2cf8adc6cf8d6b1b2c38667c69](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84953791847&doi=10.3923%2fibm.2016.751.758&partnerID=40&md5=4fa09d2cf8adc6cf8d6b1b2c38667c69)

AFFILIATIONS: School of Business Innovation and Technopreneurship, University Malaysia Perlis, Perlis, Malaysia;

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ABSTRACT: This study aimed to examine what financial managers think about auditors implementation in relation with corporate governance mechanisms and credibility gap by using an inferential descriptive statistical analysis. Corporate governance has shown flaws where part of it was done to the weakness of financial managers activism and since auditing is a very important avenue of faithful representation (credibility gap) of financial statements and since shareholders depend on auditors' reports, this study utilized primary data by distributing a questionnaire to the financial managers in Jordanian industrial companies registered in Amman Stock Exchange to study the effect of implementation. The study focused on the affect and relationship of the auditors' implementation of International Audit Standards and International Standards on Quality Control on the credibility gap by using regression analysis and the demographic factors by using one way ANOVA. Results showed a positive relationship between auditors' implementation of International Audit Standards on the credibility gap as well as to the International Standards on Quality Control and results also showed that respondents elder than 45 years were more realizable of the credibility gap than the younger ones as well as to the PhD degree holders and those above 15 years of experience. © Medwell Journals, 2016.

Abu Khalaf, R., Abdula, A.M., Mubarak, M.S., Taha, M.O.

Tryptophan and thiosemicarbazide derivatives: Design, synthesis, and biological evaluation as potential β -D-galactosidase and β -D-glucosidase inhibitors

(2015) Medicinal Chemistry Research, .

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[4&partnerID=40&md5=ee4f5fddef794290073136dd251c454c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930929603&doi=10.1007%2fs00044-014-1314-4&partnerID=40&md5=ee4f5fddef794290073136dd251c454c)
AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

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ABSTRACT: Glycosidases, including β -D-galactosidase and β -D-glucosidase, are involved in a range of metabolic disorders, such as cancer, viral or bacterial infections, and diabetes. Previously, we scanned the pharmacophoric space of these enzymes and had a self-consistent and predictive quantitative structure-activity relationship that was used to identify several β -D-galactosidase and β -D-glucosidase inhibitors via in silico search of structural databases. Guided by the preceding modeling efforts, synthesis of a series of tryptophan and thiosemicarbazide derivatives as β -D-galactosidase and β -D-glucosidase inhibitors that match the generated pharmacophores followed by in vitro bioassay was carried out. Synthesized compounds 3c (37 % inhibition at 100 μ M) and 4d (49 % inhibition at 100 μ M) exhibited the best inhibitory bioactivities against β -D-galactosidase and β -D-glucosidase, respectively. They can serve as a promising lead compounds for the development of potential glycosidase inhibitors. © Springer Science+Business Media New York 2014.

Masoud, M.Z., Jaradat, Y., Jannoud, I.

On preventing ARP poisoning attack utilizing Software Defined Network (SDN) paradigm

(2015) 2015 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies, AEECT 2015, .

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[85002323006&doi=10.1109%2fAEECT.2015.7360549&partnerID=40&md5=2ea9c8ae7dacc2858e90bff518a9320b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85002323006&doi=10.1109%2fAEECT.2015.7360549&partnerID=40&md5=2ea9c8ae7dacc2858e90bff518a9320b)

AFFILIATIONS: Computer and Communication Engineering Department, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: in this work, SDN has been utilized to alleviate and eliminate the problem of ARP poisoning attack. This attack is the underlying infrastructure for many other network attacks, such as, man in

the middle, denial of service and session hijacking. In this paper we propose a new algorithm to resolve the problem of ARP spoofing. The algorithm can be applied in two different scenarios. The two scenarios are based on whether a network host will be assigned a dynamic or a static IP address. We call the first scenario SDN-DYN; the second scenario is called SDN-STA. For the evaluation process, a physical SDN-enabled switch has been utilized with Ryu controller. Our results show that the new algorithm can prevent ARP spoofing and other attacks exploiting it. © 2015 IEEE.

Obeidat, Q.T., Campbell, T.A., Kong, J.

Introducing the Edges Paradigm: A P300 Brain-Computer Interface for Spelling Written Words

(2015) IEEE Transactions on Human-Machine Systems, .

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ABSTRACT: P300-based brain-computer interface spellers employ the P300 component, which is derived from scalp measured electroencephalogram during the brain's electrical response to a flash denoting an attended target character. The most popular P300 speller, the row-column paradigm (RCP), displays characters in a matrix within which rows and columns of characters are flashed eliciting P300 responses when the illuminated row or column contains the attended target character. Despite being a longstanding successful approach, this RCP faces several challenges, including the adjacency and crowding problems. A new P300 speller is introduced - the edges paradigm (EP). Distinct from existing P300 spellers, the EP presents a square adjacent to each column or row in the outer boundary of the matrix. By replacing each flash of a row or column with that square, this EP exhibited attenuated influences of crowding and adjacency - problems known to perturb the RCP. In the copy-spelling mode, 14 neurologically normal participants demonstrated an improved accuracy of $93.3 \pm 2.0\%$ for the EP relative to $81.7 \pm 2.8\%$ for the RCP, alongside a faster communication rate. Subjective ratings also indicated that the EP caused significantly less fatigue, while increasing alertness and comfort. © 2015 IEEE.

Al-Manasrah, Y., Kittaneh, F.

A generalization of two refined Young inequalities

(2015) Positivity, .

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[8&partnerID=40&md5=e96dfeec861facec7321e7db85e407a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945494795&doi=10.1007%2fs11117-015-0326-8&partnerID=40&md5=e96dfeec861facec7321e7db85e407a)

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ABSTRACT: We prove that if (Formula presented.) then for $m=1,2,3,\dots$, we have (Formula presented.), where $r_0=\min\{v,1-v\}$. This is a considerable generalization of two refinements of the classical Young inequality due to Kittaneh and Manasrah, and Hirzallah and Kittaneh, which correspond to the cases $m=1$ and $m=2$, respectively. As applications of this inequality, we give refined Young-type inequalities for the traces, determinants, and norms of positive definite matrices. © 2015, Springer Basel.

Nawaiseh, M.E.

Do firm size and financial performance affect corporate social responsibility disclosure: Employees' and environmental dimensions?

(2015) American Journal of Applied Sciences, .

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[84949954392&doi=10.3844%2fajassp.2015.967.981&partnerID=40&md5=487a3aef4c293d305ae3b62359851913](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84949954392&doi=10.3844%2fajassp.2015.967.981&partnerID=40&md5=487a3aef4c293d305ae3b62359851913)

AFFILIATIONS: Department of Accounting, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: The paper empirically tests the impact of company size and financial performance on Corporate Social Responsibility Disclosure (CSR), from the Employees' and Environmental Dimensions perspective with reference to the disclosure frequency and quality of these dimensions among Jordanian industrial public share holding companies; whether there is an impact of firm size measured by total assets, ROA, ROE and Leverage on Corporate Social Responsibility Disclosures levels toward employees' dimension (CSR1) and the environmental activities Dimension (CSR2) in the Jordanian public industrial firms. The paper analysis is based on contents disclosed in their annual reports for 2013. The study applies suggested CSR checklist for measuring the extent of CSR in annual reports of these companies. Regression analysis is used to examine this issue. This study describes from theoretical point-of-view, social responsibility activities, as well as some financial performance, and firm size. Then, an empirical review is gained of reports published by a representative sample from the industrial sector. An attempt has been made to verify if there is a correlation between CSR1, CSR2 contents disclosed, financial performance; profitability, Leverage

and size. The paper found solid evidence to accept positive significant influence of company size on both types of CSRD dimensions; employees and the environment. It found a negative significant impact of leverage on CSRD - both employees and environment- dimensions. However, the study showed a positive significant impact of operating performance measured by Return on Assets (ROA) for the sample on CSRD towards employees dimension only, the impact of ROA on CSRD towards the environmental dimension is positive and insignificant. The impact of ROE has negative insignificant on CSRD towards employees. Consequently, it showed Positive insignificant impact of ROE on CSRD towards environmental dimension. This paper opens a new research path in CSRD, financial performance and size, for a possible link between both variables; a matter that has not been previously explored in Jordanian Industrial Public Shareholding Companies. © 2015 Mohammad Ebrahim Nawaiseh.

Sweidan, K., Sabbah, D.A., Engelmann, J., Abdel-Halim, H., Sheikha, G.A.

Computational docking studies of novel heterocyclic carboxamides as potential PI3K α inhibitors (2015) Letters in Drug Design and Discovery, .

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[8494652518&doi=10.2174%2f1570180812666150529205248&partnerID=40&md5=2f4621f0e6dab3faf48303389759a836](https://www.scopus.com/inward/record.uri?eid=2-s2.0-8494652518&doi=10.2174%2f1570180812666150529205248&partnerID=40&md5=2f4621f0e6dab3faf48303389759a836)

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ABSTRACT: Drugs comprising a heterocyclic system show widespread therapeutic impact such as antimicrobial, antidepressant, antihypertensive, and anticancer activity. We describe herein computational studies that support the promising biological activity of four new compounds (5, 6, 10 and 13). The wild-Type and mutant phosphatidylinositol-4,5-bisphosphate 3-kinase α (PI3K α) proteins were used as models to explore the potential interaction of the designed molecules with this important kinase involved in the growth regulation of cancer cells. The results of our studies showed that the verified compounds ought to fit into the kinase domain of wild-Type and mutant PI3K α s. It is predicted that they interact with S774, K802, Y836, V851, S854, T856, Q859, and D933 that are known to be key binding residues for active inhibitors both in wild-Type and mutant PI3K α s. Docking scores infer the selectivity of compounds 5, 6 and 10 toward the mutant PI3K α (H1047R), whereas compound 13 displayed a slightly higher affinity to the wild-Type protein. The pharmacophore modeling of PI3K α inhibitors showed that the explored compounds shared four out of five pharmacophoric points with such inhibitors. Thus, the recently developed four compounds might be recruited as lead structures for the design of new antitumor drugs targeting PI3K α . © 2015 Bentham Science Publishers.

Hawwa, A.F., AlBawab, A.Q., Rooney, M., Wedderburn, L.R., Beresford, M.W., McElnay, J.C.

Methotrexate polyglutamates as a potential marker of adherence to long-term therapy in children with juvenile idiopathic arthritis and juvenile dermatomyositis: An observational, cross-sectional study (2015) Arthritis Research and Therapy, .

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[z&partnerID=40&md5=e31737018f5de6e6c3c985fa6df77525](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84944908799&doi=10.1186%2f13075-015-0814-z&partnerID=40&md5=e31737018f5de6e6c3c985fa6df77525)

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ABSTRACT: Introduction: Methotrexate (MTX) is a cornerstone of treatment in a wide variety of inflammatory conditions, including juvenile idiopathic arthritis (JIA) and juvenile dermatomyositis (JDM). However, owing to its narrow therapeutic index and the considerable interpatient variability in clinical response, monitoring of adherence to MTX is important. The present study demonstrates the feasibility of using methotrexate polyglutamates (MTXPGs) as a biomarker to measure adherence to MTX treatment in children with JIA and JDM. Methods: Data were collected prospectively from a cohort of 48 children (median age 11.5 years) who received oral or subcutaneous (SC) MTX therapy for JIA or JDM. Dried blood spot samples were obtained from children by finger pick at the clinic or via self- or parent-led sampling at home, and they were analysed to determine the variability in MTXPG concentrations and assess adherence to MTX therapy. Results: Wide fluctuations in MTXPG total

concentrations (>2.0-fold variations) were found in 17 patients receiving stable weekly doses of MTX, which is indicative of nonadherence or partial adherence to MTX therapy. Age ($P = 0.026$) and route of administration ($P = 0.005$) were the most important predictors of nonadherence to MTX treatment. In addition, the study showed that MTX dose and route of administration were significantly associated with variations in the distribution of MTXPG subtypes. Higher doses and SC administration of MTX produced higher levels of total MTXPGs and selective accumulation of longer-chain MTXPGs ($P < 0.001$ and $P < 0.0001$, respectively). Conclusions: Nonadherence to MTX therapy is a significant problem in children with JIA and JDM. The present study suggests that patients with inadequate adherence and/or intolerance to oral MTX may benefit from SC administration of the drug. The clinical utility of MTXPG levels to monitor and optimise adherence to MTX in children has been demonstrated. Trial registration: ISRCTN Registry identifier: ISRCTN93945409. Registered 2 December 2011. © 2015 Hawwa et al.

Al-Jazzar, S.O., Aldalahmeh, S.

Relay self-interference minimisation for QAM signals

(2015) 2015 4th International Conference on Future Generation Communication Technology, FGCT 2015, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84963553194&doi=10.1109%2fFGCT.2015.7300235&partnerID=40&md5=159ea355af991ea456f0799a2dc9d703)

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ABSTRACT: This paper introduces a self-interference (SI) minimisation technique for amplify and forward (AF) relays. Relays are used to help forward signals between a source and a destination. The AF relay amplifies the signal it receives then transmits it to the destination. Due to imperfect antenna isolation between the receiving and transmitting antennas at both ends of the relay, the transmitted signal will interfere with the relay's received signal. This will cause a SI problem. A solution is proposed in this paper to combat such a case by two tapped filter before the amplification stage. One of this filter's weights will be evaluated adaptively using the least mean squared (LMS) algorithm. The solution achieved does not require a priori knowledge of the SI channel weight. Simulation results are provided in this paper to verify the proposed methods performance. © 2015 IEEE.

Al-Debei, M.M., Al-Lozi, E., Al-Hujran, O.

Critical design and evaluation factors of mobile business models: "Road block" eradicators for mobile networks operators

(2015) Journal of Enterprise Information Management, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942025553&doi=10.1108%2fJEIM-05-2014-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942025553&doi=10.1108%2fJEIM-05-2014-0050&partnerID=40&md5=c2f7baef7c7428fedf065ac3c8025a43)

[0050&partnerID=40&md5=c2f7baef7c7428fedf065ac3c8025a43](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942025553&doi=10.1108%2fJEIM-05-2014-0050&partnerID=40&md5=c2f7baef7c7428fedf065ac3c8025a43)

AFFILIATIONS: Department of Management Information Systems, The University of Jordan, Amman, Jordan; Department of Management Information Systems, Al-Zaytoonah University of Jordan, Amman, Jordan; Department of Management Information Systems, Princess Sumaya University for Technology, Amman, Jordan

ABSTRACT: Purpose – The purpose of this paper is to define critical design and evaluation factors of business models (BM) for mobile network operators (MNOs) in general, and more specifically for mobile data services. Design/methodology/approach – This paper follows a qualitative approach. Aiming to identify critical design factors for mobile BMs, this research, as a part of larger research, examines three real-life cases related to mobile data service BM design and engineering. These cases are Orange Business Services (OBS); Apple's iPhone services and applications, and NTT DoCoMo's i-mode service. Findings – In this paper, the authors provide a framework for designing and developing Market-Aligned, Cohesive, Dynamic, Explicit, and Unique BMs with Fitting Network-Mode, which, if adopted by MNOs, would ensure their long-term success by improving the sustainability and innovation capabilities of their BMs. These critical design factors address different spheres of the mobile business: "Cohesion" and "Explicitness" are operator-oriented, whereas "Market-Alignment," "Dynamicity," "Uniqueness," and "Fitting Network-Mode" are industry-oriented. Research limitations/implications – Although the paper provides in-depth analysis of three case studies in the context of mobile telecommunications, the authors cannot claim that the developed framework can be generalized to all services in the mobile telecommunications industry. Further validation through empirical testing is preferred and this could be done in future research. Practical implications – The developed framework is of value to MNOs as it provides them with a holistic approach for designing and also evaluating successful BMs over time. This is because the developed framework defines critical design factors for BMs in the contexts of their environments. Originality/value – The domain of BMs is still emerging within the field of information systems. The majority of prior studies either tackled the issue of BM definition or provided taxonomies and classifications of this concept. The originality of this paper comes from the fact that it takes further steps in developing the concept by providing a comprehensive framework which encapsulates critical design and evaluation factors of mobile BMs. © 2015, Emerald Group Publishing Limited.

Al-Sammarai, M.F.

Contrast enhancement of roads images with foggy scenes based on histogram equalization

(2015) 10th International Conference on Computer Science and Education, ICCSE 2015, .

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[84957922165&doi=10.1109%2fICCSE.2015.7250224&partnerID=40&md5=f98653d2cee4fdc332f274dca3bc797e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84957922165&doi=10.1109%2fICCSE.2015.7250224&partnerID=40&md5=f98653d2cee4fdc332f274dca3bc797e)

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ABSTRACT: Bad weather, particularly fog, commonly obstruct drivers from observing road conditions. This could frequently lead to a considerable number of road accidents. To avoid the problem, automatic methods have been proposed to enhance visibility in bad weather. Methods that work on visible wavelengths, based on the type of their input, can be categorized into two approaches: those using polarizing filters, and those using images taken from different fog densities. Both of the approaches require that the images are multiple and taken from exactly the same point of view. While they can produce reasonably good results, their requirement makes them impractical, particularly in real time applications, such as vehicle systems. Considering their drawbacks, our goal is to develop a method that requires solely a single image taken from ordinary digital cameras, without any additional hardware. For decades, several image enhancement techniques have been proposed. Although most techniques require profuse amount of advance and critical steps, the result for the perceive image are not as satisfied. The method principally uses color and intensity information. It enhances the visibility after estimating the color of skylight and the values of air light. The experimental results on real images show the effectiveness of the approach. © 2015 IEEE.

Al-Hiari, Y.M., Shakya, A.K., Al-Rajab, W.J., Abdel Rahim, E.A., Alzweiri, M.H., Rustam, L., Darwish, R.

Antimicrobial screening of novel N-4-fluorophenylquino-[7,8-b][1,4]-benzodiazepin-3-carboxylic acid derivatives

(2015) Revue Roumaine de Chimie, .

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[84946900111&partnerID=40&md5=5f8c6a95301f130b7159e94932399faa](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84946900111&partnerID=40&md5=5f8c6a95301f130b7159e94932399faa)

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Faculty of Pharmacy and Medical Sciences, Al-Ahliyya Amman University, Amman, 19328, Jordan;

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ABSTRACT: New 6-fluoro-4,12-dioxo-4,7,12,13-tetrahydro-1H-quino-[7,8-b][1,4]-benzodi-azepine-3-carboxylic acid derivatives with N-4-fluorophenyl substitution were prepared and characterized for the first time. In-vitro antimicrobial screening of targets and related intermediates revealed that the quino[7,8-b]benzodiazepines targets 11a-c have shown good antibacterial activity against gram positive strains whereas other intermediates (9 and 10) are having stronger and broader spectrum of activity. Compounds 10 a, b and c were most active against standard and resistant gram positive strain and standard gram negative strain. In particular compound 10a was 4 fold stronger than reference drug (ciprofloxacin) against standard *S. aureus* and exhibited comparable activity to reference against resistant gram positive strain with MIC values of 0.37 and 23.4 µg/ml, respectively. It was also as active as reference against both gram negative *E. coli* and *P. aeruginosa* strains with MIC values of 0.18 and 23.4 µg/mL, respectively. Compounds 9a-c showed the best antifungal activity against *C. albicans* and *C. glabrata*.

Mukattash, T.L., Nuseir, K.Q., Biltaji, E., Jarab, A.S., Alefan, Q.

Students' perceptions of pharmacy as a specialization and their future career, a cross sectional study of final year pharmacy students in Jordan

(2015) Jordan Journal of Pharmaceutical Sciences, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942848317&doi=10.12816%2f0030450&partnerID=40&md5=ae24e96d698763b481da0d901dcbcbf1)

[84942848317&doi=10.12816%2f0030450&partnerID=40&md5=ae24e96d698763b481da0d901dcbcbf1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942848317&doi=10.12816%2f0030450&partnerID=40&md5=ae24e96d698763b481da0d901dcbcbf1)

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Department of Pharmacy, Alzaytoonah University of Jordan, P.O.Box 130, Amman, 11733, Jordan

ABSTRACT: This study aimed to establish a baseline understanding of the career aspirations, motivations and expectations of students within undergraduate pharmacy education in Jordan and to examine students' incentives to select pharmacy and how they feel about their choice as they are approaching graduation. A draft survey instrument was designed to collect the required information. The questionnaire was administered to final year pharmacy students (B.Sc. Pharmacy and PharmD) at the University of Jordan and the Jordan University of science and Technology. The questionnaire was administered at the end of all lectures at both universities. Following data collection, responses were coded and entered into a customized database in SPSS, version 17, for statistical analyses. Chi-square and Fisher exact tests were used to test for significant differences between groups A total of 240 final-year pharmacy students took part in the present study. The majority of respondents (n=147, 61.3%) indicated that pharmacy was not their first choice of study at the time of application to

universities. More than half (n=138, 57.5%) the respondents claimed that they were optimistic regarding the future of pharmacy as a profession. When asked to rank pharmacy among different suggested professions, the majority of respondents (n=95, 39.58%) ranked pharmacy second after medicine and before dentistry. The majority of respondents (n=202, 84.17%) thought they had a positive self image. Students studying pharmacy seem to have optimistic aspirations of their future career and a positive image. Further qualitative research is needed to gain more in-depth understanding of this issue and to create a realistic connection between market needs and pharmacy education outputs. © 2015 DAR Publishers/The University of Jordan. All Rights Reserved.

Sabbah, D.A., Saada, M., Khalaf, R.A., Bardaweel, S., Sweidan, K., Al-Qirim, T., Al-Zughier, A., Halim, H.A., Sheikha, G.A.

Molecular modeling based approach, synthesis, and cytotoxic activity of novel benzoin derivatives targeting phosphoinositide 3-kinase (PI3K α)

(2015) Bioorganic and Medicinal Chemistry Letters, .

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[84934855135&doi=10.1016%2fj.bmcl.2015.06.011&partnerID=40&md5=23b923f0724611d5760cc9f840b94884](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84934855135&doi=10.1016%2fj.bmcl.2015.06.011&partnerID=40&md5=23b923f0724611d5760cc9f840b94884)

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Department of Pharmaceutical Sciences, Faculty of Pharmacy, University of Jordan, Amman, 11942, Jordan;

Department of Chemistry, University of Jordan, Amman, 11942, Jordan;

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ABSTRACT: Abstract The oncogenic potential of phosphatidylinositol 3-kinase (PI3K α) has made it an attractive target for anticancer drug design. In this work, we describe our efforts to optimize the lead PI3K α inhibitor 2-hydroxy-1,2-diphenylethanone (benzoin). A series of 2-oxo-1,2-diphenylethyl benzoate analogs were identified as potential PI3K α inhibitors. Docking studies confirmed that the aromatic interaction is mediating ligand/protein complex formation and identified Lys802 and Val851 as H-bonding key residues. Our biological data in human colon carcinoma HCT116 showed that the structure analogs inhibited cell proliferation and induced apoptosis. © 2015 Elsevier Ltd.

Althunibat, A.

Determining the factors influencing students' intention to use m-learning in Jordan higher education (2015) Computers in Human Behavior, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930959213&doi=10.1016%2fj.chb.2015.05.046&partnerID=40&md5=0b180b9fc5b4acde5b5a633a59eb8ce8)

[84930959213&doi=10.1016%2fj.chb.2015.05.046&partnerID=40&md5=0b180b9fc5b4acde5b5a633a59eb8ce8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930959213&doi=10.1016%2fj.chb.2015.05.046&partnerID=40&md5=0b180b9fc5b4acde5b5a633a59eb8ce8)

AFFILIATIONS: Department of Software Engineering, Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Abstract M-learning is characterized as a powerful element of learning and education for facilitating the learning experiences. With enhanced and rapid advancements in technologies of ICTs (Information and Communication Technologies) and mobile, numerous innovative services and applications are being developed. Therefore, it becomes significant to investigate the factors influencing the intentions of m-learning to be used among the students of higher education institution. This study examines the "Technology Acceptance Model" (TAM), "Theory of Reasoned Action" (TRA) and "Unified Theory of Acceptance and Use of Technology" (UTAUT). The study is based on a survey being conducted across diverse groups of students, belonging to different communities and universities. The survey questionnaire was utilized for collecting the relevant data from 250 respondents. The results analyzed yields the impact that the proposed model of m-learning is comprehensive to study in the institutions of higher education. © 2015 Elsevier Ltd.

Abu Khalaf, R., Jarekji, Z., Al-Qirim, T., Sabbah, D., Shattat, G.

Pharmacophore modeling and molecular docking studies of acridines as potential DPP-IV inhibitors (2015) Canadian Journal of Chemistry, .

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[0039&partnerID=40&md5=e6158d1fe86f66192b1499004ff26892](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84932602517&doi=10.1139%2fcjc-2015-0039&partnerID=40&md5=e6158d1fe86f66192b1499004ff26892)

AFFILIATIONS: Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

College of Science and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT: Inhibition of dipeptidyl peptidase-IV (DPP-IV) prevents the inactivation of gastric inhibitory polypeptide (GIP) and glucagon-like peptide-1 (GLP-1). This increases circulating levels of active GLP-1 and GIP and stimulates insulin secretion, which results in lowering of glucose levels and improvement of the glycemic control in patients with type 2 diabetes. In this study, pharmacophore modeling and docking experiments were carried out and a series of eight novel 2-ethoxy-6,9-disubstituted acridines (13, 15, and 17a-17f) have been designed and synthesized. Then, these compounds were evaluated for their ability to inhibit DPP-IV. Most of the synthesized compounds were

proven to have anti-DPP-IV activity where compound 17b displayed the best activity of 43.8% inhibition at 30 $\mu\text{mol/L}$ concentration. Results of this work might be helpful for further optimization to develop more potent DPP-IV inhibitors. © 2015 Published by NRC Research Press.

Mizher, M.A., Al-Sharaeh, S.H., Ang, M.C., Abdalla, A.M., Mizher, M.A.
Centroid dynamic sink location for clustered wireless mobile sensor networks
(2015) Journal of Theoretical and Applied Information Technology, .
[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84926156364&partnerID=40&md5=fa756c8268e2b54d6bcd9596de972674)

84926156364&partnerID=40&md5=fa756c8268e2b54d6bcd9596de972674

AFFILIATIONS: Institute of Visual Informatics, University Kebangsaan Malaysia, Malaysia;
King Abdullah II School of Information Technology, The University of Jordan, Jordan;
Institute of Visual Informatics, University Kebangsaan Malaysia, Malaysia;
Al-Zaytoonah University, Jordan;

Institute of Visual Informatics, University Kebangsaan Malaysia, Malaysia

ABSTRACT: The wireless sensor network consists of three main components: a large number of small-sized sensors, a remote sink connected to the internet, and a cluster head whose existence depends on the overall network structure. The sensor in the wireless sensor network can be deployed through many ways, such as a simple model, a random walk model, and a random direction model. There were studies that examined networks and their various installation methods to save energy consumption and increase the network lifetime. These were usually achieved by formatting the network structure with one or multi-sinks, with or without clusters, or using static or mobile components such as sink, cluster heads, and sensors. In addition, using a homogeneous or heterogeneous environment implies using special devices as cluster heads or electing them from sensors periodically at specified times depending on different protocols. Previous studies did not focus on saving energy when all network's components were mobile. Our scheme, Centroid Dynamic Sink Location (CDSL), focuses on this case and aims to reduce the energy consumption through moving the sink to the optimal location with respect to the cluster heads. The simulation results indicated that the CDSL scheme increases the network lifetime by saving the cluster heads energy. When the sink is mobile, the network lifetime increased in all cases from 14.21% to 53.09% compared to that which use a fixed sink. © 2005 - 2015 JATIT & LLS. All rights reserved.

Tamimi, A.A., Abdalla, A.M.

An image encryption algorithm with XOR and S-box

(2015) Proceedings of the 2015 International Conference on Image Processing, Computer Vision, and Pattern Recognition, IPCV 2015, .

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85062079570&partnerID=40&md5=eaca36f21f1e56beeb30db53df937f7f

AFFILIATIONS: Department of Computer Science, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This new algorithm performs lossless image encryption by combining variable-length key-dependent XOR encryption with S-box substitution. This algorithm was implemented and tested by performing different permutations of XOR encryption and S-box substitution. Empirical analysis using different types of test images of different sizes showed that this new algorithm is effective and resistant to statistical attacks. The idea presented by this algorithm may be generalized to apply to input data other than images, and may be combined with other encryption methods. © International Conference on Image Processing, Computer Vision, and Pattern Recognition, IPCV 2015. All right reserved.

Alia, M.A.

Cryptosystems based on chaos theory

(2015) Springer Proceedings in Complexity, .

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7_11&partnerID=40&md5=84ca382fc21954ecb2d0ab3d9e4d6808

AFFILIATIONS: Al Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This paper reviews some developments in cryptographic primitives based on chaotic systems; such as Mandelbrot set, Julia set, and logistic map. However we classified the reviewed chaotic cryptosystems into two categories; public-key and nonpublic key cryptosystems. Chaos system has attracted much attention in the field of cryptography due to its properties such as being deterministic and sensitive to the initial values. As it will be indicated in the following sections, researchers are urgently looking for new public-key primitives (encryption, key sharing and digital signature) and nonpublic key system (Hash function) which might be able to replace standard cryptographic algorithms. In the surveyed nonpublic key system, we are showing the latest hash function (chaos Hash Algorithm 1 (CHA-1)) which is based on chaos theory. CHA-1 accepts messages with length less than 280 bits and produces a unique message digest of length 160-bit. As well as in the public-key systems, the creation of the Fractal based public-key primitives is possible because of

the intrinsic connection between the Mandelbrot and Julia Fractal sets. The surveyed chaotic cryptosystems are attractive alternative to the traditional number theory based cryptosystems. © Springer International Publishing Switzerland 2015.

Hawashin, B., Abusukhon, A., Mansour, A.

An efficient user interest extractor for recommender systems
(2015) Lecture Notes in Engineering and Computer Science, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84992747279&partnerID=40&md5=f977bdce5ce66aebd5f0ccca6b8adf46>

AFFILIATIONS: Department of Computer Information Systems, Alzaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Computer Networks, Alzaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Communication and Computer Engineering, Tafila Technical University, Tafila, 66110, Jordan

ABSTRACT: This paper proposes an efficient method to extract user interests for recommender systems. Although item-item content similarity has been widely used in the literature, it could not detect certain user interests. Our solution improves the current work in two aspects. First, it improves the current recommender systems by detecting actual user interests. Second, it considers many types of user interests such as single-Term interest, time interval interest, multi-interests, and dislikes. This extractor would improve recommender systems in many aspects. Our experiments show that our proposed method is efficient in terms of accuracy and execution time.

Yaseen, S.G., Dajani, D., Al-Tae, S.M.

Islamic work ethics and organizational commitment: A case of Jordanian Islamic banks

(2015) Handbook of Research on Islamic Business Ethics, .

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AFFILIATIONS: Faculty of Economics and Administrative Sciences, Al-Zaytoonah University of Jordan, Jordan;

Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: JOBNAME: Ali PAGE: 1 SESS: 11 OUTPUT: Thu Sep 24 13:05:24 2015 15. Islamic work ethics and organizational commitment: a case of Jordanian Islamic banks Saad G. Yaseen, Dima Dajani and Sama Mazen Al-Tae INTRODUCTION Work ethics has been a subject. © Abbas J. Ali 2015.

Al-Rawashdeh, T.A.

Evaluating open source software usability using a multistage fuzzy model approach

(2015) International Review on Computers and Software, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84959167056&doi=10.15866%2firecos.v10i10.7668&partnerID=40&md5=0ba132d37156c7d0fa0c615951f0657d>

AFFILIATIONS: Department of Computer Science, Alzaytoonah University of Jordan, Jordan

ABSTRACT: In recent years, development of Open Source Software has obtained significant importance in the production of software products. Although, developers of Open Source Software have developed software with functional competitiveness as compared to closed proprietary software; computer users still prefer closed proprietary software than open source due its usability strength. On the other hand, once the usability of OSS is evaluated, it would be easier to develop and implement an acceptable and qualitative product, since the software usability is considered to be one of the most important quality factors. Thus, this work proposed a multistage fuzzy model approach for evaluating the Open Source Software usability, which includes nine usability characteristics to be taken into account when designing and implementing OSS software. The model takes a project, developed in MATLAB and quantifies its usability. The Analytical Hierarchy Process (AHP) technique was employed to verify the proposed model approach and to rank its usability characteristics. These characteristics are sequenced according to its importance as follows; learnability, understandability, efficiency, error prevention, memorability, operability, familiarity, attractiveness, and usability-compliance. © 2015 Praise Worthy Prize S.r.l. - All rights reserved.

Rawajbeh, M.A., Haboush, A.

Advanced Object Monitoring Using Wireless Sensors Network

(2015) Procedia Computer Science, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84953239634&doi=10.1016%2fj.procs.2015.09.071&partnerID=40&md5=421b2a4a425928e3023d277a8f3f3e99>

AFFILIATIONS: Computer Networks Department, Al Zaytoonah University of Jordan, Jordan, Jordan;

Computer Science and Network Department, Jerash Private University, Jordan, Jordan

ABSTRACT: The Wi-Fi becomes very common in different environments today. The availability of control and local wireless LAN in addition to supply a communication channel makes the Wi-Fi the choice of many domestic services and personal applications. This paper proposed a design and implementation of

new controlling and monitoring system that used Wi-Fi technology as a network infrastructure topology to connect its parts. This design provides an appropriate interface to the sensors and actuators of the desired environment and provides scalability and flexibility that can manage many hardware interfaces as long as it exists on the range of the Wi-Fi network coverage. The presented system support many environments like home, medical, educational and industrial. Provide monitoring and control using many sensors and actuators. The evaluation shows that the design provides many benefits like, reduced installation costs, where single Wi-Fi system can accomplish many functions with minimal hardware setup. In addition, the presented system is easy deployment, installation, and coverage. © 2015 The Authors.

Rabab'ah, Y., Nazza, N.

Last speech of President Ben Ali between authorization and undermining: (Study in the Analysis of Political Discourse)

(2015) Dirasat: Human and Social Sciences, .

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AFFILIATIONS: Philadelphia University, Jordan;

Al-Zaytoonah University, Jordan

ABSTRACT: In the recent circumstances of the Arab world, so-called presidential speeches have appeared in many countries. In this type of speech, the president addresses his own angry people, who have implemented a revolution against him, in an attempt to calm them down. These speeches have become a special discourse which has various attributes and forms, such as the final presidential speech. This paper examines the final speech of the ousted Tunisian president Zine al-Abidine Ben Ali to the revolting Tunisian people. As he attempted to restore communication with the people though language, the current study relies in its analysis of the speech on the Deliberative Theory. The study scrutinizes the speech as a text; the usages of textual tools such as referral, conjunction, omission, antinomy, compactness, repetition, and synonymy to achieve cohesion. Additionally, it examines the speech as a discourse by focusing on its three elements: the addresser, the addressee, and the subject, and by considering the relationship of all of these elements to the general context of the speech. © 2015 DAR Publishers/University of Jordan. All Rights Reserved.

El-Qirem, F.A., Cockton, G.

Dramatic sketches: A new interaction design resource for communicating contextual factors

(2015) Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), .

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AFFILIATIONS: Department of Software Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan; Northumbria University, Newcastle upon Tyne, NE1 8ST, United Kingdom

ABSTRACT: User-centred design approaches focus on understanding usage contexts and evaluating usage through primary data. Collecting primary data is more feasible for contexts that project teams can directly access. Otherwise, secondary sources may be the only practical source of contextual information (and even when it is not, secondary data can still be valuable). When designing software for localization across global markets, comprehensive collection of primary data may be infeasible, but existing secondary data could be made more accessible via an appropriate design resource. In this paper, we present Dramatic Sketches as a resource for representing cultural factors. We relate a set of Dramatic Sketches to three field research studies in Jordan and show how a few Dramatic Sketches and auxiliary Micro Sketches can compactly communicate many cultural factors. © Springer International Publishing Switzerland 2015.

Masoud, M., Jaradat, Y., Jannoud, I., Alheyasat, O.

A measurement study of the quality of zero line programming technique for smartphones' applications (2015) International Journal on Communications Antenna and Propagation, .

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AFFILIATIONS: Computer and Communication Engineering Department, Al-Zaytoonah University of Jordan, P.O.Box 130, Amman, 11733, Jordan;

Computer Engineering Department, Al-Balaqa' Applied University, Jordan

ABSTRACT: Smartphones and their applications proliferated in the past decade. Subscribers attempt to utilize their smartphones as computers. Smartphones' applications started to compete with standalone and web applications. Enterprises began to offer their services on the web and as smartphone applications. However, many smartphones' platforms exist. This fact complicates the job of the developers on one hand, and increases the number of programmers an enterprise hires on the other hand. To tackle this issue, zero line programming (ZLP) approach has emerged. In this work, a measurement of quality of service (QoS) and quality of experience (QoE) of ZLP technique has been

conducted. A dynamic web-crawler has been implemented to harvest applications information from Appmakr market, which is a market of ZLP's applications. Our results show that ZLP paradigm can help to solve the cross platform issue. In addition, we demonstrated that advertisements are required for users to find and download ZLP applications. Finally, users should provide more feedbacks 'through rating' to allow the developers to enhance their applications and provided services. © 2015 Praise Worthy Prize S.r.l. - All rights reserved.

Qasaimeh, A., Qasaimeh, M., Abu Salem, Z., Melhem, K., Hani, F.B., Abdallah/Qasaimeh, M.R. Adaptive sugeno fuzzy clustering system for intelligent monitoring of inorganic materials in wastewater aeration tanks

(2015) Research Journal of Environmental Toxicology, .

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AFFILIATIONS: Department of Civil Engineering, Jadara University, Jordan;

Department of Software Engineering, Sumayah University, Jordan;

Department of Civil Engineering and Infrastructure, Al Zaytoonah University, Jordan;

Department of Water Management and Environment, The Hashemite University, P.O. Box 150459, Zarqa, 13115, Jordan;

Department of Chemical Engineering, Al-Huson University College, Al-Balqa' Applied University, Salt, Jordan;

Departments of Civil and Environmental Engineering, College of Engineering at Al Lith, Umm Al-Qura University, Saudi Arabia

ABSTRACT: The aim of this study is to control the performance of wastewater treatment plants for treating inorganic materials. Samples of wastewater were investigated along a year. Fuzzy logic modeling procedures were performed onto investigational data to explore with time the concentrations of inorganics in aeration tanks at two stations in Jordan. Model results show that biological treatment of wastewater is not effective to decrease the concentration of inorganic materials. The concentration of each inorganic material at given time and place is being tracked via Fuzzy system. Sugeno-Fuzzy Inference System (FIS) is herein generated by subtractive clustering. The rule extraction method first uses the subtractive clustering function to determine the number of rules and antecedent membership functions and then uses learning estimation to determine each rule's consequent equations. Training technique is conducted using hybrid learning algorithm. It applies a combination of the least-squares method and the back propagation gradient descent method for training FIS membership function parameters to emulate a given training data set. Intelligent monitoring system is then applied; sensors and data logger system provide inputs to fuzzy logic controller. The fuzzy controller uses the FIS generated from experimental data and then the monitor about certain inorganic compound is achieved. The idea of this study is to track inorganic materials concentration at place and time together in the same model that is handy to check it promptly. It provides dynamic control system that is not only records data about concentrations but also gives a decision to comply with standards. © 2015 Academic Journals Inc.

Al-Zabn, I.A.

The significance of privative (Lao -Conditional particle) in the efforts of grammarians and rationalist scholars

(2015) Dirasat: Human and Social Sciences, .

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AFFILIATIONS: Faculty of Arts, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: This study assumes that the expression of grammarians of (lao) significance is true, (lao) indicates the privation of the content of the result depending upon condition, because of the privation of the content of the condition, But it adds a reference of the principle of equal proportion of Commons between two parties of condition in the significance of (lao), for limiting the reasoned, I mean that result depending upon condition, in the causality of condition. This study has shown that, there is a difference about the meaning of Hypothetical clause between the Grammarians theory and Rationalist Scholars theory, and in the theory of Grammarians, the correlation in the (lao) significance, and the causality of its condition, be through external reality, and not through the logical correlation rules, as the theory of Rationalist Scholars, and this difference guides to the solution of many objections about the expression of Grammarians. This study concludes to the scientific results through presentation of scientists theories about the significance of (lao), and through the analysis of these theories by Grammarians method, and Rationalist Scholars method. This study summarizes that the importance of linguistic studies of abstraction of other elements of sciences, which may mislead the results of linguistic studies, and sum up that the importance of linguistic research by the method of grammarians and linguists.

Sweidan, K., Engelmann, J., Rayyan, W.A., Sabbah, D., Zarga, M.A., Al-Qirim, T., Al-Hiari, Y.,

Sheikha, G.A., Shattat, G.

Synthesis and preliminary biological evaluation of new heterocyclic carboxamide models

(2015) Letters in Drug Design and Discovery, .

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[84931272311&doi=10.2174%2f1570180812666141201222527&partnerID=40&md5=59ce3a5f414dc9789f7dcddf6b25d6c8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84931272311&doi=10.2174%2f1570180812666141201222527&partnerID=40&md5=59ce3a5f414dc9789f7dcddf6b25d6c8)

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Faculty of Pharmacy, University of Jordan, Amman, 11942, Jordan;

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ABSTRACT: The heterocyclic system is a promising core nucleus in many bioactive compounds. This work describes our effort to synthesize and characterize a set of new biphenyl, benzofuran and benzothiophene carboxamide derivatives. Our biological studies showed that compounds 10 and 17 have antifungal activity against *C. galabrata* more potent than fluconazole compounds 9, 10, and 17 exerted cytotoxic activities in immortalized embryonic mouse fibroblast cells (3T3) and a human cervical cancer cell line (HeLa); in particular, the cyclic amidine derivative 17 showed selective toxicity against HeLa. This study showed that the tested compounds have the potential to be useful as antitumor drugs after further optimization. ©2015 Bentham Science Publishers.

Shattat, G.F., Abuskeika, G.M., Al-Qirim, T.M., Huwaitat, R., El-Huneidi, W., Abu Khalaf, R., Al-Hiari, Y.M., Jasim, S.H., Hamadaneh, L.

Novel pyrrole derivatives as potent lipid-lowering agents in Triton-WR-1339-induced hyperlipidemic rats

(2015) Latin American Journal of Pharmacy, .

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[84930975813&partnerID=40&md5=89cca4452e4bebbcc33f2cee52d76307](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84930975813&partnerID=40&md5=89cca4452e4bebbcc33f2cee52d76307)

AFFILIATIONS: College of Science and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia;

Al-Zaytoonah University of Jordan, Amman, Jordan;

University of Jordan, Amman, Jordan

ABSTRACT: Hyperlipidemia is nowadays one of the main risk factors for cardiovascular diseases. Therefore, synthesis of new compounds with potential lowering effect on blood lipid profiles became a major concern for many researchers. In this study, we were able to synthesize, characterize and validate new series of novel pyrrole derivatives and evaluate their potency as lipid-lowering agents on animal model. Hyperlipidemia was induced in rats using Triton WR-1339 (Tyloxapol). After 18 h and at a dose of 15 mg/kg body weight, C5, C7 and bezafibrate (100 mg/kg) significantly ($p < 0.0001$) reduced the elevated plasma TG as well as that of plasma total cholesterol and LDL levels compared to the hyperlipidemic control group. Promisingly, C5 and C7 were also able to increase HDL level compared to the hyperlipidemic control group. These results insights potential hypolipidemic effects which consequently may contribute as protective agents against atherosclerosis and cardiovascular diseases. © 2015 Colegio de Farmaceuticos de la Provincia de Buenos Aires. All rights reserved.

Al-Allaf, O.N.A.

Performance analysis of MATLAB parallel computing approaches to implement genetic algorithm for image compression

(2015) Studies in Computational Intelligence, .

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[6_25&partnerID=40&md5=dfdd3a0be4677f896ff2792a0bbc5d5e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84922902182&doi=10.1007%2f978-3-319-14654-6_25&partnerID=40&md5=dfdd3a0be4677f896ff2792a0bbc5d5e)

AFFILIATIONS: AL-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This chapter presents how to use parallel computing approaches from MATLAB Parallel Computing Toolbox to implement genetic algorithm for fractal image compression. These approaches are: ParFor, CoDistributor and Parallel Cluster. This is done to decrease processing time as possible as and maintaining reconstructed image quality. Many experiments were executed with comparisons between the three approaches. The experimental results showed that decreasing the GA population size and increasing number of workers used for the three parallel computing approaches can reduce the compression time. Best results obtained from implementing parallel approaches with 6 workers and 150 population size. The execution speed reached 4, CR reached 90.97 % and PSNR reached 34.98 db. At the same time, best results obtained from Parallel Cluster approach and then from CoDistributor approach. © Springer International Publishing Switzerland 2015.

Jannoud, I.A., Masoud, M.Z.

On understanding centrality in directed citation graph

(2015) Lecture Notes in Electrical Engineering, .

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AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Modeling complex networks as directed/undirected graphs is considered one of the most common methods in network science. Citation graph is a directed graph of scientific published papers. This graph has been studied massively in the past decade. Citation graph can be utilized to study relationships between authors and papers. It can be used to study the characteristics of citation network to demonstrate the growth model, graph type and to predicted hot new topics. In this paper, we attempt to study the relationship between popularity of a paper and the publication date. The purpose of this study is to demonstrate the relation between paper quality and hot topics. Betweenness metric has been used to measure the popularity of a published paper. Moreover, a comparison between betweenness and citation count (node degree) has been conducted to show that papers may have a small citation count, however, they may have a great impact in research field. We have generated a directed citation graph by crawling paper information from CiteSeerx. Our study shows that date of publication is important to write a popular paper. However, high quality papers get opportunity to be popular regardless the date of publication. © Springer International Publishing Switzerland 2015.

Al-Qirim, T., Shattat, G., Sheikha, G.A., Sweidan, K., Al-Hiari, Y., Jarab, A.

Synthesis of novel N-(4-benzoylphenyl)-2-furamide derivatives and their pharmacological evaluation as potent antihyperlipidemic agents in rats

(2015) Drug Research, .

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ABSTRACT: In the search for new potential antihyperlipidemic agents, the present study focuses on the synthesis and pharmacological activity of a series of novel N-(4-benzoylphenyl)-2-furamides (3a-3e). Hyperlipidemia was induced in rats by single intraperitoneal injection of Triton WR-1339 (300 mg/kg body weight). At a dose of 15 mg/kg body weight, compounds 3b, 3d and bezafibrate (100 mg/kg) significantly ($p < 0.0001$) reduced elevated plasma triglyceride levels after 18 h compared to the hyperlipidemic control group. However, only groups treated with compounds 3b, and 3d obviously showed a significant ($p < 0.0001$) reduction in plasma total cholesterol levels. Moreover, high density lipoprotein-cholesterol levels were significantly ($p < 0.0001$) increased in animals treated with compounds 3b, 3d and bezafibrate. It is therefore reasonable to assume that compounds 3b and 3d may have promising potential in the treatment of hyperlipidemia. This beneficial activity may contribute to their cardioprotective and antiatherosclerotic role.

Ibrahim, O.M., Dilworth, T.J., Mercier, R.-C.

Reply to "probability of eradication using vancomycin alone or in combination for methicillin-resistant Staphylococcus aureus bacteremia"

(2014) Antimicrobial Agents and Chemotherapy, .

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Nurellari, E., McLernon, D., Ghogho, M., Aldalahmeh, S.

Optimal quantization and power allocation for energy-based distributed sensor detection

(2014) European Signal Processing Conference, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84911884908&partnerID=40&md5=419f2437c07726be6290e4bfe8d7b4bd>

AFFILIATIONS: University of Leeds, United Kingdom;

International University of Rabbat, Morocco;

Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: We consider the decentralized detection of an unknown deterministic signal in a spatially uncorrelated distributed wireless sensor network. N samples from the signal of interest are gathered by each of the M spatially distributed sensors, and the energy is estimated by each sensor. The sensors send their quantized information over orthogonal channels to the fusion center (FC) which linearly combines them and makes a final decision. We show how by maximizing the modified deflection coefficient we can calculate the optimal transmit power allocation for each sensor and the optimal

number of quantization bits to match the channel capacity. © 2014 EURASIP.

Al-Jazzar, S.O., Strangeways, H.J., McLernon, D.C.
2-D angle of arrival estimation using a one-dimensional antenna array
(2014) European Signal Processing Conference, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84911872646&partnerID=40&md5=aa3e331ebd6773673192042bfd97d1b5)

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AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan;

Newcastle University, Newcastle, United Kingdom;

University of Leeds, Leeds, United Kingdom

ABSTRACT: In this paper, a two-dimensional (2-D) angle of arrival (AOA) estimator is presented for vertically polarised waves in which a one-dimensional (1-D) antenna array is used. Many 2-D AOA estimators were previously developed to estimate elevation and azimuth angles. These estimators require a 2-D antenna array setup such as the L-shaped or parallel antenna 1-D arrays. In this paper a 2-D AOA estimator is presented which requires only a 1-D antenna array. This presented method is named Estimation of 2-D Angle of arrival using Reduced antenna array dimension (EAR). The EAR estimator utilises the antenna radiation pattern factor to reduce the required antenna array dimensionality. Thus, 2-D AOA estimation is possible using antenna arrays of reduced size and with a minimum of two elements only, which is very beneficial in applications with size and space limitations. Simulation results are presented to show the performance of the presented method. © 2014 EURASIP.

Nurellari, E., Aldalahmeh, S., Ghogho, M., McLernon, D.

Quantized fusion rules for energy-based distributed detection in wireless sensor networks

(2014) 2014 Sensor Signal Processing for Defence, SSPD 2014, .

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AFFILIATIONS: University of Leeds, United Kingdom;

Al-Zaytoonah University of Jordan, Jordan;

International University of Rabbat, Morocco

ABSTRACT: We consider the problem of soft decision fusion in a bandwidth-constrained wireless sensor network (WSN). The WSN is tasked with the detection of an intruder transmitting an unknown signal over a fading channel. A binary hypothesis testing is performed using the soft decision of the sensor nodes (SNs). Using the likelihood ratio test, the optimal soft fusion rule at the fusion center (FC) has been shown to be the weighted distance from the soft decision mean under the null hypothesis. But as the optimal rule requires a-priori knowledge that is difficult to attain in practice, suboptimal fusion rules are proposed that are realizable in practice. We show how the effect of quantizing the test statistic can be mitigated by increasing the number of SN samples, i.e., bandwidth can be traded off against increased latency. The optimal power and bit allocation for the WSN is also derived. Simulation results show that SNs with good channels are allocated more bits, while SNs with poor channels are censored. © 2014 IEEE.

Sunoqrot, S., Bugno, J., Lantvit, D., Burdette, J.E., Hong, S.

Prolonged blood circulation and enhanced tumor accumulation of folate-targeted dendrimer-polymer hybrid nanoparticles

(2014) Journal of Controlled Release, .

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Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Nanoparticle (NP)-based drug delivery platforms have received a great deal of attention over the past two decades for their potential in targeted cancer therapies. Despite the promises, passive targeting approaches utilizing relatively larger NPs (typically 50-200 nm in diameter) allow for passive tumor accumulation, but hinder efficient intratumoral penetration. Conversely, smaller, actively targeted NPs (<20 nm in diameter) penetrate well into the tumor mass, but are limited by their rapid systemic elimination. To overcome these limitations, we have designed a multi-scale hybrid NP platform that loads smaller poly(amidoamine) (PAMAM) dendrimers (~5 nm in diameter) into larger poly(ethylene glycol)-b-poly(D,L-lactide) (PEG-PLA) NPs (~70 nm). A biodistribution study in healthy mice revealed that the hybrid NPs circulated longer than free dendrimers and were mostly cleared by macrophages in the liver and spleen, similar to the in vivo behavior of PEG-PLA NPs. When injected intravenously into the BALB/c athymic nude mice bearing folate receptor (FR)-overexpressing KB

xenograft, the targeted hybrid NPs encapsulating folate (FA)-targeted dendrimers achieved longer plasma circulation than free dendrimers and higher tumor concentrations than both free dendrimers and the empty PEG-PLA NPs. These results suggest that the hybrid NPs successfully combine the in vivo advantages of dendrimers and polymeric NPs, demonstrating their potential as a new, modular platform for drug delivery. © 2014 Elsevier B.V. All rights reserved.

Al-Allaf, O.N.A.

ParFor and co-distributor parallel approaches for implementing fractal image compression based genetic algorithm

(2014) Proceedings of 2014 Science and Information Conference, SAI 2014, .

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[84909592225&doi=10.1109%2fSAI.2014.6918209&partnerID=40&md5=db841b425a04f8202c8911893b89f250](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84909592225&doi=10.1109%2fSAI.2014.6918209&partnerID=40&md5=db841b425a04f8202c8911893b89f250)

AFFILIATIONS: Faculty of Sciences and IT, AL-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan

ABSTRACT: This research focuses on using Two MATLAB parallel approaches (ParFor and Co-distributor) to implement fractal image compression based on genetic algorithm (GA) to decrease processing time with maintaining quality of the reconstructed images. Many experiments based on these two approaches (ParFor and Co-distributor) were conducted with comparisons. The research results showed that the compression computation time can be reduced when decreasing the GA population size and increasing number of workers in parallel computing. Best results obtained from implementing Co-distributor approach with 6 workers and 150 population size. The execution speed for Co-distributor reached 3s with PSNR equal 34.89db and CR equal 90.65%. © 2014 The Science and Information (SAI) Organization.

Hailpern, S.M., Egan, B.M., Lewis, K.D., Wagner, C., Shattat, G.F., Al Qaoud, D.I., Shatat, I.F.

Blood pressure, heart rate, and CNS stimulant medication use in children with and without ADHD:

Analysis of NHANES data

(2014) Frontiers in Pediatrics, .

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College of Medicine, Medical University of South Carolina, Charleston, SC, United States;

Neonatology, Medical University of South Carolina Children's Hospital, Charleston, SC, United States;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

Pediatric Nephrology and Hypertension, Medical University of South Carolina Children's Hospital, Charleston, SC, United States

ABSTRACT: It is estimated that 2-3% of children in the US have hypertension (HTN) and 8% of children ages 4-17 carry the diagnosis of attention-deficit hyperactivity disorder (ADHD). The prevalence of HTN and cardiovascular (CV) risk factors in children with ADHD on CNS stimulant treatment (stimulants) compared to no treatment and compared to their healthy counterparts is not well described. Using National Health and Nutrition Survey data, we examined demographic, blood pressure (BP) and CV risk factors of 4,907 children aged 12-18 years with and without the diagnosis of ADHD, and further examined the CV risk in a subgroup of ADHD patients on stimulants. Three hundred eighty-three (10.7%) children were reported to have ADHD, of whom 111 (3.4%) were on stimulants. Children with ADHD on stimulants were significantly younger, male, and white compared to those with ADHD not on medication and those without ADHD. Body mass index (BMI), eGFR, cholesterol, the prevalence of albuminuria, and poverty were not significantly different between the three groups. One hundred sixty (2.7%) had BP in the hypertensive and 637 (12.4%) in the pre-hypertensive range. The prevalence of elevated BP (HTN and/or pre-HTN range) was not different between children with ADHD on stimulants compared to ADHD without medication and those without ADHD. Heart rate (HR) was significantly higher in the ADHD group on stimulants vs. the groups ADHD on no stimulants and without ADHD. When the relationship between stimulants and the risk of abnormal BP was examined, there was a significant interaction between having BP in the HTN range and sex. After adjusting for BMI, race, and age, females with ADHD on stimulants tended to be older and had significantly more BP in the hypertensive range. On the other hand, males were more likely to be of a white race and older, but not hypertensive. Children with ADHD on stimulants have significantly higher HR than children with ADHD on no stimulants and children without ADHD. On the other hand, the prevalence of abnormal BP classification is comparable between the three groups. © 2014 Hailpern, Egan, Lewis, Wagner, Shattat, Al Qaoud and Shatat.

Abu Mallouh, M., Abdelhafez, E., Salah, M., Hamdan, M., Surgenor, B., Youssef, M.

Model development and analysis of a mid-sized hybrid fuel cell/battery vehicle with a representative driving cycle

(2014) Journal of Power Sources, .

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84897087332&doi=10.1016%2fj.jpowsour.2014.02.104&partnerID=40&md5=8eafc170ca8f4d919671e8df40e7ccb9
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Department Electrical, Computer and Software Engineering, Automotive Center of Excellence (ACE), University of Ontario Institute of Technology (UOIT), Oshawa, ON L1H7K4, Canada

ABSTRACT: Vehicles powered with internal combustion engines (ICEs) are one of the main pollutant sources in large cities. Most of large cities (e.g. Amman, capital of Jordan) suffer from frequent traffic jams. This leads to frequent stops and starts, and hence, an increase in tailpipe emissions. One way to minimize emissions is to use electric motors in the powertrain configuration. In this study, the performance of a hybrid fuel cell (FC)/battery vehicle is investigated utilizing different worldwide driving cycles. Initially, a model of a mid-sized ICE vehicle is developed and validated against experimental tests. The ICE vehicle validated model is then modified to be driven with only an electric motor powered by a hybrid FC/battery system. The effect of driving pattern, which varies from city to city and from region to region, is investigated. A driving cycle that represents the driving patterns in Amman city is developed based on experimental data and then used to evaluate the performance of both ICE and hybrid FC/battery vehicle configurations. It is found that the performance of the hybrid FC/battery configuration is much better than the ICE version in terms of emissions, fuel economy, efficiency, and speed tracking error. © 2014 Elsevier B.V. All rights reserved.

Sabri, H.M.

Socio-cultural values and organizational culture

(2014) Islam and Business: Cross-Cultural and Cross-National Perspectives, .

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85118429552&partnerID=40&md5=4a1dc16ed1bc678cf3c0468b83e7d7d0

AFFILIATIONS: Faculty of Economics and Administrative Sciences, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: This exploratory study examines if certain dimensions of the socio-cultural values could explain certain types of organizational culture. The proposition merits investigation because it has important implications for local as well as international and global companies. The study first investigates employees' perceptions of the existing and preferred cultural orientations in four Jordanian organizations, and then it compares the results with other studies conducted in other cultures (American and South African). In Jordan data were collected by means of Harrison and Stokes survey for diagnosing organizational culture, the same instrument used in the USA and in South Africa. The study concludes by suggesting that in certain countries the national culture's effects may appear in a particular dominant organizational culture, that is desired by the management, but not actually preferred by employees. This implies that it is more beneficial for international and transnational corporations to develop "strong" cultures rather than to encourage local units to adapt to their national cultures. © 2004 by The Haworth Press, Inc. All rights reserved.

Al-Lozi, E., Al-Debei, M.M., Aloudat, A.

Value capturing and role playing in social networking sites

(2014) IEEE Technology and Society Magazine, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84897834722&doi=10.1109%2fMTS.2014.2301853&partnerID=40&md5=41cae70327fc7c28bfe45141d38bca51)

84897834722&doi=10.1109%2fMTS.2014.2301853&partnerID=40&md5=41cae70327fc7c28bfe45141d38bca51

AFFILIATIONS: Department of Management Information Systems, Al-Zaytoonah University, Amman, Jordan; University of Jordan, Amman, Jordan

ABSTRACT: Digitally Engaged Communities (DECs) are growing exponentially within Social Networking Sites (SNS), such as Facebook, Twitter, Bebo, LinkedIn, and MySpace, thanks to the wide adoption of such sites. Digitally engaged communities are referred to by terms such as online communities, virtual communities, Web communities, and social networks. One of the most widely cited definitions of DECs is that of Preece [31]. She argues that a DEC consists of people, purpose, policies, and the computer systems. She explains that any community is created by a group of people networking together, interacting publicly, sharing similar needs, and governing themselves through an implicit set of protocols guiding their interactions. Preece [31] also indicates that this kind of digital relationship needs to be mediated by the support of technological facilitators. Hence, one can argue that DECs are Web-based networks of interpersonal ties connecting people socially, and allowing them to 1) create a sense of belonging and construct an online profile within a bounded system, and 2) articulate a list of other online contacts with whom they establish relationships and connections. © 1982-2012 IEEE.

Falahat, A.M., Hamdan, M.A., Yamin, J.A.

Engine performance powered by a mixture of hydrogen and oxygen fuel obtained from water electrolysis (2014) International Journal of Automotive Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84897674619&doi=10.1007%2fs12239-014-0011-0&partnerID=40&md5=cdc17837cd2e1cc2e9659aa1752aa100>

AFFILIATIONS: The Mutah University, AL-Karak, 61710, Jordan;

Mechanical Engineering Department, Al Zaytoonah University of Jordan, Amman, 11733, Jordan;

Mechanical Engineering Department, The University of Jordan, Amman, 11942, Jordan

ABSTRACT: In this work, the performance of an SI engine powered with both gasoline and HHO as supplement fuel was studied and compared with pure gasoline-fuelled engine. The amount of HHO gas quantities added was 1, 1.5, and 2 LPM. The engine speed was varied from 1350 to 2250 rpm. The performance was found by measuring the engine torque, the brake power, the brake specific fuel consumption and the thermal efficiency, while gas analyzer was used to measure the amounts of nitrogen oxides and carbon dioxide that are emitted from the engine during operation. It was found that the engine performance was best when 2 LPM HHO gas was used with pure gasoline fuel. Further, it was found that, at high amount of HHO gas addition, the nitrogen oxide decreases. Further, the CO level increased when using HHO gas as supplement fuel. © 2014 The Korean Society of Automotive Engineers and Springer-Verlag Berlin Heidelberg.

Al-Debei, M.M., Aloudat, A., Al-Lozi, E., Al Asswad, M.M.

The role of value networks in the design of mobile platforms: The case of Apple iPhone

(2014) Approaches and Processes for Managing the Economics of Information Systems, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945431595&doi=10.4018%2f978-1-4666-4983-5.ch008&partnerID=40&md5=2ce689ee0600f8145fd4f0989206b6e0>

AFFILIATIONS: University of Jordan, Jordan;

Department of Management Information Systems, Faculty of Business, University of Jordan, Jordan;

Al-Zaytoonah University of Jordan, Jordan;

Cornell University, United States

ABSTRACT: Unlike the simple mobile voice service, which is normally designed and developed by the telecom itself, the development of mobile data services and platforms, due to their complexity, usually requires a collaboration and cooperation amongst many actors within and outside the mobile telecommunication industry such as mobile network operators, content providers, content aggregators, payment gateways, regulatory commissions, and others. The actors usually form the so-called value network in which each actor complements others and adds important value elements to the final value proposition given that actors have different knowledge domains, backgrounds, and expertise. Contrasting value chains where the relationships amongst different parties are to some extent simple and linear, the relationships linking actors in value networks are mainly complex and non-linear, and such relationships had led to a shift from forming value chains to creating value networks in many digital economies such as the mobile telecommunication industry. Although it is argued that designing powerful value networks is critical to the success of mobile platforms, very limited research can be found on explaining and proving this argument. As such, this chapter intuitively utilizes a methodical approach to explain the role of value networks in the design of successful mobile platforms. This chapter demonstrates, through the case of iPhone, how a powerful and well-designed value network is a critical enabler of innovations in the mobile telecommunications industry. Further, the chapter argues that cohesion, fitting network-mode, uniqueness, and dynamicity are four key value drivers of powerful value networks. © 2014, IGI Global.

Daoud, M.Sh., Hopgood, A.A., Al-Fayoumi, M.A., Mimi, H.M.

A new routing area displacement prediction for location-based services based on an enhanced ant colony

(2014) Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84938099992&doi=10.1109%2fsmc.2014.6974428&partnerID=40&md5=9996e5c6d95e06051c70f9081cf4cf40>

AFFILIATIONS: Al-Ain University of Science and Technology, Abu Dhabi, United Arab Emirates;

Sheffield Hallam University, Sheffield, United Kingdom;

Salman Bin Abdulaziz University, Riyadh, Saudi Arabia;

Al Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: In Location-Based Services (LBSs), the service is provided based on the users' locations through location determination and mobility anticipation. Most of the current location prediction research focuses on generalised location models, where the geographic extent is divided into regular shape cells. One such technique is the Mobility Prediction based on an Ant System (MPAS), which depends on the earlier Ant Colony Optimisation (ACO) that suffers from problems such as search stagnation and pheromone update. In this paper, a New Routing Area Displacement Prediction (NRADP) is introduced, which works on the routing-area level instead of the cell level. Experimental results

show that the NRADP offers improved effectiveness, higher prediction rate, and a reduced search stagnation ratio in comparison with the MPAS. © 2014 IEEE.

Bekhet, H.A., Al-Alak, B.A., El-Refae, G.A.

Developing student satisfaction perception model for public and private universities in Malaysia (2014) International Journal of Economics and Business Research, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84928999600&doi=10.1504%2fIJEBR.2014.062896&partnerID=40&md5=340eabad7b95310798a0bdb8c9a678a0)

84928999600&doi=10.1504%2fIJEBR.2014.062896&partnerID=40&md5=340eabad7b95310798a0bdb8c9a678a0

AFFILIATIONS: Graduate Business School, College of Graduate Studies, Universiti Tenaga Nasional, Kajang-Selangor, 43000, Malaysia;

Faculty of Economics and Administrative Science, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman, 11733, Jordan;

Al-Ain University of Science and Technology, P.O. Box 64141, Al-Ain, United Arab Emirates

ABSTRACT: The objective of this research is to propose a tested and validated model based on a variety of customer satisfaction perceptions measures in Malaysia, in both private and public university settings. A convenient sample of 1,200 business students drawn from three public and three private universities was selected to collect and analyse data, using a self-administered questionnaire for this purpose. The development of a holistic model for student satisfaction perceptions and loyalty would help to fill the relevant gaps in the literature. Study recommendations would enable university senior management in Malaysia to benefit by knowing the gaps that should receive the greatest attention in order to gain competitive and comparative advantages. Our proposed model calls upon higher education institutions to place more emphasis on the quality of educational outcomes, and be student-oriented, rather than production oriented (quality vs. quantity). This in turn will lead to a noticeable enhancement of higher education output. Copyright © 2014 Inderscience Enterprises Ltd.

Dilworth, T.J., Ibrahim, O.M., Mercier, R.-C.

Impact of an intravenous trimethoprim/sulfamethoxazole shortage on treatment outcomes among HIV-infected patients with *Pneumocystis jirovecii* pneumonia

(2014) Journal of Managed Care Pharmacy, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84925348880&doi=10.18553%2fjmcph.2014.20.12.1246&partnerID=40&md5=a81af4b434bb183bcd0374a38c7e1d92)

84925348880&doi=10.18553%2fjmcph.2014.20.12.1246&partnerID=40&md5=a81af4b434bb183bcd0374a38c7e1d92

AFFILIATIONS: Wheaton Franciscan Healthcare, St. Francis Hospital, Milwaukee, WI, United States;

Department of Pharmacy, Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan;

Department of Pharmacy Practice and Administrative Sciences, University of New Mexico Health Sciences Center College of Pharmacy, Albuquerque, NM, United States

ABSTRACT: BACKGROUND: Trimethoprim/sulfamethoxazole (TMP/SMX) is the recommended first-line treatment for human immunodeficiency virus (HIV)-infected patients with *Pneumocystis jirovecii* pneumonia (PJP). However, in June 2010, the lone manufacturer of intravenous (IV) TMP/SMX in the United States stopped production of this medication. OBJECTIVES: To (a) evaluate the impact of the national IV TMP/SMX shortage on PJP treatment outcomes between 2 groups of HIV-infected patients-those treated before the shortage and those after the shortage- and (b) compare the length of hospital stay (LOS) and PJP treatment used before and after the shortage. METHODS: A retrospective, quasi-experimental study examining 2 groups of HIV-infected adult patients with PJP was performed at an academic medical center from September 1, 2008, to June 30, 2012. Patients treated when IV TMP/SMX was available, or preshortage (PRE), were compared with patients treated when IV TMP/SMX was not available, or postshortage (POST). PRE included patients treated between September 1, 2008, and May 30, 2010, and POST included patients treated between June 1, 2010, and June 30, 2012. RESULTS: Thirty-six patients were included in the study, 18 in each group. Treatment failure, the primary outcome, included mortality or worsening clinical status (WCS) after at least 5 days of therapy. Three patients in PRE (16.7%) and 6 patients in POST (33.3%) experienced treatment failure ($P = 0.248$). No patients in PRE and 3 patients in POST (16.7%) experienced WCS ($P = 0.035$). Three patients in each group expired. In POST, 5 of the 6 treatment failures (83.3%) occurred during the first 6 months of the shortage. Median (interquartile range) LOS was 11 days (7-17) in PRE and 14 days (5-22) in POST ($P = 0.800$). In PRE, 7 patients (38.9%) were initiated on oral PJP treatment compared with 13 (72.2%) in POST ($P = 0.042$). CONCLUSIONS: The national shortage of IV TMP/SMX may have led to an immediate but temporary negative impact on treatment outcomes among HIV-infected patients with PJP at an academic medical center. Pharmacist collaboration with physicians may have helped mitigate the impact of this drug shortage on patient outcomes. © 2014, Academy of Managed Care Pharmacy.

Mukattash, T.L., Nuseir, K.Q., Jarab, A.S., Alzoubi, K.H., Al-Azzam, S.I., Shara, M.

Sources of information used when prescribing for children, a survey of hospital based pediatricians (2014) Current Clinical Pharmacology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84924289208&doi=10.2174%2f1574884708666131111205339&partnerID=40&md5=7d950cb659fad62f167c4edd58ecd44d)

84924289208&doi=10.2174%2f1574884708666131111205339&partnerID=40&md5=7d950cb659fad62f167c4edd58ecd44d

AFFILIATIONS: Department of Clinical Pharmacy, Jordan University of Science and Technology, P.O.Box 3030, Irbid, 22110, Jordan;

Department of Pharmacy, AlZaitoonah University of Jordan, Amman, Jordan

ABSTRACT: Background: Due to the lack of properly tested medicines for children, there is little available information with regards to indications and dosing of medications in children. Aim: To collect data on sources where hospital based pediatricians obtain prescribing information when treating children and the extent of collaboration with the hospital pharmacist. METHOD: Two hundred and fifty pediatricians in different hospitals within different cities in Jordan were asked to fill in a structured questionnaire regarding information sources used when prescribing for children. Results: Questionnaires were collected from 162 (64.8%) hospital based pediatricians, who have completed the questionnaire by the designated date. Most (75.5%) reported that the Lexi Comp's Drug Information Handbook was the source that they most frequently used for drug information when prescribing for in children. The BNF and the BNFC (British National Formulary for children) were found to be the most sources that contain sufficient information that aids pediatricians when prescribing for children. A minority (22%) claimed to consult with the hospital pharmacist when they face difficulties when prescribing for children. Conclusions: Pediatricians rely on different information sources when they prescribe for children. Those sources vary in their reliability in aiding pediatrician when prescribing. Further work should be done in the provision of useful information on pediatric drug therapy to pediatricians. More steps should be taking place to activate collaboration and interaction between pediatricians and pharmacists as well. © 2014 Bentham Science Publishers

Ridzwan, B.H., Azizan, N.A., Zamli, Z., Zulkipli, F.H., Mazlan, N., Althunibat, O.Y.

Toxicity effects of water extracts of *Holothuria atra* Jaeger in mice

(2014) Asian Pacific Journal of Tropical Biomedicine, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84922684432&doi=10.12980%2fAPJTb.4.201414B154&partnerID=40&md5=1669e680d38ac0452eee304613501ca1)

[84922684432&doi=10.12980%2fAPJTb.4.201414B154&partnerID=40&md5=1669e680d38ac0452eee304613501ca1](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84922684432&doi=10.12980%2fAPJTb.4.201414B154&partnerID=40&md5=1669e680d38ac0452eee304613501ca1)

AFFILIATIONS: Department of Biomedical Science, Faculty of Allied Health Sciences, International Islamic University Malaysia Kuantan Campus, Jalan Sultan Ahmad Shah, Bandar Indera Mahkota 10, Kuantan, Pahang, 25200, Malaysia;

Faculty of Pharmacy, Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Objective: To determine lethal median dose (LD50) and histopathological toxicity of water extract of *Holothuria atra* (H. atra) in mice. Methods: The behavioral changes, mortality and histopathology examination on liver were assessed in mice 14 d after the administration (i.p.) of H. atra water extract. Seven doses (10, 20, 30, 50, 100, 150 and 200 mg/kg) of H. atra were used. The control group was treated with normal saline. Results: In the acute study in mice, the water extracts of H. atra caused dose-dependent general behavior adverse affects and mortality. The main behavioral sign of toxicity was hypoactivity, noticed immediately after administration of the extract which was more obvious at the higher doses and persisted until death. Mortality increased with increasing doses, the calculated LD50 was 41 mg/kg in mice. The liver toxicity was confirmed by histopathological examination, which indicated the presence of abnormal hepatocytes with a distorted shape and undefined cell lining as well as enlarged nuclei in low doses groups. High doses groups indicated a more prominent distortion of the polyhedral hepatocytes with undefined cell lining, massive cytoplasm, pyknotic, karyorhexis and karyolytic nuclei (necrosis of hepatocytes). Control group showed polyhedral hepatocytes with defined cell lining arranged in cords and normal round nuclei, with granular cytoplasm. Conclusions: Because of the relatively low LD50 value in the acute study in mice, it may be concluded that the H. atra water extract is toxic. © 2014 by the Asian Pacific Journal of Tropical Biomedicine.

Al-Naami, B., Abumallouh, M.A., Hafez, E.A.

Performance comparison of adaptive neural networks and adaptive neuro-fuzzy inference system in brain cancer classification

(2014) Jordan Journal of Mechanical and Industrial Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84919729565&partnerID=40&md5=6df9432fec5b17844ddacf3426418682)

[84919729565&partnerID=40&md5=6df9432fec5b17844ddacf3426418682](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84919729565&partnerID=40&md5=6df9432fec5b17844ddacf3426418682)

AFFILIATIONS: Department of Biomedical Engineering, Hashemite University, P.O. Box 150459, Zarqa, 13115, Jordan;

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Department of Mechanical engineering, Al-Zaytoonah University of Jordan, P.O.Box 130, Amman, 11733, Jordan

ABSTRACT: Brain tumors are amongst the top death-leading health conditions worldwide. Biopsy is the most accurate procedure that determines the brain tumor type whether it is malignant or benign. However, biopsy may not be applicable for some patients with brain cancer (BCa) and could be life-threatening. In this paper, an intelligent diagnostic image-based systems are implemented to assist physicians in making diagnostic decisions about the BCa type without biopsy procedures. A combined

method of artificial intelligent systems and MRI image segmentation is proposed as a tumor classification tool. This study employs image filtration and segmentation on a region of interest (ROI) of an MRI image. Then, extract accurate statistical features are fed into four artificial intelligent (AI) systems: Adaptive neuro-fuzzy inference system (ANFIS), Elman Neural Network (Elman NN), Nonlinear AutoRegressive with exogenous neural networks (NARXNN), and feedforward NN. The four AI classifiers are investigated and tested on 107 patients with brain tumors. The data base of the brain tumor images used in this study contains both malignant and benign cancers. The performance of the four intelligent tumor classifiers is evaluated. It is found that the NARX NN shows best performance with a classification accuracy of 99.1%. The achieved accuracy level is superior and could be very helpful in clinical purposes. © 2014 Jordan Journal of Mechanical and Industrial Engineering.

Zraiqat, A.

Equivalence relations between absolute Riesz and the product of two absolute Riesz summability methods

(2014) Lecture Notes in Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84918589025&partnerID=40&md5=793a23db751ed6e3376c7d6e633236ce)

[84918589025&partnerID=40&md5=793a23db751ed6e3376c7d6e633236ce](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84918589025&partnerID=40&md5=793a23db751ed6e3376c7d6e633236ce)

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, P.O.Box: 130, Amman, Amjed Zraiqat, 11733, Jordan

ABSTRACT: The paper deals with the problem of inclusion and equivalence of absolute Riesz method with that of the product of two absolute Riesz summability methods. Necessary and Sufficient conditions concerning (Inclusion and Equivalence) of these two methods have been established. Examples to show that each of these inclusions may hold in only one way without the other have been given. An example to show that the equivalence may hold in some non trivial case have been given, and an example to show that even if each Riesz method is regular, the inclusion is not hold (in either way) have been constructed.

Tamimi, A.A., Abdalla, A.M.

An audio shuffle-encryption algorithm

(2014) Lecture Notes in Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917733109&partnerID=40&md5=7767cf1dcf80017541d3d1256d8ce13b)

[84917733109&partnerID=40&md5=7767cf1dcf80017541d3d1256d8ce13b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917733109&partnerID=40&md5=7767cf1dcf80017541d3d1256d8ce13b)

AFFILIATIONS: Department of Computer Science, Faculty of Science and I.T., Al.Zaytoonah University of Jordan, Amman, 11733, Jordan

ABSTRACT: This novel algorithm employs a shuffling procedure to perform encryption of audio files, applying the stream cipher method. The algorithm uses a private key to perform encryption that is key dependent and data dependent. This algorithm was implemented and tested with different types of audio files of different sizes. Empirical analysis showed that this new algorithm is effective for encrypting audio files of medium or high quality.

Alia, M.A., Tamimi, A.A., Al-Allaf, O.N.A.

Cryptography based authentication methods

(2014) Lecture Notes in Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917727473&partnerID=40&md5=b5bb44269a172d882b63cde5821c323d)

[84917727473&partnerID=40&md5=b5bb44269a172d882b63cde5821c323d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917727473&partnerID=40&md5=b5bb44269a172d882b63cde5821c323d)

AFFILIATIONS: Faculty of Science and Information Technology, Al Zaytoonah University of Jordan, P.O.Box: 130, Amman, 11733, Jordan

ABSTRACT: This paper reviews a comparison study on the most common used authentication methods. Some of these methods are actually based on cryptography. In this study, we show the main cryptographic services. As well as, this study presents a specific discussion about authentication service. Since the authentication service is classified into several categories according to their methods. However, this study gives more about the real life example for each of the authentication methods. It talks about the simplest authentication methods as well about the available biometric authentication methods such as voice, iris, fingerprint, and face authentication.

Abu Mallouh, M., Surgenor, B.W., Abdelhafez, E., Salah, M., Hamdan, M.

Development of a driving cycle for Amman city with performance evaluation for ice vehicle

(2014) ASME 2014 12th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2014, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916631519&doi=10.1115%2fESDA2014-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916631519&doi=10.1115%2fESDA2014-20600&partnerID=40&md5=075770f120007c80b7c619ac9bc2f952)

[20600&partnerID=40&md5=075770f120007c80b7c619ac9bc2f952](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916631519&doi=10.1115%2fESDA2014-20600&partnerID=40&md5=075770f120007c80b7c619ac9bc2f952)

AFFILIATIONS: Department of Mechatronics Engineering, Hashemite University, Zarqa, Jordan;

Department of Mechanical Engineering, Queen's University, Kingston, ON, Canada;

Dept of Mechanical Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: A good driving cycle is needed for accurate evaluation of a vehicle's performance in terms

of emission and fuel consumption. Driving cycles obtained for certain cities or countries are not usually applicable to other cities or countries. Therefore, considerable research has been conducted on developing driving cycles for certain cities and regions. In this paper, a driving cycle for a taxi in Amman city, the capital of Jordan, is developed. Significant differences are noted when comparing the Amman driving cycle with other driving cycles. A model of a gasoline powered vehicle is used to conduct a performance comparison in terms of fuel economy and emissions utilizing the developed Amman driving cycle and six other worldwide driving cycles. The developed Amman driving cycle is very useful in obtaining accurate estimation of fuel economy and emissions for vehicles running on Amman roads and will be used in future work to study the performance of hybrid fuel cell/battery vehicles. Copyright © 2014 by ASME.

Abu Mallouh, M., Salah, M., Surgenor, B.W., Abdelhafez, E., Hamdan, A., Hamdan, M.

Performance comparison of different power management control strategies for a hybrid fuel cell/battery vehicle

(2014) ASME 2014 12th Biennial Conference on Engineering Systems Design and Analysis, ESDA 2014, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916624608&doi=10.1115%2fESDA2014-20599&partnerID=40&md5=1b06b81d4060951dfacc0fcbef49766a>

AFFILIATIONS: Department of Mechatronics Engineering, Hashemite University, Zarqa, Jordan;

Department of Mechanical Engineering, Queen's University, Kingston, ON, Canada;

Dept of Mechanical Engineering, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Power management systems are one of the most important components in modern hybrid vehicles. They are needed to optimize the operation of the hybrid system components. In this paper, a model for a fuel cell/battery vehicle is developed using PSAT and then tested with four power management control strategies utilizing the driving cycle of Amman city, the capital of Jordan. The main components of the hybrid vehicle are a PEM fuel cell, battery, and a brushless dc motor. PEM fuel cells are popular due to their good start up, high power density, and low operating temperature. The role of the battery in a hybrid system is to boost the system power during start-up and transient events in addition to storing the energy recovered from the braking process. The developed hybrid vehicle model is designed and configured so that it matches the power, acceleration, and maximum speed of a mid-sized vehicle powered by an internal combustion engine. The proposed control strategies are the thermostat strategy, fuel cell optimized strategy, load following strategy and fuzzy logic strategy. All four control strategies are implemented in simulation utilizing PSAT. The simulation results indicate that the best performance in terms of fuel economy is achieved by the load following control strategy. Copyright © 2014 by ASME.

Ibrahim, H., Al-Rawashdeh, T.A.

Acceptance of web-based training system among public sector employees

(2014) Journal of Information and Communication Technology, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84913591091&partnerID=40&md5=aa3415b3fedc7e4e4813b1288b52f978>

AFFILIATIONS: School of Computing, Universiti Utara Malaysia, Malaysia;

Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Applying web-based training system is highly preferable in meeting time constraints, however, its success is subject to users' acceptance. Previous studies highlight human challenge as the most important barrier in the implementation of an ICT-based training system. Users tend to show resistance in using new technology and online approaches. They favour the traditional way such as the face-to-face method of training. This paper presents the results of a study conducted to assess the acceptance of a web-based training by public sector employees. The study applied the Unified Theory of Acceptance and Use Technology (UTAUT) with the focus on three system characteristics; system flexibility, system enjoyment, and system interactivity. A total of 290 employees from the Jordanian Public Sector participated in the study. The findings revealed that system flexibility and system enjoyment have direct effects while system interactivity has an indirect effect on the employees' intention to use the web-based training system. In addition, system flexibility is proven to have the strongest relationship to users' intention to use the web-based training system.

Nazzal, N.N.

Computing description of nominal sentence (A study in sentence that begins with first person single pronoun while having indefinite predicates, single, ja`mid, and not ida`fa to a single masculine word)

(2014) Dirasat: Human and Social Sciences, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84911494382&doi=10.12816%2f0028538&partnerID=40&md5=aea0d0ee128bb3e4bed0f29e55ec3620>

AFFILIATIONS: Department of Arabic Language, Faculty of Arts, Al-Zaytoonah University, Amman, Jordan

ABSTRACT: Computers do not possess the same ability of natural conjecture as human beings. This fact motivated scientists to computerize various language structures: phonetics, grammar, phenology and

semantics. The primary aim of describing nominal sentences in this research is to reinforce computer programs and to increase its ability in producing language forms. To this end, the research has provided a description of sentences that begin with the first person pronoun (Ana^ˆ) along with its predicate when it is indefinite, single, ja^ˆmid, and not ida^ˆfa to a single masculine word. It has provided two types of analysis for the sentence (Ana^ˆ ghula^ˆm). The first analysis pertains to syntactic proponents (the subject of a nominal (sequential) sentence) along with some nominal sentence cases, using tree-style analysis. The second type of analysis is a generative analysis which adds potential structural forms before, in-between, and after the sentence in order to provide the computer with fixed patterns. Therefore, if similar patterns are entered into the computer, it can identify them according to their patterns. © 2014, University of Jordan. All rights reserved.

Al-Ghrayba, A.

The imperative discourse in Surat Yousef (structural semantic study)

(2014) Dirasat: Human and Social Sciences, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84908476152&doi=10.12816%2f0026924&partnerID=40&md5=65c9ccc4c173359b9b8147e57abc558c)

[84908476152&doi=10.12816%2f0026924&partnerID=40&md5=65c9ccc4c173359b9b8147e57abc558c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84908476152&doi=10.12816%2f0026924&partnerID=40&md5=65c9ccc4c173359b9b8147e57abc558c)

AFFILIATIONS: Faculty of Arts, Al-Zaytoonah University, Jordan

ABSTRACT: The aim of the study was to explore the structural semantics of the imperative discourse of (Surat Yousef) in the light of contemporary Linguistics. It investigated five main types:

Interrogative discourse, imperative discourse, calling discourse, wish discourse, negative discovrse.

They are based on the aesthetical aspects of Holy Quran Style. The researcher explored the functions and the roles of the explicit and implicit imperative discourse types which play in many different contexts. To achieve the aim of the study, the researcher reviewed and analyzed relervant theories and research: Tafsir, syntax and rhetoric references. The researcher analyzed these types depending on Tafsir references; structural semantics and rhetoric arts. This will strengthen the validity and credibility of the paper.

Khatieb, M.E., Abdulsalam Alani, H.R., Hasan, W.

Development of a new truss quadratic quadrilateral macro-element

(2014) Jordan Journal of Civil Engineering, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907912640&partnerID=40&md5=2a8bf7a9a53daf1e62b103f236dcac49)

[84907912640&partnerID=40&md5=2a8bf7a9a53daf1e62b103f236dcac49](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907912640&partnerID=40&md5=2a8bf7a9a53daf1e62b103f236dcac49)

AFFILIATIONS: Zarka Private University, Zarka, Jordan;

Al-Zaytoonah University of Jordan, Amman, Jordan;

Al Isra University, Amman, Jordan

ABSTRACT: Macro-elements are one of the powerful means in reducing the number of equations to be solved in finite element analysis. _fam In the proposed method, several finite truss elements will be transformed into a single element called the macro-element. This is done by equating the potential energy of the macro-element to the potential energy of the equivalent truss finite elements. If the order of the macro-element function corresponds to the order of the structural behavior it models, an exact solution is achieved. In this paper, a truss quadratic quadrilateral macro-element is developed. The developed macro-element was tested and the results were compared with the results of conventional finite element solutions. Excellent results were achieved with a substantial reduction in the number of equations. © 2014 JUST. All Rights Reserved.

Al-Shayea, Q.K., Al-Shayea, T.K.

Customer behavior on RFMT model using neural networks

(2014) Lecture Notes in Engineering and Computer Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907402433&partnerID=40&md5=26efec5059d21f8f7d63341fb069401a)

[84907402433&partnerID=40&md5=26efec5059d21f8f7d63341fb069401a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907402433&partnerID=40&md5=26efec5059d21f8f7d63341fb069401a)

AFFILIATIONS: Department of Management Information Systems, Al-Zaytoonah University of Jordan, Amman, Jordan;

Warka Company for Telecommunication, Jordan

ABSTRACT: Customer data is critical to marketing success. The goal of this study is to predict customer behavior using a supervised learning neural network. Feed-forward back propagation network with tan-sigmoid transfer functions is used as a classifier to predict whether a customer will buy in this month or not. Scaled conjugate gradient (SCG) algorithm is used with proposed neural network. This algorithm combines the model-trust region approach with the conjugate gradient approach. The results of applying the proposed artificial neural networks methodology to predict based upon recency, frequency, monetary, and time (RFMT) model show abilities of the network to learn the patterns corresponding to RFMT of the customer. The data set is obtained from UCI machine learning repository. The percent correctly classified in the simulation sample by the proposed neural network is 89 percent.

Jannoud, I.A., Masoud, M.Z.

On understanding centrality in directed citation graph
(2014) ARPN Journal of Engineering and Applied Sciences, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84906333964&partnerID=40&md5=5687c7f66f724f9c81e66d4656a8ef8d>

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Modeling complex networks as directed/undirected graphs is considered one of the most common methods in network science. Citation graph is a directed graph of scientific published papers. This graph has been studied massively in the past decade. Citation graph can be utilized to study relationships between authors and papers. It can be used to study the characteristics of citation network to demonstrate the growth model, graph type and to predicted hot new topics. In this paper, we attempt to study the relationship between popularity of a paper and the publication date. The purpose of this study is to demonstrate the relation between paper quality and hot topics. Betweenness metric has been used to measure the popularity of a published paper. Moreover, a comparison between betweenness and citation count (node degree) has been conducted to show that papers may have a small citation count, however, they may have a great impact in research field. We have generated a directed citation graph by crawling paper information from Citeseerx. Our study shows that date of publication is important to write a popular paper. However, high quality papers get opportunity to be popular regardless the date of publication. © 2006-2014 Asian Research Publishing Network (ARPN).

Bekhet, H.A., Al-Alak, B.A.M.

Modelling client usage of e-statements: An empirical study in Malaysia

(2014) International Journal of Banking, Accounting and Finance, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84906333218&doi=10.1504%2fIJBAAF.2014.064313&partnerID=40&md5=dc25b672eef53e361652318e2ddb3860>

AFFILIATIONS: Graduate Business School, College of Graduate Studies, Universiti Tenaga Nasional (UNITEN), 43000 Selangor, Malaysia;

Faculty of Economics and Administrative Sciences, Al-Zaytoonah University of Jordan, P.O. Box 130, Amman 11733, Jordan

ABSTRACT: The objective of the current study was to investigate the major e-statement quality dimensions affecting the usage of e-statements by account holders in Malaysia, and to see how this use influenced behaviour. The study used a survey questionnaire distributed to a convenient sample of 1,000 bank account holders in Malaysia. An e-statement usage model was proposed based on a literature review and testing of two hypotheses. A multiple regression model was used to analyse the survey data. Only six predictor domains out of 13 were found to affect usage of the e-statements. It was also revealed that usage had a direct positive impact on behaviour. It was implied that financial institutions offering e-statement services should formulate bank marketing strategies that take into consideration e-statement quality dimensions that are highly evaluated by clients and which clients perceive as having the strongest impact on their usage of this service. © 2014 Inderscience Enterprises Ltd.

Jarab, A.S., Almrayat, R., Alqudah, S., Thehairat, E., Mukattash, T.L., Khmour, M., Pinto, S.
Predictors of non-adherence to pharmacotherapy in patients with type 2 diabetes

(2014) International Journal of Clinical Pharmacy, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84905987883&doi=10.1007%2fs11096-014-9938-5&partnerID=40&md5=a13f2cf4583161c39f4adf737ea07d36>

AFFILIATIONS: Faculty of Pharmacy, AlZaytoonah University of Jordan, P.O. Box 130, Amman 11733, Jordan;

Department of Pharmacy, Royal Medical Services Hospital, Amman, Jordan;

Faculty of Pharmacy, Jordan University of Science and Technology, Irbid 22110, Jordan;

Faculty of Pharmacy, Al-Quds University, Jerusalem, Palestine;

Center for Pharmaceutical Care and Outcomes Research (PCOR), University of Toledo, Toledo, OH, United States

ABSTRACT: Background: The prevalence of diabetes in Jordan is among the highest in the world, making it a particularly alarming health problem there. It has been indicated that poor adherence to the prescribed therapy lead to poor glycemic control and enhance the development of diabetes complications and unnecessary hospitalization. Objective: To explore factors associated with medication nonadherence in patients with type 2 diabetes in Jordan. Findings would help guide the development of future pharmaceutical care interventions for patients with type 2 diabetes. Setting: This study was conducted in an outpatient diabetes clinic at the Royal Medical Services Hospital. Method: Variables including sociodemographics, disease and therapy factors, diabetes knowledge, health-related quality of life in addition to adherence assessment were collected for 171 patients with type 2 diabetes using medical records, custom-designed and validated questionnaires. Logistic regression was performed to develop a model with variables that best predicted medication non-adherence in patients with type 2 diabetes in Jordan. Main outcome measure: Variables which

significantly and independently associated with medication nonadherence in patients with type 2 diabetes in Jordan. Results: Patients were found four times less likely to adhere to their medications with each unit increase in the number of prescribed medications (OR = 0.244, CI = 0.08-0.63) and nine times less likely to adhere to their medications if they received more than once daily dosing of diabetic medication (OR = 0.111, CI = 0.04-2.01). Patients in the present study were also approximately three times less likely (OR = 0.362, CI = 0.24-0.87) and twice less likely (OR = 0.537, CI = 0.07-1.31) to adhere to their medications if they reported having concerns about side effects and if they were taking metformin therapy respectively. Finally, participants were found twice more likely to adhere to medications if they had one or more Microvascular complication (OR = 0.493, CI = 0.08-1.16). Conclusion: Simplifying dosage regimen, selecting treatments with lower side effects along with an emphasis on diabetes complications should be taken into account in future interventions designed to improve health outcomes for patients with type 2 diabetes. © 2014 Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie.

Al Omoush, K.S.

Toward an ethical framework for web-based collective intelligence

(2014) *Advances in Intelligent Systems and Computing*, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-84904614969&doi=10.1007%2f978-3-319-05951-8_36&partnerID=40&md5=736406a8508e890b8d2528c30edb22da

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman 11733, Jordan

ABSTRACT: Web-based collective intelligence deserves and intends to become a full discipline with its formal framework, tools, measuring instruments, practical applications, and ethical field. As of yet, little attention has been paid to study the ethical dimension of harvesting the collective intelligence via Webbased collaborative systems. The present study aims to develop an ethical framework for the Web-based collective intelligence in business organizations. Based on a combination of previous ethical frameworks that regulate the ethical behavior in the age of information societies, moral intelligent theories, and ethical theories of collaborative business environments, five layers of ethical principles were identified. These include the morality of collective decisions, compliance with laws and regulations, the collective truthfulness, the collective transparency and responsibility, and the greatest benefits for the greatest number of stakeholders. © Springer International Publishing Switzerland 2014.

Salamah, H., Alnaji, L.

Challenges leading to projects struggle in IT project management office

(2014) *WSEAS Transactions on Business and Economics*, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84903852259&partnerID=40&md5=3b92cf52e9127da1462bdf048d09ddc3>

AFFILIATIONS: School of Economics and Business Administration, Al-Zaytoonah University, Jordan; School of Economics and Business Administration, Al Ain University of Science and Technology, United Arab Emirates

ABSTRACT: The purpose of this study is to identify the challenging factors leading to projects struggle within the PMO of an IT and software development organization. These challenges have a potential negative impact on projects execution and management leading to higher likelihood of projects failure. The project challenges along with recommendation on how to address and overcome them are provided. Change of scope, conflict between project and departmental tasks, resource contention, lack of resources-utilization-tracking system, and shortage of resources were found to be the top challenges leading to the struggle of projects within an IT and software development Project Management Office.

Althunibat, A., Alrawashdeh, T.A., Muhairat, M.

The acceptance of using M-government services in Jordan

(2014) *ITNG 2014 - Proceedings of the 11th International Conference on Information Technology: New Generations*, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84903487317&doi=10.1109%2fITNG.2014.65&partnerID=40&md5=cb55745730813b8cb97820f62b6754e6>

AFFILIATIONS: Department of Software Engineering, Alzaytoonah University of Jordan, Amman, Jordan
ABSTRACT: Rapid development of mobile and wireless technologies pointed to the potential in using the mobile channel as a supplement to increase the usage and accessibility of e-Government services. The unique proposition of the mobile channel and its emerging technologies also offered unprecedented opportunities for the Government to provide timely, personalised and innovative e-services which is not possible over the conventional internet channel. This study applies the Technology Acceptance Model (TAM) to examine factors such as perceived usefulness and perceived ease of use on citizens' willingness to use m-Government services. The results show that although awareness of m-Government services is reasonably high, only a small number of citizens actually use m-Government services. However, citizens acknowledge that m-Government services can be useful, easy to use and convenient. ©

2014 IEEE.

Alrawashdeh, T.A., Muhairat, M.I., Alqatawneh, S.M.

A quantitative evaluation of ERP systems quality model

(2014) ITNG 2014 - Proceedings of the 11th International Conference on Information Technology: New Generations, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84903470766&doi=10.1109%2fITNG.2014.37&partnerID=40&md5=b5ef70e695c727ef4c0f1f7abae7070c)

84903470766&doi=10.1109%2fITNG.2014.37&partnerID=40&md5=b5ef70e695c727ef4c0f1f7abae7070c

AFFILIATIONS: Department of Computer Science, Al-Zaytoonah University of Jordan, Amman, Jordan;

Al-Zaytoonah University of Jordan, Department of Software Engineering, Amman, Jordan;

Department of Multimedia, Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: The ERP system is a complex and comprehensive software that integrates various enterprise's functions and resources. Although this system provides the firms many benefits, they still hesitate to adopt it due to high cost and risks. Thus, this study identifies and analysis critical quality characteristics that should be considered to ensure successful development and implementation for the ERP system. The study identifies the new features of ERP systems that differ from other information systems' features. Then in order to develop ERP system quality model, ISO/IEC 9126 standard has been adapted. Finally, analytic Hierarchy Process (AHP) has been applied to evaluate the quality of the proposed model's characteristics. The derived quality characteristics could be used to compare ERP systems which help the organizations to implement better system quality. © 2014 IEEE.

Hlayel, A.A., Hnaif, A.

An algorithm to improve the performance of string matching

(2014) Journal of Information Science, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84902131618&doi=10.1177%2f0165551513519039&partnerID=40&md5=cf2a1b4133ce5e77cd2b255a3c31bfbe)

84902131618&doi=10.1177%2f0165551513519039&partnerID=40&md5=cf2a1b4133ce5e77cd2b255a3c31bfbe

AFFILIATIONS: CIS Department, Faculty of Science and IT, Alzytoonah University of Jordan, Amman, Jordan;

Department of Computer Science, Faculty of Science and IT, Al-Zaytoonah University of Jordan, Jordan

ABSTRACT: Approximate string matching algorithms are techniques used to find a pattern 'P' in a text 'T' partially or exactly. These techniques become very important in terms of performance and the accuracy of searching results. In this paper, we propose a general approach algorithm, called the Direct Matching Algorithm (DMA). The function of this algorithm is to perform direct access matching for the exact pattern or its similarities within a text depending on the location of a character in alphabetical order. We simulated the DMA in order to show its competence. The simulation result showed significant improvement in the exact string matching or similarity matching, and therefore extreme competence in the real applications. © The Author(s) 2014.

Althunibat, A., Alrawashdeh, T.A., Muhairat, M.

The acceptance of using m-government services in Jordan

(2014) Journal of Theoretical and Applied Information Technology, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84901919884&partnerID=40&md5=c6aefe9d1a93ca8b697f871836d84243)

84901919884&partnerID=40&md5=c6aefe9d1a93ca8b697f871836d84243

AFFILIATIONS: Department of software Engineering, Alzaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Mobile services have enormous potential to be one of the government's most effective tools, to govern, control, and administer community requirements and justice. In order for the governments to offer acceptable and attainable mobile services, these services have to be used by citizens. The preliminary question that lead to this study was: What are the factors that affect user acceptance of m-Government services in Jordan?, or how can we motivate the citizens to utilize services? As m-Government services are a new field, there is a minimal amount of research and literature that could assist in discerning the factors that affect acceptance of such services. This study applies the Technology Acceptance Model (TAM) to examine the user acceptance of using m-Government services. The results show that Perceived usefulness (PU) and Perceived ease of use (PEOU) affect citizen's acceptance of m-Government services. Failures to demonstrate the advantages of m-Government services to potential citizens will likely result in a low rate of acceptance. © 2005 - 2014 JATIT & LLS. All rights reserved.

Masoud, M.Z., Jannoud, I.A.

Studying the impact of 32-bits AS numbers on constructing internet AS graphs

(2014) Applied Mechanics and Materials, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84901811487&doi=10.4028%2fwww.scientific.net%2fAMM.548-549.1299&partnerID=40&md5=04eed508dff0668220536405d66f384a)

84901811487&doi=10.4028%2fwww.scientific.net%2fAMM.548-

549.1299&partnerID=40&md5=04eed508dff0668220536405d66f384a

AFFILIATIONS: Al-Zaytoonah University of Jordan, Amman, Jordan

ABSTRACT: Modeling Internet structure as an autonomous system (AS) graph is considered one of the

most common methods to study the Internet. AS-graph is constructed by utilizing ASes from the Internet. The AS number was 16-bit address. It reduced the size of ASes scope in one hand and made the AS graph small and easy to be produced and modeled. However, the number of ASes has exceeded the 16-bits limits. The 32-bit addressing has emerged as a method to tackle this problem. This increasing in the AS number scope converted the AS graph into a massive graph with unpredicted number of ASes. In this paper, we attempt to study the impact of 32-bits addresses on the AS graph. Graph parameters have been utilized to measure this impact. To this end, we have constructed two AS-graphs, a 16-bits-AS graph and a full AS graph. We have compared these graphs according to cluster coefficient, betweenness centrality, node degree and average shortest path. Our results demonstrated that the 32-bits ASes are popular. Moreover, these ASes have an effect on reducing the value of the global cluster coefficient and increasing the average shortest path. We observed that the number of vertexes that connect 16-bits and 32-bits ASes is small and requires more inferring. © (2014) Trans Tech Publications, Switzerland.

AL-Najdawi, M., Al-Hiari, Y., Al-Qirim, T., Shattat, G., Al-Zweri, M., Sheikha, G.A.
Synthesis and pharmacological evaluation of novel unsubstituted indole-anthraquinone carboxamide derivatives as potent antihyperlipidemic agents

(2014) Zeitschrift fur Naturforschung - Section C Journal of Biosciences, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84901448943&doi=10.5560%2fZNC.2012-0224&partnerID=40&md5=23af5e53684ffd5449250a4b935081ac>

AFFILIATIONS: Department of Pharmaceutical Sciences, University of Jordan, Amman 11942, Jordan;
Al-Zaytoonah Private University, Amman 11733, Jordan

ABSTRACT: Five novel derivatives of N-(9,10-dihydro-9,10-dioxoanthracenyl)-1H-indole-2-carboxamide were synthesized and their lipid-lowering effects studied in hyperlipidemic rats. Fusion of the anthraquinone derivatives at high temperature with 5-indole-2-carbonyl chloride, followed by recrystallization from chloroform/methanol gave the desired compounds in excellent yields. Compounds 1 to 5 at a non-toxic dose (1 ml of 57 µM solutions) and bezafibrate as positive control were administered to rats that were hyperlipidemic due to treatment with Triton WR-1339. A decrease in the plasma levels of triglyceride (TG) and low-density lipoprotein-cholesterol (LDL-C) and an increase in the plasma level of high-density lipoprotein-cholesterol (HDL-C) were observed with compounds 1, 3, 4, and 5. Compounds 1, 4, and 5 significantly reduced total cholesterol (TC) levels as well. These compounds may provide agents for targeting dyslipidemia and cardiovascular disease. © 2014 Verlag der Zeitschrift für Naturforschung, Tübingen.

Sweidan, K., Rayyan, W.A., Zarga, M.A., El-Abadelah, M.M., Mohammad, H.A.Y.

Synthesis and antibacterial evaluation of model fluoroquinolone-benzylidene barbiturate hybrids

(2014) Letters in Organic Chemistry, .
<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84899815623&doi=10.2174%2f1570178611666140401220850&partnerID=40&md5=ee37c538a3f3446f6e5d24ae2fca65ba>

AFFILIATIONS: Department of Chemistry, University of Jordan, Amman 11942, Jordan;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan;

Department of Chemistry, Petra University, P.O. Box 961343, Amman 11195, Jordan

ABSTRACT: The interaction of 1,3-dimethylbarbituric acid (2) with ethyl 7-chloro-1-cyclopropyl-6-fluoro-8-nitro-4-oxoquinoline-3-carboxylate (1) in basic medium yielded the respective 7-[5-(1,3-dimethylbarbituric)]-quinoline hybrid (3). Substituted 5-bis(thioethyl)methylene barbituric acids (5a,b) underwent cyclocondensation with 7,8-diamino-6-fluoroquinoline-3-carboxylate (4) to produce the respective fluoroquinolone-benzylidene-barbiturate hybrids (6a,b) incorporating fused-imidazoline moiety. Saponification of the dimethylated ester (6b) gave the respective acid (7). The new compounds (3,5-7) show low to moderate antibacterial activity against Staphylococcus aureus and E. coli. © 2014 Bentham Science Publishers.

Jaber, K.M., Abdullah, R., Rashid, N.A.

Fast decision tree-based method to index large DNA-protein sequence databases using hybrid distributed-shared memory programming model

(2014) International Journal of Bioinformatics Research and Applications, .

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84899787486&doi=10.1504%2fIJBRA.2014.060765&partnerID=40&md5=75f568760b931c75fb4c36141b855d80>

AFFILIATIONS: Faculty of Science and Information Technology, Al-Zaytoonah University of Jordan, Amman, Jordan;

School of Computer Sciences, Universiti Sains Malaysia, Penang, Malaysia

ABSTRACT: In recent times, the size of biological databases has increased significantly, with the continuous growth in the number of users and rate of queries; such that some databases have reached the terabyte size. There is therefore, the increasing need to access databases at the fastest rates possible. In this paper, the decision tree indexing model (PDTIM) was parallelised, using a hybrid of distributed and shared memory on resident database; with horizontal and vertical growth through

Message Passing Interface (MPI) and POSIX Thread (PThread), to accelerate the index building time. The PDTIM was implemented using 1, 2, 4 and 5 processors on 1, 2, 3 and 4 threads respectively. The results show that the hybrid technique improved the speedup, compared to a sequential version. It could be concluded from results that the proposed PDTIM is appropriate for large data sets, in terms of index building time. © 2014 Inderscience Enterprises Ltd.

Hamed, R., Fiegel, J.

Synthetic tracheal mucus with native rheological and surface tension properties

(2014) Journal of Biomedical Materials Research - Part A, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84899438831&doi=10.1002%2fjbm.a.34851&partnerID=40&md5=d5fe83128c7664f017a108da2be84df5)

[84899438831&doi=10.1002%2fjbm.a.34851&partnerID=40&md5=d5fe83128c7664f017a108da2be84df5](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84899438831&doi=10.1002%2fjbm.a.34851&partnerID=40&md5=d5fe83128c7664f017a108da2be84df5)

AFFILIATIONS: Department of Pharmaceutical Sciences and Experimental Therapeutics, University of Iowa, Iowa City IA 52242, United States;

Faculty of Pharmacy, Al-Zaytoonah University of Jordan, Amman 11733, Jordan;

Department of Chemical and Biochemical Engineering, University of Iowa, Iowa City IA 52242, United States

ABSTRACT: In this study, the development of a model tracheal mucus with chemical composition and physical properties (bulk viscoelasticity and surface tension) matched to that of native tracheal mucus is described. The mucus mimetics (MMs) were formulated using components that are abundant in tracheal mucus (glycoproteins, proteins, lipids, ions, and water) at concentrations similar to those found natively. Pure solutions were unable to achieve the gel behavior observed with native mucus. The addition of a bifunctional cross-linking agent enabled control over the viscoelastic properties of the MMs by tailoring the concentration of the cross-linking agent and the duration of cross-linking. Three MM formulations with different bulk viscoelastic properties, all within the normal range for nondiseased tracheal mucus, were chosen for investigation of surfactant spreading at the air-mimetic interface. Surfactant spread quickly and completely on the least viscoelastic mimetic surface, enabling the surface tension of the mimetic to be lowered to match native tracheal mucus. However, surfactant spreading on the more viscoelastic mimetics was hindered, suggesting that the bulk properties of the mimetics dictate the range of surface properties that can be achieved. © 2013 Society of Plastics Engineers.

Al-Debei, M.M., Al-Lozi, E.

Explaining and predicting the adoption intention of mobile data services: A value-based approach

(2014) Computers in Human Behavior, .

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84897443681&doi=10.1016%2fj.chb.2014.03.011&partnerID=40&md5=5296bdc9fd528ccd70fd4eb1eb3a8033)

[84897443681&doi=10.1016%2fj.chb.2014.03.011&partnerID=40&md5=5296bdc9fd528ccd70fd4eb1eb3a8033](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84897443681&doi=10.1016%2fj.chb.2014.03.011&partnerID=40&md5=5296bdc9fd528ccd70fd4eb1eb3a8033)

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ABSTRACT: As mobile devices become more and more pervasive in our everyday life and their capabilities resemble more and more of those of desktop computers with the added advantage of mobility, examining intention for adoption seems relevant to consumers and mobile service providers alike. Existing research shows that despite this evolution on Mobile Data Services (MDS) development and use, the adoption of their full capabilities is yet to be realized. In this study we focus on the value consumers can potentially gain from using these services. We hypothesize that if we can examine the value that can be delivered to consumers through the use of MDS, then we can explain and predict consumers' intentions to use MDS. We also postulate that perceptions of consumers regarding the value that can be captured when using MDS is directly affected by technological, social, and informational influences. However, in this research, perceived value is used as a multidimensional construct that encapsulates utilitarian, hedonic, uniqueness, epistemic, and economic value dimensions. Our results show that utilitarian value is, according to previous studies, an important adoption factor. Additionally, economic value is also important and significant. Nevertheless, it seems that in our context, hedonic, uniqueness, and epistemic value dimensions are not as important for the use of mobile data services as utilitarian and economic value dimensions. The results of this study can be used by mobile service providers to get insights about consumers' needs and preferences in order to offer better and thus more popular services. © 2014 Elsevier Ltd. All rights reserved.

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Impact of marketing activities on relationship quality in the Malaysian banking sector

(2014) Journal of Retailing and Consumer Services, .

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ABSTRACT: The current study investigates the impact of marketing activities on relationship quality

in the Malaysian banking sector. Analysis of survey results show that greater client and employees' relational orientation yields higher relationship quality and results in better relationship continuity. Results also show that committed client relationships lead to client satisfaction, loyalty, positive word of mouth and promotion. However, mutual disclosure was found to have no significant relationship with relationship quality. This may indicate that bank customers in Malaysia do not feel that having close relationships with the bank will have any positive impact on relationship quality. This particular finding may serve as a warning signal to practitioners and scholars alike that thorough research must be carried out on the use of relationship marketing prior to implementation. © 2013 Elsevier Ltd.

Salih, A.A., Alnaji, L.

The impact of talent management in enhancing organizational reputation: An empirical study on the Jordanian Telecommunications Companies

(2014) Journal of Applied Business Research, .

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ABSTRACT: The research explores the effect of talent management on improving organization reputation through exploring the relationship between talent management variables (discover, inspire, transform) and reputation variables (self-enhancement, self-verification, frequency of interaction). The first part of the project introduces a literature review of the importance talent management and reputation and their role on dealing with the competitive market. Next, the paper introduces the variables and the theories, after which the final results are presented and recommendations are proposed. © by author(s); CC-BY.

Najim, N.A., El Refae, G.A., Rashed, J.A.A.

Exploring the islamic view of spirituality and business

(2014) Global Business and Economics Review, .

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ABSTRACT: While there is a growing interest in the relationship between spirituality and its role in the workplace, a limited number of studies have examined this issue. This study therefore examines spirituality and business from an Islamic perspective using a survey conducted among students in Al-Zaytoonah University in Jordan. The survey examines two issues. First, it investigates the relative importance of the different approaches to understanding the business- spirituality relationship. Second, it takes a closer look at the perception of Islamic ethical and spiritual work values. Copyright © 2014 Inderscience Enterprises Ltd.