

CURRICULUM VITAE

Alaa Mahmoud Ahmad Hammad

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1. Personal Data

Date of Birth: March 4th, 1984

Nationality: Jordanian

Marital Status: Single

2. Education

- Ph.D. (Experimental Therapeutics) 2017, University of Toledo, Toledo, Ohio, USA. GPA 4.0 out of 4.0
- M.Sc. (Pharmaceutical Sciences- Pharmacology) 2011, Albany College of Pharmacy and health sciences, Albany, New York, USA. GPA 3.93 out of 4.0
- B.Sc. (Pharmacy) 2007, Jordan University, Amman, Jordan. GPA 3.63 out of 4.0

3. Ph.D. Dissertation

- *The role of Glutamate Transporter 1 and Cystine-glutamate exchanger in cocaine and ethanol co-abuse: Potential therapeutic targets*, The University of Toledo, Toledo, Ohio, USA.

4. Employment

Academic Positions

- Associate Professor, Pharmacology Department, AlZaytoonah University of Jordan, Amman, Jordan December 15th, 2021 – Now.
- Assistant Professor, Pharmacology Department, AlZaytoonah University of Jordan, Amman, Jordan December 15th, 2017 – December 15th, 2021.



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- Graduate Assistant, Department of Pharmacology and Experimental Therapeutics, The University of Toledo, Toledo, Ohio, USA August, 2015- August 2017.
- Instructor, Pharmacology Department, AlZaytoonah University of Jordan, Amman, Jordan February, 2012- August, 2014.

Non-Academic Positions

- Assistant Data Analyst, International Pharmaceutical Research Center (IPRC), Amman, Jordan. March 2007-August 2009.

5. Research Interests

- Neuroprotection and Drug Abuse research, especially investigating the role of glutamatergic neurotransmission in Drugs of abuse mainly nicotine exposure.

6. Membership in Scientific Societies and Associations

- Member of Jordan Pharmaceutical Association (JPA).
- Member of American Society for Pharmacology and Experimental Therapeutics (ASPET).
- Member of Society of Neuroscience (SFN).

7. Fellowships and Scholarships

- Alzaytoonah University postgraduate scholarship to pursue PhD degree in 2014.

8. Teaching Experience

- **Graduate Courses**
 - Advanced Pathophysiology for Nursing Students.
 - Advanced Clinical Pharmacology and Therapeutics.
- **Undergraduate Courses**
 - Clinical Pharmacy and Therapeutics 1.
 - Clinical Pharmacy and Therapeutics 2.
 - Biopharmaceutics and Pharmacokinetics.
 - Biopharmaceutics and



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Pharmacokinetics Laboratory.

- Clinical Pharmacy and Therapeutics Laboratory 1 (Clinical Cases).
- Clinical Pharmacy and Therapeutics Laboratory 2 (Hospital).
- Professional Pharmacy Practice 2.
- Pathophysiology.
- Pathophysiology Laboratory.
- Physiology 1.
- Physiology Laboratory.
- Pharmacology Laboratory.

9. Supervision of Graduate Research

- Ghadeer M.S. Swiss, "Effects of water pipe whole body exposure on gene expression of glial glutamatergic transporters in different mesocorticolimbic brain regions", 2020.
- Yasmine Ibrahim, Effects of Oxandrolone on glial glutamatergic transporters expression in different mesocorticolimbic brain regions, 2020.
- Lujaine Zagari, "Aspirin effect on tobacco smoke withdrawal-induced anxiety in female rats", 2021.

10. Grants

- A research grant (grant no. 26/12/2019-2020) for a project titled "Effect of chronic inhalation of water pipe on rat behavior and glial glutamate transporters and cannabinoid receptor type 1 in rats" from AlZaytoonah University of Jordan. The grant amount was 56000 USD for a 24 months duration.
- A research grant (grant no. CRP/JOR21-03) for a project titled "Aptamer-guided Plant Polyphenol Nanoassemblies for Effective Cancer Targeting" from International Centre for Genetic Engineering and Biotechnology (ICGEB). The grant amount was 45,000 Euro for a 36 months duration

11. Membership of Committees

- **National and International**
 - Member of a Choosing an Incubator for medicinal plants Committee to establish a research incubator that is integrated to the Ministry of Higher Education and Scientific Research, Amman, Jordan.
- **University**
 - Member of Accreditation Council for Pharmacy Education (ACPE) steering committee, AlZaytoonah University of Jordan, Amman, Jordan. March 2018-now.
 - Head of the Training committee, AlZaytoonah University of Jordan,



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Amman, Jordan. September 2018-now.

- Member of the Curriculum committee, AlZaytoonah University of Jordan, Amman, Jordan. September 2018-now.
- Member of the disciplinary committee, AlZaytoonah University of Jordan, Amman, Jordan. September 2018-now.
- Member of the Equivalence, Guidance, Training and Follow up Graduates Member of American Society for Pharmacology and Experimental Therapeutics (ASPET).

12. Professional and Scientific Meetings

- American Society for Pharmacology and Experimental Therapeutics (ASPET), Annual Meeting in Experimental Biology, April 2017, Chicago, USA.
- Sixth pharmaceutical International Pharmaceutical Conference (oral presentation), October 2017, AlZaytoonah University of Jordan, Amman, Jordan.
- How to Deal with the Module Workshop, February 2018, AlZaytoonah University of Jordan, Amman, Jordan.
- Recent Trends in Postgraduate Research, October 2018, Applied Science Private University, Amman, Jordan.
- Introductory into the SPSS Workshop, AlZaytoonah University of Jordan, February 2019, Amman, Jordan
- 4th Regional Pharmacy Faculty Development Workshop on taking your experimental education program to the next level, Al Ain University of Science and Technology (AAU), March 2019, Abu-Dhabi, UAE.
- Trainer of Trainee (TOT) Workshop, AlZaytoonah University of Jordan, May 2019, Amman, Jordan.
- Objective Structured Clinical Examination (OSCE) Workshop AlZaytoonah University of Jordan, October 2019, Amman, Jordan.
- The First Pharmacy conference, A Pharmacy towards renewable horizons, October 2019, Pharmacy one and RBC team, Amman, Jordan.
- Mental Health Awareness, November 2019, Yarmouk University, Irbid, Jordan.
- A proctor in AlZaytoonah University of Jordan and the University of Toledo seventh pharmaceutical International Pharmaceutical Conference (oral presentation), November 2019, AlZaytoonah University of Amman, Jordan.

13. Participation in or organization of curricular and/or extra-curricular activities

- Attended Graduate Day, May 2018, AlZaytoonah University of Jordan, Amman, Jordan.



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- Organized and participated in drug drive for the underprivileged in Islamic Educational College, May 2019, Amman, Jordan.
- Attended World Drugs of Abuse Day- Hand in Hand, June 2019, Public Security Directory, Amman, Jordan.
- Organized and participated in Experiential Field Trainer Day, AlZaytoonah University of Jordan, July 2019, Amman, Jordan.
- Organized Lectures series on the Importance and Difficulties of experiential training, October- January 2019, AlZaytoonah University of Jordan, Amman, Jordan.
- Participated in RBC awareness event, January 2020, Mecca Mall, Amman, Jordan.
- Judge in RBC poster session, Petra University, March 2020, Amman, Jordan.

14. Publications

- Papers in refereed journals
- 1- Al-Qerem, W., Alassi, A., Jarab, A., Al Bawab, A. Q., **Hammad, A.**, Alasmari, F., ... & Eberhardt, J. (2023). Examining Influenza Vaccination Patterns Among Young Adults with Asthma: Insights into Knowledge, Attitudes, and Practices. *Patient Preference and Adherence*, 2899-2913.
 - 2- Al-Qerem W, Jarab A, AlBawab AQ, **Hammad A**, Alazab B, Abu Husein D, Eberhardt J, Alasmari F. Examining Influenza Vaccination Patterns and Barriers: Insights into Knowledge, Attitudes, and Practices among Diabetic Adults (A Cross-Sectional Survey). *Vaccines*. 2023; 11(11):1689
 - 3- Ikhmais BA, **Hammad AM**, Abusara OH, Hamadneh L, Abumansour H, Abdallah QM, Ibrahim AIM, Elsalem L, Awad M, Alshehada R. Investigating Carvedilol's Repurposing for the Treatment of Non-Small Cell Lung Cancer via Aldehyde Dehydrogenase Activity Modulation in the Presence of β -Adrenergic Agonists. *Current Issues in Molecular Biology*. 2023; 45(10):7996-8012
 - 4- Hamed, R., Abu Alata, W. A., Abu-Sini, M., Abulebdah, D. H., **Hammad, A. M.**, & Aburayya, R. (2023). Development and Comparative Evaluation of Ciprofloxacin Nanoemulsion-Loaded Bigels Prepared Using Different Ratios of Oleogel to Hydrogels. *Gels*, 9(7), 592.
 - 5- Al-Qerem W, Jarab A, Shawabkeh Y, Ling J, **Hammad A**, Alazab B, Alasmari F. COVID-19 Vaccination Booster Dose: Knowledge, Practices, and Intention



- among Pregnant/Planning to Get Pregnant and Lactating Women. *Vaccines*. 2023; 11(7):1249.
- 6- Salem, Y., Rajha, H. N., Sunoqrot, S., **Hammad, A. M.**, Castangia, I., Manconi, M., & Louka, N. (2023). Exhausted Grape Seed Residues as a Valuable Source of Antioxidant Molecules for the Formulation of Biocompatible Cosmetic Scrubs. *Molecules*, 28(13), 5049.
 - 7- Al-Qerem, W., Jarab, A., **Hammad, A.**, Alasmari, F., Ling, J., Al-Zayadneh, E., & Hajeer, L. (2023). Knowledge, Attitudes, and Practices of Influenza Vaccination among Parents of Children with Asthma: A Cross-Sectional Study. *Vaccines*, 11(6), 1074.
 - 8- **Alaa M. Hammad**, Lujain Al-Zaghari, Malek Alfaraj, Laith Al-Shawaf, and Suhair Sunoqrot. Nanoassemblies from the Aqueous Extract of Roasted Coffee Beans Modulate the Behavioral and Molecular Effects of Smoking Withdrawal-Induced Anxiety in Rats. *Drug Delivery and Translational Research*. Accepted
 - 9- Sunoqrot, S., Alkurdi, M., Al Bawab, A. Q., **Hammad, A. M.**, Tayyem, R., Obeed, A. A., & Abufara, M. (2023). Encapsulation of Morin in Lipid Core/PLGA Shell Nanoparticles Significantly Enhances its Anti-Inflammatory Activity and Oral Bioavailability. *Saudi Pharmaceutical Journal*.
 - 10- **Hammad, A. M.**, Shawaqfeh, B., Hikmat, S., Al-Qirim, T., Hamadneh, L., Al-Kouz, S., ... & Hall, F. S. (2023). The Role of Vitamin E in Protecting against Oxidative Stress, Inflammation, and the Neurotoxic Effects of Acute Paracetamol in Pregnant Female Rats. *Toxics*, 11(4), 368.
 - 11- Amawi, H., Arabyat, R. M., Al-Azzam, S., AlZu'bi, T., U'wais, H. T., **Hammad, A. M** & Nusair, M. B. (2023). The Length of Hospital Stay of Patients with Venous Thromboembolism: A Cross-Sectional Study from Jordan. *Medicina*, 59(4), 727.
 - 12- **Hammad, A. M.**, Alhusban, A. A., Alzaghari, L. F., Alasmari, F., & Sari, Y. (2023). Effect of Cigarette Smoke Exposure and Aspirin Treatment on Neurotransmitters' Tissue Content in Rats' Hippocampus and Amygdala. *Metabolites*, 13(4), 515.
 - 13- Tarawneh, O. **Hammad, A.**, Maffouz, H.A., Hamadneh, L., Hamed, R., Hamadneh, I. & Al-Assi, A.R. Development of Mucoadhesive Cellulose Derivatives based Films for the Treatment of Vaginal Candidiasis



- 14- Abusara, O. H., Ibrahim, A. I., Issa, H., **Hammad, A. M.**, & Ismail, W. H. (2023). In Vitro Evaluation of ALDH1A3-Affinic Compounds on Breast and Prostate Cancer Cell Lines as Single Treatments and in Combination with Doxorubicin. *Current Issues in Molecular Biology*, 45(3), 2170-2181.
- 15- **Hammad AM**, Alzaghari LF, Alfaraj M, Al-Qerem W, Talib WH, Alasmari F, Amawi H, Hall FS. Acetylsalicylic acid reduces cigarette smoke withdrawal-induced anxiety in rats via modulating the expression of NFκB, GLT-1, and xCT. *Front Pharmacol*. 2023 Jan 9;13:1047236.
- 16- Saleh, M. M., Abuarqoub, D. A., **Hammad, A. M.**, Hossan, M. S., Ahmed, N., Aslam, N., ... & Bradshaw, T. D. (2022). In Vitro Anticancer Properties of Novel Bis-Triazoles. *Current Issues in Molecular Biology*, 45(1), 175-196.
- 17- **Hammad AM**, Naser A, Amawi H, Hall FS, Tiwari AK, Al-Trad B. Effect of Amoxicillin/Clavulanic acid in attenuating Pregabalin-induced Condition Place Preference. *Behav Brain Res*. 2022 Dec 2:114244.
- 18- Khdaif SI, Al-Bdour R, Jarrar W, **Hammad A**, Al-Jayeh A, Masa'deh M, Adwan M, Farah R. Immunogenetic Profiling of SLE and LN among Jordanian Patients. *Journal of Personalized Medicine*. 2022; 12(12):1955.
- 19- Alhusban AA, **Hammad AM**, Alzaghari LF, Shallan AI, Shnewer K. Rapid and sensitive HPLC-MS/MS method for quantification of dopamine, GABA, serotonin, glutamine and glutamate in rat brain regions after exposure to tobacco cigarettes. *Biomed Chromatogr*. 2022 Sep 21:e5513.
- 20- Hamed R, Abu Kwiak AD, Al-Adhami Y, **Hammad AM**, Obaidat R, Abusara OH, Huwajj RA. Microemulsions as Lipid Nanosystems Loaded into Thermoresponsive In Situ Microgels for Local Ocular Delivery of Prednisolone. *Pharmaceutics*. 2022 Sep 19;14(9):1975.
- 21- Al-Shalabi E, Abusulieh S, **Hammad AM**, Sunoqrot S. Rhoifolin loaded in PLGA nanoparticles alleviates oxidative stress and inflammation in vitro and in vivo. *Biomater Sci*. 2022 Aug 3
- 22- **Alaa M Hammad**, Walid A Al-Qerem, Suhair Z Sunoqrot, Haneen A Amawi, Rasha M Arabyat, Jonathan Ling, Carlie Robertshaw Pharmacy students' perceptions and attitudes towards experiential training in Jordan and United Kingdom. *Tropical Journal of Pharmaceutical Research* July 2022; 21 (7): 1531-1541.



- 23- Al-Qerem W, Jarab A, **Hammad A**, Alsajri AH, Al-Hishma SW, Ling J, Alabdullah AS, Salama A, Mosleh R. Knowledge, Attitudes, and Practices of Adult Iraqi Population Towards COVID-19 Booster Dose: A Cross-Sectional Study. Patient Prefer Adherence. 2022;16:1525-1537.
- 24- **Hammad, A.M.**; Al-Qerem, W.; Alasmari, F.; Ling, J.; Qarqaz, R.; Alaqabani, H. Identifying Drug-Therapy Problems among Syrian Refugees in Zaatari Refugee Camp. Int. J. Environ. Res. Public Health 2022, 19, 7199
- 25- **Hammad AM**, Al-Qerem W, Zaid AA, Khair SI, Hall FS. Misconceptions related to COVID 19 vaccines among the Jordanian population: Myth and Public Health. Disaster Med Public Health Prep. 2022 Jun 8:1-26.
- 26- Alhusban, A. A., **Hammad, A. M.**, & Alzaghari, L. F. (2022). Simple HPLC method for simultaneous quantification of nicotine and cotinine levels in rat plasma after exposure to two different tobacco products, *Acta Chromatographica* Retrieved May 31, 2022
- 27- W. Al Qerem, **A. Hammad** , A. Jarab, M.M Saleh, H.A. Amawi, J.Ling, F. Alasmari. Knowledge, attitudes, and practice with respect to antibiotic use among pharmacy students: a cross-sectional study. Eur Rev Med Pharmacol Sci. 2022 May;26(10):3408-3414.
- 28- Al-Qerem W, Jarab A, **Hammad A**, Alasmari F, Ling J, Alsajri AH, Al-Hishma SW, Abu Heshmeh SR. Iraqi Parents' Knowledge, Attitudes, and Practices towards Vaccinating Their Children: A Cross-Sectional Study. Vaccines (Basel). 2022 May 22;10(5):820
- 29- Das, S. C., Althobaiti, Y. S., **Hammad, A. M.**, Alasmari, F., & Sari, Y. (2022). Role of suppressing GLT-1 and xCT in ceftriaxone-induced attenuation of relapse-like alcohol drinking in alcohol-preferring rats. *Addiction Biology*, 27(4), e13178.
- 30- **Hammad AM**, Meknas SJ, Hall FS, Hikmat S, Sari Y, Al-Qirim TM, Alfaraj M, Amawi H. Effects of waterpipe tobacco smoke and ceftriaxone treatment on the expression of endocannabinoid receptors in mesocorticolimbic brain regions. *Brain Res Bull*. 2022 Apr 29;185:56-63.
- 31- Al-Qerem W, Jarab AS, Badinjki M, **Hammad A**, Ling J, Alasmari F. Factors associated with glycemic control among patients with type 2 diabetes: a cross-sectional study. Eur Rev Med Pharmacol Sci. 2022 Apr;26(7):2415-2421.



- 32- **Hammad AM**, Al Qerem W, Alaqabani H, Alasmari F, Ling J. Factors influencing hypertension and diabetes mellitus control among Syrian refugees in Zaatari refugee camp. *Eur Rev Med Pharmacol Sci*. 2022 Apr;26(7):2408-2414.
- 33- Al-Qerem W, Al Bawab AQ, **Hammad A**, Ling J, Alasmari F. Willingness of the Jordanian Population to Receive a COVID-19 Booster Dose: A Cross-Sectional Study. *Vaccines (Basel)*. 2022 Mar 9;10(3):410.
- 34- **Hammad A.M.**, Bachu R.D., Muskiewicz D.E., Hall F.S., Tiwari A.K. (2022) Alcohol and Cocaine Co-usage. In: Patel V.B., Preedy V.R. (eds) *Handbook of Substance Misuse and Addictions*. Springer, Cham.
- 35- Al-Qerem W, Al Bawab AQ, **Hammad A**, Jaber T, Khair SI, Kalloush H, Ling J, Mosleh R. Parents' attitudes, knowledge and practice towards vaccinating their children against COVID-19: a cross-sectional study. *Hum Vaccin Immunother*. 2022 Mar 3:1-10.
- 36- Al-Qerem W, **Hammad A**, Alsajri AH, Al-Hishma SW, Ling J, Mosleh R. COVID-19 Vaccination Acceptance and Its Associated Factors Among the Iraqi Population: A Cross Sectional Study. *Patient Prefer Adherence*. 2022 Feb 5;16:307-319.
- 37- **Hammad AM**, Ibrahim YA, Khair SI, Hall FS, Alfaraj M, Jarrar Y, Abed AF. Metformin reduces oxandrolone- induced depression-like behavior in rats via modulating the expression of IL-1 β , IL-6, IL-10 and TNF- α . *Behav Brain Res*. 2021 Sep 24;414:113475.
- 38- Amawi H, Alazzam S, Alzanati T, Altamimi N, **Hammad A**, Alzoubi KH, Ashby JCR, Tiwari AK. The validity of mobile applications to facilitate patient care provided to cancer patients: opportunities and limitations. *Recent Pat Anticancer Drug Discov*. 2021 Jul 28.
- 39- Walid Al-Qerem, **Alaa Hammad**, Haneen A Amawi, Anan S Jarab, Jonathan Ling, Anxiety and depression in pharmacy students before and during COVID-19, *Trop J Pharm Res*, 2021 April.
- 40- **Alaa M. Hammad**, Ghadeer M.S. Swiss , F. Scott Hall , Suhair Hikmat, Youssef Sari , Al-Qirim TM, Amawi HA Ceftriaxone reduces waterpipe tobacco smoke withdrawal-induced anxiety in rats via modulating the expression of TNF- α /NF κ B, Nrf2, and GLT-1, *Neuroscience*, 2021 Mar 26.



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- 41- **Hammad AM**, Hamed R, Al-Qerem W, Bandar A, Hall FS. Optimism Bias, Pessimism Bias, Magical Beliefs, and Conspiracy Theory Beliefs Related to COVID-19 among the Jordanian Population. *Am J Trop Med Hyg.* 2021 Mar 24
- 42- **Alaa M. Hammad**, Walid Al-Qerem¹, Ameen Alassi¹ and Dana Hyassa, "Effect of Type 2 Diabetes Mellitus and Diabetic Medication on Pulmonary Function". *Current Respiratory Medicine Reviews*, 2020, 17, 1-0
- 43- Amal Akour , Eman Elayeh , Razan Tubeileh , **Alaa Hammad** , Rawan Ya'Acoub & Ala'a B. Al-Tammem "Role of community pharmacists in medication management during COVID-19 lockdown" *Pathog Glob Health.* 2021 Feb 11:1-10.
- 44- Fawaz Alasmari, Laura Crotty E. Alexander, **Alaa M. Hammad**, Austin Horton, Hasan Alhaddad, Isaac T. Schiefer, John Shin, Alexander Moshensky, and Youssef Sari¹, "E-cigarette aerosols containing nicotine modulate nicotinic acetylcholine receptors and astroglial glutamate transporters in mesocorticolimbic brain regions of chronically exposed mice". *Chem Biol Interact.* 2020 Nov 23;333: 109308.
- 45- Balqis Ikhmais, **Alaa M. Hammad**, Waleed Qirim, Osama H. Abusara, Jonathan Ling "Conducting a COVID-19-Related Research in Jordan: Are We Ready? *Disaster Med Public Health Prep.* 2020 Nov 5:1-25.
- 46- **Alaa M. Hammad**, Fawaz Alasmari, and Youssef Sari "The effect of modulation of the glial glutamate transporters' expression on cocaine-induced reinstatement in male P rats exposed to voluntary home-cage ethanol drinking", *Alcohol and Alcoholism* (2020).
- 47- Suhair Sunoqrot, Malek Alfaraj, **Ala'a M. Hammad**, Violet Kasabri, Dana Shalabi, Ahmad A. Deeb, Lina Hasan Ibrahim, Khaldoun Shnewer, and Ismail Yousef Development of a Thymoquinone Polymeric Anticancer Nanomedicine through Optimization of Polymer Molecular Weight and Nanoparticle Architecture, *Pharmaceutics*, 2020 Sep; 12(9): 8-11.
- 48- Zaid, A.A; Barakat, M; Al-Qudah, R.A.; Albetawi, S.; **Hammad, A**; "Knowledge and awareness of community toward COVID-19 in Jordan: A cross-sectional study" *Systematic Reviews in Pharmacy*, 2020 August; 11(7): 135-142.
- 49- **Hammad, Alaa M.**, and Youssef Sari. "Effects of Cocaine Exposure on Astrocytic Glutamate Transporters and Relapse-Like Ethanol-Drinking Behavior



- in Male Alcohol-Preferring Rats." *Alcohol and Alcoholism* 2020, Apr; 55(3):254-263.
- 50- Alasmari, Fawaz, Laura Crotty Alexander, **Alaa Hammad**, Christine M. Bojanowski, Alex Moshensky, and Youssef Sari. "Effects of chronic inhalation of electronic cigarette vapor containing nicotine on neurotransmitters in the frontal cortex and striatum of C57BL/6 mice." *Frontiers in pharmacology* 10 (2019): 885.
- 51- Al-Qerem, Walid A., **Alaa M. Hammad**, Rania A. AlQirem, and Jonathan Ling. "Do the global lung function initiative reference equations reflect a sample of adult Middle Eastern population? " *The Clinical Respiratory Journal* 13, no. 7 (2019): 429-437.
- 52- Al-Qerem, Walid, **Alaa M. Hammad**, Ezeddin S. Gassar, Rania A. Al-Qirim, and Jonathan Ling. "Spirometry reference equations for an adult Middle Eastern population." *Expert review of respiratory medicine* 13, no. 5 (2019): 489-497.
- 53- Althobaiti, Yusuf S., Fahad S. Alshehri, Alqassem Y. Hakami, **Alaa M. Hammad**, and Youssef Sari. "Effects of clavulanic acid treatment on reinstatement to methamphetamine, glial glutamate transporters, and mGluR 2/3 expression in P rats exposed to ethanol." *Journal of Molecular Neuroscience* 67, no. 1 (2019): 1-15.
- 54- **Hammad, Alaa M.**, Fawaz Alasmari, Youssef Sari, F. Scott Hall, and Amit K. Tiwari. "Alcohol and Cocaine Exposure Modulates ABCB1 and ABCG2 Transporters in Male Alcohol-Preferring Rats." *Molecular neurobiology* 56, no. 3 (2019): 1921-1932.
- 55- Al-Qerem, Walid, Ezeddin S. Gassar, **Alaa M. Hammad**, Rania A. Al-Qirim, Yazun B. Jarrar, Jonathan Ling, and Iman A. Basheti. "Assessing the Application of the Reference Lung Age Equations on the Jordanian Population." *Current Respiratory Medicine Reviews* 14, no. 4 (2018): 227-236.
- 56- Alasmari, Fawaz, Richard L. Bell, P. S. S. Rao, **Alaa M. Hammad**, and Youssef Sari. "Peri-adolescent drinking of ethanol and/or nicotine modulates astroglial glutamate transporters and metabotropic glutamate receptor-1 in female alcohol-preferring rats." *Pharmacology Biochemistry and Behavior* 170 (2018): 44-55.
- 57- **Hammad, Alaa M.**, Fawaz Alasmari, Yusuf S. Althobaiti, and Youssef Sari. "Modulatory effects of Ampicillin/Sulbactam on glial glutamate transporters and metabotropic glutamate receptor 1 as well as reinstatement to cocaine-seeking behavior." *Behavioral brain research* 332 (2017): 288-298.



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58- **Hammad, Alaa M.**, Yusuf S. Althobaiti, Sujana C. Das, and Youssef Sari. "Effects of repeated cocaine exposure and withdrawal on voluntary ethanol drinking, and the expression of glial glutamate transporters in mesocorticolimbic system of P rats." *Molecular and Cellular Neuroscience* 82 (2017): 58-65.

59- Hakami, Alqassem Y., **Alaa M. Hammad**, and Youssef Sari. "Effects of amoxicillin and Augmentin on cystine-glutamate exchanger and glutamate transporter 1 isoforms as well as ethanol intake in alcohol-preferring rats." *Frontiers in neuroscience* 10 (2016): 171.

- Conference Presentation.

1- Hass, Martha A.; Carreno, Joseph; **Hammad, Alaa**. *Synthesis and Antioxidant Activity of Mutual Prodrugs Derived from Tocopherol and Lipoic Acid* American Association of Pharmaceutical Scientists, Annual Meeting, November 14-18, 2010, New Orleans, LA.

2- **Alaa M. Hammad**, Fawaz Alasmari, Yusuf Althobaiti, Youssef Sari *Modulatory effects of Ampicillin/Sulbactam on glial glutamate transporters and metabotropic glutamate receptor 1 as well as reinstatement to cocaine seeking behavior.* SFN, November 2017.

3- Fawaz Alasmari, Richard L. Bell, **Alaa M. Hammad**, Youssef Sari *Effects of multiple scheduled drinking of nicotine and/or ethanol on glial glutamate transporters and metabotropic glutamate receptor-1 in female alcohol-preferring rats,* SFN, November 2017.

4- Yusuf Althobaiti, Fahad Alshehri, Alqassem Hakami, **Alaa M. Hammad**, Youssef Sari *Methamphetamine, glutamatergic transporters, conditioned place preference, mGluR2/3, clavulanic acid,* SFN, November 2017.

5- **Hammad, Alaa M.**, Fawaz Alasmari, Yusuf S. Althobaiti, and Youssef Sari. "Modulatory effects of Ampicillin/Sulbactam on glial glutamate transporters and metabotropic glutamate receptor 1 as well as reinstatement to cocaine-seeking behavior." AlZaytoonah University of Jordan and the University of Toledo sixth pharmaceutical International Pharmaceutical Conference (oral presentation), 2017.

15. Previous Achievement in the field of research

- The effects of drugs of abuse, including cocaine, amphetamine and nicotine dependence on glutamate homeostasis in mesocorticolimbic of alcohol-



preferring rats using chronic and relapse-like rat model. Furthermore, the effect of e-cigarette exposure on neurotransmitters concentrations in mesocorticolimbic regions. I also investigated the modulating effect of b-lactams antibiotics on glutamate transporters.

16. Activities that have an impact of Research

- Oral presentation in AlZaytoonah University of Jordan and the University of Toledo sixth pharmaceutical International Pharmaceutical Conference, 2017.
- Lectures and seminars conducted with the nursing students on the importance of research, how to present data and how to conduct research.
- Journal club on my field of research and present some data I have obtained.
- Lectures and seminars conducted with pharmacy students on the importance of research, how to present data and how to conduct research.