

CURRICULUM VITAE

Full name

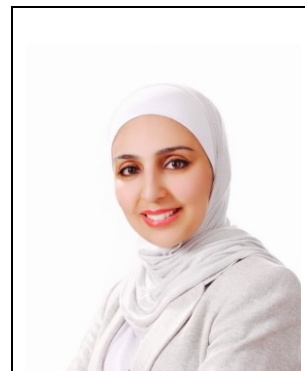
Nouf N. A. Mahmoud

Phone: +962 6 4291511 ext.: 312

Fax: +962 79 5043449

E-mail: nouf.mahmoud@zuj.edu.jo

Homepage: <https://www.zuj.edu.jo/faculty-of-pharmacy-1/>



1. Personal Data

Date of Birth: 26th of February 1981

Nationality: Jordanian

2. Education

Ph.D., Pharmaceutical Sciences (Nanoscience), 2016, The University of Jordan, Amman, Jordan.

M.Sc., Clinical Pharmacy, 2007, The University of Jordan, Amman, Jordan.

B.Sc., Pharmacy, 2003, The University of Jordan, Amman, Jordan.

3. Ph.D. Dissertation

Penetration and Distribution of Gold Nanoparticles into Skin: Effect of Nanoparticle Size, Shape and Surface Chemistry on Hair Follicles Targeting and Antibacterial Activity, The University of Jordan, Amman, Jordan. August 2016.



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4. **Employment**

Academic Positions

Assistant Professor, Department of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan. September 8, 2016 – now.

Administrative Positions

Not Applicable

5. **Research Interests**

- Nanotechnology and Nanomedicine; nano-bio interface; designing of novel nanomaterials for treatment of skin and cancer diseases.
- Investigating the nan-bio interface by Synchrotron-based analysis techniques.
- Development of novel nanomaterials for transdermal vaccine delivery and dental applications.

6. **Membership in Scientific Societies and Associations**

- American Association for the Advancement of Science (AAAS)
- Jordan Pharmacists Association
- Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME) Jordanian National Committee (SJNC)

7. **Honors and Awards**

1. The **2020** International Rising Talent L'Oréal-UNESCO Award for Women in Science.
2. The **2019** L'Oréal UNESCO Award for Women in Science Levant fellowship.
3. The **2019** Ali Mango Award for graduate studies, the University of Jordan.



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4. Honored for participation in receiving the Faculty of Pharmacy the first Quality Assurance Certificate from Accreditation and Quality Assurance Commission for Higher Education Institutions in Jordan, **2017**.

8. Fellowships and Scholarships

The **2019** L'Oréal UNESCO For Women in Science Levant fellowship.

9. Teaching Experience

Undergraduate Courses

- Pharmaceutics 2
- Pharmaceutics and Pharmaceutical Compounding Lab
- Pharmaceutical Technology
- Pharmaceutical Technology Lab
- Pharmaceutical Communication Skills

Thesis Supervision

1. Msc thesis (Main-supervisor): "Nanofibers Material as A Potential Dressing of Wound: Development and Characterization"; *Haneen Qabouq*, Defense date: **07/2020**.
2. Msc thesis (Main-supervisor): "In Vitro Anti-Invasion Activity of Surface Modified Gold Nanorods Against Prostate Cancer"; *Hakam Mohammad Aqabani*, Defense date: **06/2020**.
3. Msc thesis (Main-supervisor): "Penetration of Gold Nanoparticles Through Blood Brain Barrier and their Accumulation into The Brain: Effect of Nanoparticles' Shape and Surface Chemistry", *Abdul-Raheem Al-Basha*, Defense date: **08/2019**.
4. Msc thesis (Main-supervisor): "Cellular Uptake and Toxicity of Gold Nanorods on Human Dermal Fibroblasts: Effect of Nanoparticle Surface Chemistry", *Lubna Al-Kharabsheh*, Defense date: **04/2019**.



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5. Msc thesis (Main-supervisor): “Novel Gold Nanocomposite for Wounds Healing in Rats: Effect of Nanoparticles’ Shape and Surface Chemistry”; *Duaa Suliman Abu-Ghaith*, Defense date: **01/2019**.

Thesis Examination

1. Msc thesis: “Concentration of a microemulsion influences the mechanical properties of ibuprofen in situ microgels”; *Yasmin Al-Adhami*, Defense date: **01/2019**.
2. Msc thesis: “Development and evaluation of polymeric nanocapsules for cirsiolol isolated from Jordanian *Teucrium polium* L. as a potential anticancer nanomedicine”; *Muzn Al-Khaldi*, Defense date: **08/2019**.
3. Msc thesis: “Formulation and Characterization of Hyaluronic Acid Injectable Gels: Deep Wounds Targeting”; *Sara Zuhair Abdul-Haq*, Defense date: **10/2019**.

Grants

1. “Novel nanofibers of gold nanoparticles for treatment of diabetic wounds”; Principle Investigator, (01/2020), **The Deanship of Scientific Research at Al-Zaytoonah University of Jordan, (31,430 USD)**.
2. “Novel nano-dressing material for wound healing: A golden hope for diabetic patients”; Principle Investigator, (02/2020), **The 2020 International Rising Talent L’Oréal-UNESCO For Women in Science, (16,937 USD)**.
3. “Gold nanorods conjugated with interleukin-10: a novel dressing nanomaterial for treatment of diabetic wound”; Principle Investigator, (09/2019), **The 2019 L’ORÉAL-UNESCO “For Women in Science Levant program” Fellowship, (11,292 USD)**.



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4. "Investigating the molecular effects of gold nanoparticles on cancer cell using mass spectroscopy-based metabolite profiling"; Co-Investigator, (4/2019), **The Deanship of Scientific Research at the University of Jordan, (21,157 USD).**
5. "Evaluation of the biological activity of gold nanoparticles as targeted therapy against different breast cancer subtypes: in vitro testing using cancer cell lines and characterization using mass FTIR and circular dichroism spectroscopy"; Co-Investigator, (4/2019), **The Deanship of Scientific Research at the University of Jordan, (21,157 USD).**
6. "Insights into the interaction of gold nanorods with a cationic porphyrin: Synchrotron-based XAFS evidence"; Principle Investigator, (07/2019), **Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME), Jordan.**
7. "Insights into the Localization and Distribution of Phospholipid-PEG-Decorated Gold Nanorods into MCF-7 Breast Cancer Cells by Cryo Soft X-Ray Nano-Tomography at U41-TXM Beamline"; Principle Investigator, (04/2019), **The Deanship of Scientific Research at Al-Zaytoonah University of Jordan and Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH.**
8. "Gold Nanorods Decorated with Phospholipid-Polyethylene glycol as a Novel Platform for Transdermal Vaccination of Tetanus"; Principle Investigator, (12/2018), **TWAS-COMSTECH Joint Research Grants, Italy, (5,000 USD).**
9. "Evaluation of Melanin-mimetic Polydopamine Nanoparticles for Transdermal Drug Delivery: Effect of Surface Chemistry"; Co-Investigator, (10/2018), **Abdul Hameed Shoman Foundation, Amman, Jordan, (28,000 USD).**



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10. "Nanoemulsion- and Gold Nanoparticles Loaded Diclofenac Diethylamine in Bigels: Development, Rheological Characterization", Co-Investigator, (03/2018), **Scientific Research Support Fund, Amman, Jordan, (19,750 USD)**.
11. "Gold Nanorods Loaded into Gels: Colloidal Stability, Rheological Properties, Photothermal Properties and Penetration extent into Excised Human Skin"; Co-Investigator, (01/2018), **Abdul Hameed Shoman Foundation, Amman- Jordan, (21,156 USD)**.
12. "Interaction of Gold Nanorods-Gel Composite with Human Skin Hair Follicles: The Colloidal Stability and Preferential Targeting"; Principle Investigator, (10/2017), **The Deanship of Scientific Research at Al-Zaytoonah University of Jordan, (32,440 USD)**.
13. "The Surface properties of nano-emulsions for drug delivery through skin", Co-Investigator, (10/2017), **The Deanship of Scientific Research at Al-Zaytoonah University of Jordan, (39,492 USD)**.
14. "Investigating the Penetration and Distribution of Gold Nanorods into the Skin and Hair Follicles of Excised Human Skin as Function of Particle's Surface Chemistry Using Synchrotron X-Ray Fluorescence (XRF)", (04/2017), Principle Investigator, **The Deanship of Scientific Research at Al-Zaytoonah University of Jordan and Diamond Light Source, Oxford, UK.**

10. Patents

Not Applicable

11. Membership of Committees

National and International



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1. American Association for the Advancement of Science (AAAS).
2. American Chemical Society (ACS).
3. Jordan Pharmacists Association (JPA).
4. Pharmaceutical Drug Registration Committee at Jordan Food and Drug Administration (JFDA): member and technical consultant (8/2017-11/2017).
5. Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME) Jordanian National Committee (SJNC).

Al-Zaytoonah University of Jordan

1. The Committee for Scientific Research, a Faculty committee (Chair), **10/2019-10/2020**.
2. The University Scientific Research Council (Member), **10/2019-10/2020**.
3. The Committee for Graduate studies, a Faculty committee (Member), **10/2019-10/2020**.
4. The Committee for Scientific Research, a Faculty committee (Member), **10/2018-10/2019**.
5. The Committee for Quality Assurance, a Faculty committee (Member), **10/2017-10/2019**.
6. The University Counsel (Member), **10/2018-10/2019**.
7. The Committee for Curricular Equivalence and Academic Advisement, Training, and Alumni Follow-up, a Faculty committee (Member), **10/2017-10/2018**.
8. The Committee for Extra-Curricular activities and Community Services, a Faculty committee (Chair), **10/2017-10/2018**.

Organization of Curricular and/or Extra-Curricular Activities

1. Scientific lecture on applications of Synchrotron light in scientific research for Faculty of Pharmacy members and graduate students at Al-Zaytoonah University of Jordan, **12/2019**.



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2. Training workshop on application of Prism GraphPad in scientific research Part 3 for graduate students, Al-Zaytoonah University of Jordan, **12/2019**.
3. Training workshop on application of Prism GraphPad in scientific research Part 2 for graduate students, Al-Zaytoonah University of Jordan, **11/2019**.
4. Training workshop on application of Prism GraphPad in scientific research Part 1 for graduate students, Al-Zaytoonah University of Jordan, **10/2019**.
5. Training workshop on application of Prism GraphPad in scientific research for graduate students, the University of Jordan, **04/2019**.
6. Scientific lecture on applications of Synchrotron light in scientific research for graduate students at the University of Jordan, **03/2019**.
7. Pharmaceutics and Advanced Pharmaceutical Technology syllabuses.
8. Scientific visit with undergraduate students to Dar Al-Dawa Pharmaceutical company, **05/2018**.
9. Scientific visit with undergraduate students to Dar Al-Dawa Pharmaceutical company, **11/2017**.
10. University's 9th Career Day and Career Day for Pharmacy students, **05/2017**.
11. University's 10th Career Day, **04/2018**.
12. Career Day for 5th year students at Al-Zaytoonah University of Jordan, **03/2018**.
13. The 1st Exhibition for extra-curricular activities at Al-Zaytoonah University of Jordan, **03/2017**.
14. Several Alumni and medical days held in Al-Zaytoonah University of Jordan campus and other sites.

12. Professional and Scientific Meetings

Scientific Meetings Organized

1. Al-Zaytoonah University of Jordan & The University of Toledo International Pharmaceutical Conference (ZTIPC 2017), Amman, Jordan, 29th to 30th of November **2017**.



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2. Al-Zaytoonah University of Jordan & The University of Toledo International Pharmaceutical Conference (ZTIPC 2019), Amman, Jordan, 6th to 7th of November **2019**.

Participation in Scientific meetings

1. 17th SESAME Users Meeting & ESUO Regional Meeting 2019 SESAME, Allan, Jordan. **12/2019**.
2. Intellectual Properties for Educational Institutes Workshop, Ministry of Industry & Trade, Amman, Jordan, **03/2019**.
3. Queen's University Belfast - Jordan research symposium and workshop, Al-Ahliyya Amman University, Amman, Jordan, **01/2019**.
4. 9th International Petra School of Physics “Nano Physics: Fundamentals and Applications” Amman, Petra, Jordan, **10/ 2018**.
5. The 5th Middle East Molecular Biology Congress and Exhibition, Jordan, **10/2018**.
6. The 15th Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME) Users Meeting, Amman, Jordan. Dec **2017**.
7. World Science Forum 2017 Jordan, Amman, Jordan, **11/2017**.
8. The 10th Scientific Workshop for Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME) Users: TAIEX Workshop on GEANT H2020 and European Synchrotron Sources, Amman, Jordan, **08/2017**.



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9. Pharmacy Third Conference “Recent Trends in Postgraduate Research”, Applied Sciences University, Amman, Jordan, **04/2017**.
10. The 10th Scientific day, Faculty of Pharmacy and Medical Sciences, Petra University, Amman, Jordan, **04/2017**.
11. “Support to Research, Technological Development and Innovation in Jordan” “SRTD-II”, project, Amman, Jordan, **02/2017**.
12. “Gold Nanoparticles”, workshop, The University of Jordan, Amman, Jordan, **12/2016**.
13. The 13th International Conference on X-ray Microscopy, Oxford University, Oxford, UK, **08/2016**.
14. “Inductively Coupled Plasma-Optical Emission Spectroscopy”, Workshop, Hamdi Mango Center for Scientific Research (HMCSR), the University of Jordan, Amman, **02/2015**.
15. Diamond Light Source, UK's national synchrotron science facility; *Scientific visit and training*, Oxford, UK, **07/2017**.
16. “Test Construction and Analysis of Results”, Training course, Al-Zaytoonah University of Jordan, Amman, Jordan, **06/2017**.

Conference Presentations

1. Hazim A., Alshaikh L., Alqruty W., Dabash S., Abd-Alsamad L., **Mahmoud N.N.** “Nanomaterial Loaded into Methacrylate Hydrogel: Cytotoxicity and Antibacterial Activity”, Al-Zaytoonah University of Jordan & The University of Toledo



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- International Pharmaceutical Conference (ZTIPC 2019), *Poster presentation*, Amman, Jordan, **11/ 2019**.
2. **Mahmoud N.N.**, Abu-Dahab R., Hamadneh L.A, Abuarqoub D., Jafar H., Khalil E.A. “Cellular Uptake and Cytotoxicity of Phospholipid-Decorated Gold Nanorods Toward MCF-7 and T47D Breast Cell Cancer Lines”, *Nanotechnology in Cancer: Engineering for Oncology, Poster presentation*, Cambridge, UK, **09/2019**.
 3. **Mahmoud, N.N.**, Harfouche, M., Alkilany, A.M., Al-Bakri, Khalil, E.A. “Correlation between ICP-OES and Synchrotron-XRF in Detecting the Penetration of Gold Nanorods into Excised Human Skin Layers”, *The 14th International Conference on X-ray Microscopy; Poster presentation*, Saskatoon, Canada, **08/2018**.
 4. **Mahmoud, N.N.** “Application of Synchrotron-XRF in Detection of Gold Nanorods Penetration through Skin Layers”; *Oral presentation- workshop*, School of Pharmacy, The University of Jordan, Amman, Jordan, **04/2018**.
 5. **Mahmoud, N.N.** “Applications of Prism Program in Scientific Data Analysis and Interpretations”; *Oral presentation- workshop*, School of Pharmacy, The University of Jordan, Amman, Jordan, **04/2018**.
 6. **Mahmoud, N.N.**, Alkilany, A. M., Dörthe Dietrich, Uwe Karst, Bakri, A. G. and Khalil, E. A. “Preferential Accumulation of Gold Nanorods into Human Skin Hair Follicles: Effect of Nanoparticle Surface Chemistry”; *Oral presentation*, Al-Zaytoonah University of Jordan and The University of Toledo International Pharmaceutical Conference (ZTIPC 2017), Amman, Jordan, **11/2017**.
 7. **Mahmoud, N.N.**, Alkilany, A. M., Dörthe Dietrich, Uwe Karst, Bakri, A. G. and Khalil, E. A. “Gold Nanoparticles-Skin Interface: Targeting into Hair Follicles”;



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Oral presentation, the Scientific Day, Philadelphia University, Amman, Jordan, **05/2017**.

8. **Mahmoud, N.N.**, Alkilany, A.M., Al-Bakri, Khalil, E.A. “Colloidal Stability and Penetration Extent of Gold Nanorods of Different Surface Chemistry Upon contact with Excised Human Skin”; *Poster presentation*, The 4th International Pharmaceutical Conference, The University of Jordan, Amman, Jordan, **10/2016**.
9. **Mahmoud, N.N.**, Alkilany, A.M., Al-Bakri, Khalil, E.A. “Gold Nanoparticles-Skin Interface: Effect of Nanoparticles Colloidal Stability and Surface Chemistry”; *Oral presentation*, Nano-Tech workshop, The University of Jordan, Amman, Jordan, **10/2016**.

Scientific visits

1. Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME), Allan, Jordan, training and conducting a scientific research and experiments, **10/2019**.
2. Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany, training and conducting a scientific research and experiments, **04/2019**.
3. Diamond Light Source, Oxford, UK, training and conducting a scientific research and experiments, **07/2017**.

Scientific Publications

Papers in refereed journals

1. **N.N. Mahmoud**, R. Abu-Dahab, D. Abuarqoub, M. Abdallah, E.A. Khalil Interaction of Gold Nanorods with Cell Culture Media: Colloidal Stability, Cytotoxicity and Cellular Death Modality, *Journal of Drug Delivery Science and Technology* 60 (2020) 101965 (Impact Factor: 2.734).



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2. R. Hamed, N.N. **Mahmoud**, S. H. Alnadi, A. Z. Alkilani, G. Hussein. Diclofenac Diethylamine Nanosystems-Loaded Bigels for Topical Delivery: Development, Rheological Characterization, and Release Studies. *Drug Development and Industrial Pharmacy* (2020) Just accepted (Impact Factor: 2.365).
3. S. Sinoqrot, N.N. **Mahmoud**, L. H. Ibrahim, S. Al-Dabash, H. Raschke, R. Hergenroeder. Tuning the Surface Chemistry of Melanin-Mimetic Polydopamine Nanoparticles Drastically Enhances their Accumulation into Excised Human Skin. *ACS Biomaterials Science & Engineering* 6 (8) (2020) 4424-4432 (Impact Factor: 4.152).
4. K. M. Hamad, N. N. **Mahmoud**, S. Al-Dabash, L. A. Al-Samad, M. Abdallah, A. G. Al-Bakri, Fluconazole Conjugated-Gold Nanorods as an Antifungal Nanomedicine with Low Cytotoxicity Against Human Dermal Fibroblasts, *RSC Advances* 10 (2020) 25889-25897 (Impact Factor: 3.049).
5. N.N. **Mahmoud**, R. Hamed, E.A. Khalil, Colloidal stability and rheological properties of gold nanoparticle-loaded polymeric hydrogels: impact of nanoparticle's shape, surface modification, and concentration, *Colloid and Polymer Science* 298 (2020) 989-999 (Impact Factor: 1.906).
6. N.N. **Mahmoud**, D. Abuarqoub, R. Zaza, D.A. Sabbah, E.A. Khalil, R. Abu-Dahab, Gold Nanocomplex Strongly Modulates the PI3K/Akt Pathway and Other Pathways in MCF-7 Breast Cancer Cell Line, *International journal of molecular sciences* 21(9) (2020) 3320 (Impact Factor: 4.183).
7. N.N. **Mahmoud**, A. Albasha, S. Hikmat, L. Hamadneh, R. Zaza, Z. Shraideh, E.A. Khalil, Nanoparticle size and chemical modification play a crucial role in the interaction of nano gold with the brain: extent of accumulation and toxicity, *Biomaterials Science* 8(6) (2020) 1669-1682 (Impact Factor: 5.251).



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8. A.H. Al-Nadaf, L.A. Dahabiyeh, S. Bardaweel, **N.N. Mahmoud**, S. Jawarneh, Functionalized mesoporous silica nanoparticles by lactose and hydrophilic polymer as a hepatocellular carcinoma drug delivery system, *Journal of Drug Delivery Science and Technology* 56 (2020) 101504 (Impact Factor: 2.606).
9. **N.N. Mahmoud**, R. Abu-Dahab, L.A. Hamadneh, D. Abuarqoub, H. Jafar, E.A. Khalil, Insights into the Cellular Uptake, Cytotoxicity, and Cellular Death Modality of Phospholipid-Coated Gold Nanorods toward Breast Cancer Cell Lines, *Molecular Pharmaceutics* 16(10) (2019) 4149-4164 (Impact Factor: 4.396).
10. **N.N. Mahmoud**, L.M. Al-Kharabsheh, E.A. Khalil, R. Abu-Dahab, Interaction of Gold Nanorods with Human Dermal Fibroblasts: Cytotoxicity, Cellular Uptake, and Wound Healing, *Nanomaterials* (Basel, Switzerland) 9(8) (2019) (Impact Factor: 4.034).
11. **N.N. Mahmoud**, A.A. Alhusban, J.I. Ali, A.G. Al-Bakri, R. Hamed, E.A. Khalil, Preferential Accumulation of Phospholipid-PEG and Cholesterol-PEG Decorated Gold Nanorods into Human Skin Layers and Their Photothermal-Based Antibacterial Activity, *Scientific Reports* 9(1) (2019) 5796 (Impact Factor: 4.525).
12. **N.N. Mahmoud**, S. Hikmat, D. Abu Ghith, M. Hajeer, L. Hamadneh, D. Qattan, E.A. Khalil, Gold nanoparticles loaded into polymeric hydrogel for wound healing in rats: Effect of nanoparticles' shape and surface modification, *International Journal of Pharmaceutics* 565 (2019) 174-186 (Impact Factor: 4.213).
13. **N.N. Mahmoud**, D.A. Sabbah, R. Abu-Dahab, D. Abuarqoub, M. Abdallah, Ameerah, E.A. Khalil, Cholesterol-coated gold nanorods as an efficient nano-carrier for chemotherapeutic delivery and potential treatment of breast cancer: in vitro studies using the MCF-7 cell line, *RSC Advances* 9(22) (2019) 12718-12731 (Impact Factor: 3.049).



14. A.G. Al-Bakri, **N.N. Mahmoud**, Photothermal-Induced Antibacterial Activity of Gold Nanorods Loaded into Polymeric Hydrogel against *Pseudomonas aeruginosa* Biofilm, *Molecules* (Basel, Switzerland) 24(14) (2019) (Impact Factor: 3.060).
15. M. Ayyash, A.A. Shehabi, **N.N. Mahmoud**, A.G. Al-Bakri, Antibiofilm properties of triclosan with EDTA or cranberry as Foley Catheter lock solutions, *Journal of Applied Microbiology* 127(6) (2019) 1876-1888 (Impact Factor: 2.683).
16. R. Hamed, A. Farhan, R. Abu-Huwaij, **N.N. Mahmoud**, A. Kamal, Lidocaine Microemulsion-Laden Organogels as Lipid-Based Systems for Topical Delivery, *Journal of Pharmaceutical Innovation* (2019) (Impact Factor: 1.452).
17. O. Altarawneh, A. Madi, R. Hamed, R. Qirem, W. Qerem, A. Alhusban, S. Sunoqrot, **N.N. Mahmoud**, A. Ata, and I. Isheikh. In vitro Characterization and Evaluation of Commercialized Paracetamol Products in Jordan. *Dissolution Technologies* 26(1) (2019) 36-44 (Impact Factor: 0.730).
18. **N.N. Mahmoud**, A.M. Alkilany, E.A. Khalil, A.G. Al-Bakri, Nano-Photothermal ablation effect of Hydrophilic and Hydrophobic Functionalized Gold Nanorods on *Staphylococcus aureus* and *Propionibacterium acnes*, *Scientific Reports* 8(1) (2018) 6881 (Impact Factor: 4.525).
19. **N.N. Mahmoud**, M. Harfouche, A.M. Alkilany, A.G. Al-Bakri, R.A. El-Qirem, S.A. Shraim, E.A. Khalil, Synchrotron-based X-ray fluorescence study of gold nanorods and skin elements distribution into excised human skin layers, *Colloids and Surfaces B: Biointerfaces* 165 (2018) 118-126 (Impact Factor: 3.973).
20. **N.N. Mahmoud**, M. Harfouche, A.M. Alkilany, A.G. Al-Bakri, E.A. Khalil, Correlation between ICP-OES and Synchrotron-XRF in Detecting the Penetration of



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Gold Nanorods into Excised Human Skin Layers, *Microscopy and Microanalysis* 24(S2) (2018) 538-539 (Impact Factor: 2.673).

21. N.N. **Mahmoud**, A.M. Alkilany, D. Dietrich, U. Karst, A.G. Al-Bakri, E.A. Khalil, Preferential accumulation of gold nanorods into human skin hair follicles: Effect of nanoparticle surface chemistry, *Journal of Colloid and Interface Science* 503 (2017) 95-102 (Impact Factor: 6.361).
22. N.N. **Mahmoud**, A.M. Alkilany, E.A. Khalil, A.G. Al-Bakri, Antibacterial activity of gold nanorods against Staphylococcus aureus and Propionibacterium acnes: misinterpretations and artifacts, *International journal of nanomedicine* 12 (2017) 7311-7322 (Impact Factor: 4.471).
23. N.N. **Mahmoud**, K.M. Al-Qaoud, A.G. Al-Bakri, A.M. Alkilany, E.A. Khalil, Colloidal stability of gold nanorod solution upon exposure to excised human skin: Effect of surface chemistry and protein adsorption, *The International Journal of Biochemistry & Cell Biology* 75 (2016) 223-231 (Impact Factor: 3.144).
24. A.M. Alkilany, N.N. **Mahmoud**, F. Hashemi, M.J. Hajipour, F. Farvadi, M. Mahmoudi, Misinterpretation in Nanotoxicology: A Personal Perspective, *Chemical Research in Toxicology* 29(6) (2016) 943-948 (Impact Factor: 3.274).

Submitted papers:

1. A. Khattabi, N.N. **Mahmoud**. Interaction of Folate - Linked Silica Nanoparticles with HeLa Cells: Analysis and Investigation the Effect of Polymer Length. *Journal of Materials Science: Materials in Medicine* (Under review).
2. Akour, Amal; AlMuhaisen, Suha; Nusair, Mohammad; Al-Tammemi, Ala'a; N.N. **Mahmoud**; Jalouqa, Sarah; Rawashdeh, Maissa, Social reactions in the era of



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COVID-19 pandemic: A cross-sectional study exploring bullying of COVID-19 patients by Jordanians. *Journal of Social Issues* (Under review).

Ongoing Projects:

1. Development of a new index for evaluating the scientific production of scientists.
2. Development of novel nanofibers for diabetic wound.
3. Development of novel nanosystems for prevention of invasion of prostate cancers in vitro.