

# Curriculum Vitae

## Prof. Mohammad Alsalem, DDS, PhD

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### PERSONAL DATA

**Name:** Mohammad Issa Alsalem

**Date of birth:** 15 JUL 1981

**Nationality:** Jordanian

**Address:** Department of Anatomy and Histology  
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Amman - Jordan

### EDUCATION

2008 - 2012 **(PhD)** in Anatomy and Cell Biology  
School of Life Sciences  
Faculty of Medicine and Health Sciences  
University of Nottingham  
United Kingdom  
Title of thesis: “*Vanilloid and Cannabinoid modulation of sensory nerve function in the rat*”

1999 - 2004 **(DDS)** Doctor of Dental Surgery  
Faculty of Dentistry  
Jordan University for Science & Technology  
Irbid – Jordan

### AWARDS AND SCHOLARSHIPS

- Ministry of Higher Education Scholarship (1999 - 2004)
- Jordan University Scholarship (2008 – 2012)

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## **MEMBERSHIPS**

- British Pharmacological Society
- Jordan Dental Association
- Jordan Pain Society

## **RESEARCH INTEREST**

- Chronic Pain
- Animal pain models
- Cannabinoids and their role in analgesia
- Cannabinoids/opioids interaction
- Osteoarthritis
- Calcium signaling
- Chemotherapy-induced Peripheral Neuropathy (CIPN)
- The role of adenosine receptors in chronic pain

## **RESEARCH GRANTS AND ONGOING RESEARCH**

- Deanship of scientific research grant (PI): "Role of cannabinoid receptors in mediating the analgesic effects of non-pungent TRPV1 agonists", 2014-2016, 10000 JD.
- Deanship of scientific research grant (PI): "Analgesic effects of cannabinoids in a rat model of osteoarthritis and the role of PPARs in mediating these analgesic properties", 2015-2018, 46000 JD.
- Scientific Research Support Fund grant (PI): "Effects and side effects of cannabinoid/opioid combinations in chronic pain models in rodents", 2017-2020, 69000 JD.
- Deanship of scientific research grant (PI): "The role of adenosine receptor ligands on inflammatory pain." 2020-2022, 19900 JD.

## **TECHNICAL SKILLS**

- Mammalian cells tissue culture
- Single cell ratiometric calcium imaging
- Cobalt influx assays
- Scintillation cAMP assays
- Behavioral testing

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## **WORK EXPERIENCE**

2021- current	Full Professor Head of Department Department of Anatomy and Histology School of Medicine University of Jordan
2019- 2021	Assistant dean for quality assurance and communication Department of Anatomy and Histology School of Medicine University of Jordan
2017- 2019	Associate Professor Department of Anatomy and Histology School of Medicine University of Jordan
2012- 2017	Assistant Professor Department of Anatomy and Histology School of Medicine University of Jordan
2006- 2008	Teaching and Research Assistant Department Anatomy & Histology School of Medicine University of Jordan
2005 –2006	GP dentist at Al-Batoul private dental center
2004- 2005	GP dentist at Princess Basma Hospital / Ministry of Health (Internship)

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## **TECHING EXPERIENCE**

- ❖ Nervous system for medical students
- ❖ Neuroanatomy for dental students
- ❖ Head and neck anatomy for dental students
- ❖ General histology for dental students
- ❖ Anatomy and histology for pharmacy students
- ❖ Introduction to anatomy for medical students
- ❖ Anatomy of extremities for rehabilitation sciences students
- ❖ Head and neck anatomy for Master degree students

## **WORKSHOPS AND ACADEMIC DEVELOPMENT**

1. *Staff development workshop*: three days workshop (3-5/09/2018) organized by Accreditation and Quality Assurance Center, The University of Jordan. This workshop covers the following topics:
  - A. *Course design*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
  - B. *Intended learning outcome for academic program*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
  - C. *Modern trend in learning and teaching*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
  - D. *Exam's preparation and learner's assessment*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
  - E. *Laws, bylaws and regulations of the University of Jordan*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
  - F. *University of Jordan quality assurance*: Accreditation and Quality Assurance Center, The University of Jordan. (3 credit hours)
2. *Moodle*: King Abdullah II School for Information Technology, The University of Jordan.
3. *Moodle advanced*: King Abdullah II School for Information Technology, The University of Jordan.
4. *Conducting a quiz in Moodle*: King Abdullah II School for Information Technology, The University of Jordan.
5. *Moodle your choice to enhance learning*: King Abdullah II School for Information Technology, The University of Jordan.
6. *Performance Assessment*: Accreditation and Quality Assurance Center, The University of Jordan.

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7. *Effective teaching strategies*: Accreditation and Quality Assurance Center, The University of Jordan.
  8. *Problem-based Learning*: Faculty of Medicine, The University of Jordan.
  9. *Project-based Learning*: Accreditation and Quality Assurance Center, The University of Jordan.
  10. *The use of multiple choice questions to measure higher mental skills*. Accreditation and Quality Assurance Center, The University of Jordan.
  11. *Supervising postgraduate students*. Accreditation and Quality Assurance Center, The University of Jordan.
  12. *Creating effective surveys using Google Forms*. Accreditation and Quality Assurance Center, The University of Jordan.
  13. *Creating multiple choice exams*. Faculty of Medicine, The University of Jordan.
  14. *Teaching critical thinking skills*. Accreditation and Quality Assurance Center, The University of Jordan.
  15. *Utilization of PowerPoint presentation in medical education*. Faculty of Medicine, The University of Jordan.
  16. *Strategic and operational plan*. Accreditation and Quality Assurance Center, The University of Jordan.
  17. *Blended learning*. Accreditation and Quality Assurance Center, The University of Jordan.
  18. *ISO basics: 2015:9001*. Accreditation and Quality Assurance Center, The University of Jordan.
  19. *Certified higher education quality assessor*. Accreditation and Quality Assurance Commission for Higher Education Institutions.
  20. *How to build an exam on JU e-Exam*. Accreditation and Quality Assurance Center, The University of Jordan.
  21. *How to publish in SCOPUS*. Accreditation and Quality Assurance Center, The University of Jordan.
  22. *Preparing and conducting remote exams by using "Microsoft teams"*. Accreditation and Quality Assurance Center, The University of Jordan.
  23. *Using "Microsoft teams" to facilitate remote learning*. Accreditation and Quality Assurance Center, The University of Jordan.
  24. *Erasmus program, Training for medical education via innovative technology / MediTec*. Health care innovative education, Quality management in health care services. Masaryk University, Faculty of Medicine, Brno, Czech Republic.

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## **ACADEMIC SUPERVISION ACTIVITY**

- ❖ Master degree student: Hadeel Odeh. Thesis title "Sexual Dimorphism In The Rodent Limbic System: A Morphometric Nissl Study" graduated in June 2019.
- ❖ PhD student: Sahar Jaffal. Thesis title: "Examining Analgesic, Anti-Inflammatory And Anti-Pyretic Effects Of Arbutus Andrachne L. Leaf Extract And Its Mechanism Of Action In Different Animal Models" graduated in December 2020.

## **CONFRENCES AND PRESENTATIONS**

1. **M. Alsalem**, P.J. Millns, V. Chapman, D. Kendall. (2010) TRPV1 channels mediate linoleic acid-evoked calcium responses in adult DRG neurones. *Br. J. Pharmacol. Suppl. (pA2 online)*: 1(4): P 075, London.
2. **M. Alsalem**, P.J. Millns, V. Chapman, D. Kendall. Evidence for a role of 15-lipoxygenase in the generation of endogenous ligands which activates TRPV1. 7<sup>th</sup> Congress of EFIC, Hamburg; 2011.
3. **M. Alsalem**, A. Wong, P.J. Millns, V. Chapman, D. Kendall. (2011) Effects of 15-lipoxygenase metabolites of linoleic acid in a rat model of inflammatory pain. *Br. J. Pharmacol. Suppl. (pA2 online)*: 1(4): P 114, London.
4. **M. Alsalem**, P.J. Millns, V. Chapman, D. Kendall. (2014) Desensitisation of TRPV1 receptor by Pungent And Non Pungent Agonist In Cultured Rat Dorsal Root Ganglia cells. *Br. J. Pharmacol. Suppl. (pA2 online)*: 1(4): P 175, London
5. **M. Alsalem**, A. Altarifi, A. Imraish. (2016) Role of peroxisome proliferator-activated receptors-alpha (PPAR $\alpha$ ) and the transient receptor potential vanilloid receptor (TRPV1) in mediating the anti-nociceptive effects of palmitoylethanolamine in rat. *Br. J. Pharmacol. Suppl. (pA2 online)*: 1(4): P 105, London.
6. **M. Alsalem**, A. Altarifi, Z. Kalha, A. Alzoubi, M. Alfaqih, S. Kana'an (2018) Evaluation Of Swimming Exercise In Combination With Non-Steroidal Anti-Inflammatory Drugs On Inflammatory Nociception In Rats. *Faseb Journal* 32 (1).
7. **M. Alsalem**, A. Altarifi, and N. Aldaoud (2019) Effects and Side Effects of Cannabinoid/Opioid Combination in a Chronic Pain Model in Rats. *Faseb Journal* 33 (1).

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## **PUBLICATIONS**

1. **Alsalem, M**, Wong, A, Millns, PJ, Arya, PH, Chan, M, Bennett, A, Barrett, D, Chapman, V, Kendall (2013) The contribution of the endogenous TRPV1 ligands 9-HODE and 13-HODE to nociceptive processing and their role in peripheral inflammatory pain mechanisms *Br J Pharmacol* 168(8): 1961-1974.
2. Kalbouneh, H, Alkhawaldah, A, Alajoulin, A, **Alsalem, M** (2016) The patellofemoral joint alignment in patients with symptomatic accessory navicular bone. *Italian journal of Anatomy and Embryology*. 121 (2): 148-158.
3. **Alsalem, M**, Millns, P, Altarifi, A, El-Salem, K, Chapman, V, Kendall, D (2016) Anti-nociceptive and desensitizing effects of olvanil on capsaicin-induced thermal hyperalgesia in the rat. *BMC Pharmacology and Toxicology*. 17:31 DOI: 10.1186/s40360-016-0074-9.
4. **Alsalem, M**, Altarifi, A, Kalbouneh, H, Al-Zer, H, Azab, B, El-Salem, K (2016) The Role of PPAR $\alpha$  And PPAR $\gamma$  In Mediating The Analgesic Properties Of Ibuprofen *In vivo* And The Effects Of Dual PPAR $\alpha/\gamma$  Activation In Inflammatory Pain Model in The Rat. *International Journal of Pharmacology*. 12 (8), 812-820.
5. Kalbouneh, H, Alajoulin, A, **Alsalem, M**, Humoud, N, Alkhouchah, M, Shawaqfeh, J, Abu Hassan, H, Mahafza, W, D.H. Badran (2017) Incidence and anatomical variations of accessory navicular bone in patients with foot pain: a retrospective radiographic analysis. *Clinical Anatomy* 30 (4): 436-444.
6. B Azab, Z Dardas, M Hamarsheh, **M Alsalem**, Z Kilani, F Kilani, A Awidi, H Jafar, S Amr (2017) Novel frameshift variant in the IDUA gene underlies Mucopolysaccharidoses type I in a consanguineous Yemeni pedigree. *Molecular genetics and metabolism reports* 12, 76-79.
7. OA Al-Shboul, MS Nazzal, AG Mustafa, AN Al-Dwairi, MA Alqudah, A Abu Omar, M Alfaqih, **M Alsalem** (2018) Estrogen relaxes gastric muscle cells via a nitric oxide and cyclic guanosine monophosphate dependent mechanism: A sex associated differential effect. *Experimental and therapeutic medicine* 16 (3), 1685-1692.
8. SA. Aldossary, **M Alsalem**, H Kalbouneh, M Haddad, B Azab, O Al-shboul, A G. Mustafa, S Obiedat and K El-Salem (2019) The role of transient receptor

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- potential vanilloid receptor 1 and peroxisome proliferator-activated receptors- $\alpha$  in mediating the antinociceptive effects of palmitoylethanolamine in rats. *NeuroReport* 30 (1), 32-37.
9. A Altarifi, **M Alsalem**, A Mustafa (2019) Effects of intraplantar administration of Complete Freund's Adjuvant (CFA) on rotarod performance in mice. *Scandinavian journal of pain* 19 (4), 805-811
  10. A Mustafa, H Abusamra, N Kanaan, **M Alsalem**, M Allouh, H Kalbouneh (2019) Morphometric study of the facial skeleton in Jordanians: A computed tomography scan-based study. *Forensic science international* 302, 109916.
  11. SM Jaffal, MA Abbas, **M Alsalem**, BO Al-Najjar (2019) Evidence for the involvement of opioid receptor in *Ajuga chamaepitys* action in chemical and thermal models of pain in BALB/c mice. *Medicinal Chemistry Research* 28 (7), 992-999.
  12. AA Altarifi, Z Kalha, SF Kana'an, MA Alfaqih, **M Alsalem** (2019) Effects of combined swimming exercise and non-steroidal anti-inflammatory drugs on inflammatory nociception in rats. *Experimental and therapeutic medicine* 17 (5), 4303-4311.
  13. **M Alsalem**, M Haddad, S A Aldossary, H Kalbouneh, A Altarifi, SM Jaffal, MA Abbas, N Aldaoud, K El-Salem (2019) Role of cannabinoid receptor 1 and the peroxisome proliferator-activated receptor  $\alpha$  in mediating anti-nociceptive effects of synthetic cannabinoids and a cannabinoid-like compound. *Inflammopharmacology*, 1-12.
  14. **Mohammad Alsalem**, Mansour Haddad, Sara A Aldossary, Heba Kalbouneh, Belal Azab, Aala Dweik, Amer Imraish, Khalid El-Salem (2019) Effects of Dual Peroxisome Proliferator-Activated Receptors and Activation in Two Rat Models of Neuropathic Pain. *PPAR research*.
  15. **Mohammad Alsalem**, Ahmad Altarifi, Mansour Haddad, Sara A Aldossary, Heba Kalbouneh, Nour Aldaoud, Tareq Saleh, Khalid El-Salem (2019) Antinociceptive and Abuse Potential Effects of Cannabinoid/Opioid Combinations in a Chronic Pain Model in Rats. *Brain sciences*. 9 (11) 328.
  16. Belal Azab, Anood Alassaf, Abdulrahman Abu-Humdan, Zain Dardas, Hashem Almousa, Mohammad Alsalem, Omar Khabour, Hana Hammad, Tareq Saleh, Abdalla Awidi. (2019) Genotoxicity of cisplatin and carboplatin in cultured



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- human lymphocytes: a comparative study. *Interdisciplinary Toxicology*. 12 (2) 93-97.
17. Heba M Kalbouneh, Omar Alajoulin, **Mohammad Alsalem**, Yasmeen Mansour, Jamil Shawaqfeh, Tala Altarawneh, Dua Alhusni, Mohammed H Al-Muhtaseb (2019) Incidence of symptomatic os trigonum among nonathletic patients with ankle sprain. *Surgical and Radiologic Anatomy*. 41 (12) 1433-1439.
  18. Belal Azab, Zain Dardas, Loai Alzghoul, Amira Masri, Diya Hasan, Tareq Saleh, **Mohammad Alsalem** (2019) Genotoxicity assessment in autism spectrum disorder patients using sister chromatid exchange and chromosomal aberration assays. *Int J Clin Exp Med*. 12 (9) 11476-11482.
  19. Ayman G Mustafa, Nour R Taha, Othman A Alshboul, **Mohammad Alsalem**, Mohammed E Malki. (2020) Using YouTube to Learn Anatomy: Perspectives of Jordanian Medical Students. *BioMed Research International*. 2020 (1-8).
  20. **Mohammad Alsalem**, Ahmad Altarifi, Mansour Haddad, Belal Azab, Heba Kalbouneh, Amer Imraish, Tareq Saleh, Khalid El-Salem. (2020) Analgesic Effects and Impairment in Locomotor Activity Induced by Cannabinoid/Opioid Combinations in Rat Models of Chronic Pain. *Brain sciences*. 10 (8) 523.
  21. **Mohammad Alsalem**, Sara A Aldossary, Mansour Haddad, Ahmad Altarifi, Heba Kalbouneh, Belal Azab, Ayman G Mustafa, Sahar M Jaffal, Khalid El-Salem. (2020) The desensitization of the transient receptor potential vanilloid 1 by nonpungent agonists and its resensitization by bradykinin. *NeuroReport*. 31 (11), 781-786.
  22. Ahmad A Altarifi, Megan J Moerke, **Mohammad I Alsalem**, S Stevens Negus. (2020) Preclinical assessment of tramadol abuse potential: Effects of acute and repeated tramadol on intracranial self-stimulation in rats. *Journal of Psychopharmacology*. 2020, 269881120944153.
  23. Sahar M. Jaffal, Sawsan A. Oran, **Mohammad Alsalem**. (2020) Anti-nociceptive effect of *Arbutus andrachne* L. methanolic leaf extract mediated by CB1, TRPV1 and PPARs in mouse pain models. *Inflammopharmacology*. 28(6):1567-1577.
  24. **Mohammad Alsalem**, Mansour Haddad, Ahmad Altarifi, Sara A. Aldossary, Heba Kalbouneh, Ala M. Abojaradeh and Khalid El-Salem. (2020). Impairment in locomotor activity as an objective measure of pain and analgesia in a rat model of osteoarthritis. *Experimental and Therapeutic Medicine*. 20(6):165.

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25. H Kalbouneh, O Alajoulin, J Shawaqfeh, A Mustafa, S Jaber, S Zaben, J Zaben, **M Alsalem** (2021) Accessory Ossicles in the Region of the Foot and Ankle: An Epidemiologic Survey in a Jordanian Population, *Medicina* 57 (11), 1178.
  26. SM Jaffal, SA Oran, **M Alsalem** (2021) Anti-inflammatory and antipyretic potential of *Arbutus andrachne* L. methanolic leaf extract in rats, *Asian Pacific Journal of Tropical Biomedicine* 11 (11), 491.
  27. N Mwafi, A Alasmar, M Al-Momani, S Alazaydeh, O Alajoulin, **M Alsalem**, H Kalbouneh (2021) Alkaptonuria with extensive ochronotic degeneration of the Achilles tendon and its surgical treatment: a case report and literature review, *Asian Biomedicine* 15 (3), 129-136.
  28. H Kalbouneh, **M Alsalem**, MB Hani, H Alhusamiah, Y Momani, T Massad, T Barakat, O Alajoulin (2021) A Comprehensive Study of the Anatomical Variations of the Posterolateral Tubercle of Talus, *International Journal of Morphology* 39 (3).
  29. H Kalbouneh, N Mubarak, J Shwaqfeh, M Nawaiseh, O Ashour, A Alkhatib, B Odeh, W Mahafzah, **M Alsalem** (2021) Estimation of sex from measurements of foramen magnum region in a contemporary Jordanian population: A computed tomographic study. *Anthropologischer Anzeiger*.
  30. B Azab, Z Dardas, D Aburizeg, M Al-Bdour, M Abu-Ameerh, T Saleh, R Barham, R Maswadi, N Ababneh, **M Alsalem**, H Zouk, S Amr, A Awidi. (2021) Unique Variant Spectrum in a Jordanian Cohort with Inherited Retinal Dystrophies *Genes* 12 (4), 593.
  31. H Kalbouneh, **M Alsalem**, MB Hani, H Alhusamiah, Y Momani, T Massad, T Barakat, O Alajoulin. (2021) The Anatomical Variations of the Posterolateral Tubercle of Talus in Patients with Posterior Ankle Impingement Syndrome (in press).
  32. H Kalbouneh, O Alajoulin, J Shawaqfeh, D Abu-Hassan, S Al-Juboori, S Jaber, L Alshabat, T Massad, **M Alsalem** (2021) The anatomical variations of the lateral sesamoid bones of the foot: a retrospective radiographic analysis, *Folia Morphologica* (in press).

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## **ACADEMIC REFEREES**

### **Professor Isalam Massad. MD**

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### **Professor Dave Kendall. PhD**

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