



Prof Sameeh Abdulkareem Al-Sarayreh

Professor of Biochemistry and Molecular Biology

A highly motivated, reliable and academically gifted scientist with substantial research experience in the field of biochemistry, and molecular biology. A fast-learner with excellent problem-solving and good communication skills. An individual who adapts well to new demanding situations and enjoys meeting new challenges as part of a team and alone.

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Date of Birth: 5th July, 1980

Nationality: Jordanian

2007 - 2011	PhD of Biochemistry, Department of Biochemistry (Molecular and Cell Biology), College of Medicine, Biological Sciences and Psychology, University of Leicester, United Kingdom. <u>Thesis entitled:</u> Effect of hypertrophic and dilated cardiomyopathies associated mutations in troponin I on cardiac thin filament dynamics
2001 - 2003	MSc of Chemistry. Department of Chemistry, Mu'tah University (Jordan). <u>Thesis entitled:</u> Some Reactions of Unsymmetrical Aromatic Ketazines with DMAD(Dimethyl acetylene dicarboxylate).
1998 - 2001	BSc of Chemistry; Department of Chemistry, Mu'tah University (Jordan)
1998	Secondary School Education- Scientific Stream (Jordan)

Employment

13/09/2021 till now	Professor in Biochemistry and Molecular Biology Department / Faculty of Medicine/ Mu'tah University / Jordan
01/09/2018 – 31/08/2020	Vice Dean / Faculty of Medicine/ Mu'tah University / Jordan
13/09/2016 – 12/09/2021	Associate Professor in Biochemistry and Molecular Biology Department / Faculty of Medicine/ Mu'tah University / Jordan
01/09/2014 - 31/08/2018	Biochemistry and Molecular biology head of department Faculty of Medicine/ Mu'tah University / Jordan
01/09/2013 - 31/08/2014	Assistant Dean / Faculty of Medicine/ Mu'tah University / Jordan
13/09/2011 – 12/09/2016	Assistant Professor in Biochemistry and Molecular Biology Department / Faculty of Medicine/ Mu'tah University / Jordan

Teaching

◆ **Professor**, Medical Biochemistry and Molecular Biology, at the Faculty of Medicine, Mutah University, Jordan, since 13/09/2011 till now.

I have been teaching:

- 1503101 - General Biochemistry.
- 1503002 - Molecular Biology and Genetics.
- 1500202 - Biochemistry and Genetics of human musculo- skeletal & integumentary system
- 1500203 - Biochemistry and Genetics of Human gastrointestinal system.
- 1500204 - Biochemistry and Genetics of Human endocrine system.
- 1500306- Biochemistry and Genetics of Human respiratory system.
- 1500307 - Biochemistry and Genetics of Human cardiovascular system.
- 1500308 - Biochemistry and Genetics of Human nervous system I.
- 1500309 - Biochemistry and Genetics of Human nervous system II.
- 1500310- Biochemistry and Genetics of hemapoeitic and lymphatic system
- 1500312 – Biochemistry and Genetics of genitor-urinary system

Research Grants:

1. **Cross-Sectional study to assess the prevalence of adult thyroid dysfunction disorders in Jordan. Grant of JD 83,116 from Scientific Research Fund, Ministry of Higher Education, Jordan. Awarded on 29 December 2014. Project duration: 18 months**
2. **Predictors of development of hypothyroidism. Grant of JD 74,800 from Mu'tah University. Awarded on 15 November 2014. Project duration: 18 months**
3. **GC-MS MS analysis and anticancer and antibacterial activity of essential oil. Grant of JD 17,125 from Mu'tah University. Awarded on 16 February 2015. Project duration: 23 months**
4. **The relationship between adipocytokines and Ghrelin and Obesity associated with Type II diabetes mellitus among Jordanians. Grant of JD 13,950 from Mu'tah University. Awarded on 25 February 2013. Project duration: 36 months**
5. **Validation of Polysialic acid (PSA) decoration of neural cell adhesion molecule (NCAM) as a potential therapeutic target in neuroendocrine tumours. Grant of JD 20,000 from Mu'tah University. Awarded on February 2014. Project duration: 36 months**
6. **Antitumor activity of novel cancer pro-drugs metabolically activated by selected isoforms of Cytochrome P450 in cancers. Grant of JD 33,500 from Mu'tah University. Awarded on February 2013. Project duration: 36 months**
7. **The evaluation of anti-cancer activity of propolis in an experimentally induced liver cancer in rats. Grant of JD 18,636 from Mu'tah University. Awarded on February 2015. Project duration: 24 months**
8. **Detection of Cytochromes P450s expression and autoantibodies generation in human cancers as novel targets for cancer diagnosis and therapy. Grant of JD 29,000 from Mutah University. Awarded on June 2023. Project duration: 36 months**

Membership

- Regularly participate in voluntary activities to serve the community
- Member of the Biochemical Society (UK).
- Member of the Biophysical Society (USA).
- Member of the European Association for Cancer Research (UK).
- Vice president of Jordanian AKU society (Jordan)

INTERNATIONAL CONFERENCES POSTERS/PRESENTATIONS

- Erasmus+ projects: JobJo management meeting

Leipzig – Germany (February 2022)

- Erasmus+ project: iBMS-Jo (February 2020 till now)
- iBMS-Jo management meeting and training workshops
Patras – Greece (19 Sep – 23 Sep 2021)
- Erasmus+ projects: JobJo management meeting
Lisbon – Portugal (January 2020)
- Erasmus+ projects: JobJo management meeting
Leipzig – Germany (September 2019)
- Erasmus+ projects: Final Management Meeting - Leipzig University of Applied Sciences
Vocational training centre for undergraduate university students and teachers in Jordan
Leipzig – Germany (29 Sep – 2 Oct 2018)
- Erasmus+ mobility project University of medicine and Pharmacy of Craiova, Romania (22-28 October 2017)
- Erasmus+ mobility project University of medicine and Pharmacy of Craiova, Romania (20-26 March 2016)
- Operation and General maintenance for Shimadzu HPLC, EDX and SPM Shimadzu /SMEA in Istanbul, Turkey (11 – 15 June 2015)
- GC-MS Operation training, Shimadzu /SMEA in Istanbul, Turkey (16 – 20 June 2014)
- Clinical Development FP7 Project of Nitisinone for Alkaptonuria, Piestany, Slovakia, October 2018
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- Clinical Development FP7 Project of Nitisinone for Alkaptonuria, Piestany, Slovakia, October 2014
- Biophysical Society 54th Annual Meeting, San Francisco, California, February 20-24, 2010.
- EMBO Practical Course: Transient Kinetic Methods Applied to Biological Macromolecules. University of Kent, England. 27th June to 3rd July 2010.
- Pharmacovigilance Workshop for South Jordan, Alkarak, Jordan July 2012
- 6th International Conference of the Royal Medical Services, Identification of 60 cases with a rare genetic disease alkaptonuria in Jordan, Dead Sea, Amman, Jordan, Nov 2012.
- 6th International Workshop on Alkaptonuria and the Launch of Clinical Development FP7 Project of Nitisinone for Alkaptonuria. Alkaptonuria in Jordan: achievements, Challenges and Future Plans, Piestany, Slovakia, Nov 2012
- 1st Alkarak International Medical Conference, Jordan Medical Association, Alkaptonuria in Jordan, Alkarak, Jordan, Dec 2012
- 3rd International Jordan Society of Medical Laboratory Sciences Conference, Identification of 64 cases with a rare genetic disease alkaptonuria in Jordan, Amman, Jordan Mar 2013.
- Smoking cessation clinical management for health care professionals, faculty of medicine, Mutah University, November 2012

- Breast cancer screening campaign, branches of Mercy society, Karak, Jordan, April 2013
- 11th Scientific conference, Faculty of medicine, Mutah University, March 2018
- 10th Scientific conference, Faculty of medicine, Mutah University, April 2016
- 9th Scientific conference, Faculty of medicine, Mutah University, April 2013
- 8th Scientific conference, Faculty of medicine, Mutah University, April 2012

Computing Skills

- Excellent skills in MicroSoft Word, Excel and PowerPoint
- Proficient in the use of various graphic packages and data analysis software (including KaleidoGraph) and in the use of chemical drawing packages such as Chem Draw.
- Adept in using the visualisation and modelling software, Pymol

Publications

1. M Pfuhl, **S Al-Sarayreh**, M El-Mezgueldi (2011). The calponin regulatory region is intrinsically unstructured: novel insight into actin-calponin and calmodulin-calponin interfaces using NMR Spectroscopy' *Biophysical Journal*, 100(7), pp. 1718-1728.
2. **S Al-Sarayreh**, I Al-Tarawneh, M Al-Sbou, E Albatayneh, J Al-Shuneigat, Y Al-Saraireh (2014). Measurements of Homogentisic Acid levels in Alkaptonuria Patients Using an Optimized and Validated Gas Chromatography Method/Mass Spectrometry. *JJBS*, 7, pp. 195-198.
3. H Alzoubi, A Aqel, **S Al-Sarayreh**, E Al-Zayadneh (2014). Methicillin-Resistant Staphylococcus aureus nasal carriage among primary school aged children from Jordan: Prevalence, antibiotic resistance and molecular characteristics. *Journal of the Egyptian Public Health Association*, 89(3),
4. E Albatayneh, M Al-Sbou, **S Al-Sarayreh**, I Al-Tarawneh, N Al-Nawaiseh (2014). Pro-Inflammatory Mediators Levels In Alkaptonuria Patients. *Journal of biology and life science*.
5. J Al-Shuneigat, **S Al-Sarayreh**, Y Al-Saraireh, M Al-Qudah, I Al-Tarawneh, S Al-Dalaen (2014). Chemical composition and antimicrobial activity of the essential oil of wild Thymus vulgaris grown in South Jordan. *Journal of Pharmacy and Biological Sciences*, 9, pp. 78-82.
6. J Al-Shuneigat, **S Al-Sarayreh**, Y Al-Saraireh, M Al-Qudah, I Al-Tarawneh (2014). Effects of wild Thymus vulgaris

- essential oil on clinical isolates biofilm-forming bacteria. ***Journal of Dental and Medical Sciences***, 13, pp. 62-66.
7. J Al-Shuneigat, **S Al-Sarayreh**, Y Al-Saraireh, I Al-Tarawneh, M Al-Qudah, E Albataineh (2014). Effects of Wild Artemisia herba-alba Essential Oil on Biofilm-Forming Bacteria. ***British Journal of Pharmaceutical Research***.
 8. A Al-Qtaitat, S Al-Dalaen, S Mahgoub, N Nawayseh, J Al-Shuneigat, **S Al-Sarayreh**, Y Al-Saraireh (2014). Plasma Thrombopoietin Level in Thrombocytopenic Patients with or without Liver Cirrhosis Chronically Infected by the Hepatitis C Virus. ***British Journal of Medicine & Medical Research***.
 9. S Al-Dalaen, A Al-Qtaitat, S Mahgoub, N Alnawaiseh, J Al-Shuneigat, **S Al-Sarayreh**, Y Sarayreh (2014). Ramipril and Valsartan as Protective Agents against Some Complications of an Experimentally Induced Obesity in Rats. ***American Journal of Life Sciences***, 2(4), 241-250.
 10. J Al-Shuneigat, **S Al-Sarayreh**, M Al-Qudah, I Al-Tarawneh, Y Al-Saraireh, A Al-Qtaitat (2015). GC-MS Analysis and Antibacterial Activity of the Essential Oil Isolated from Wild Artemisia herba-alba Grown in South Jordan. ***British Journal of Medicine & Medical Research***, 5, pp. 297-302.
 11. **S Al-Sarayreh**, A Al-Rawashdeh, I Al-Tarawneh, M Al-Qudah (2015). *Phlomis brachydon* essential oil against bacterial biofilm. ***JJBS***, 8, pp. 315-318.
 12. **S Al-Sarayreh**, A Al-Rawashdeh, I Al-Tarawneh, M Al-Qudah (2015). Chemical composition and in vitro antimicrobial activity of essential oil of *Melissa officinalis* L. from Jordan. ***Indian Journal of Natural Sciences***, 6, pp. 8823-8829.
 13. **S Al-Sarayreh**, K Alsharafa, I Al-Tarawneh, M Al-Qudah, J Al-Shuneigat (2016). Anti-biofilm properties of *Melissa officinalis* essential oil. ***Indian Journal of Natural Sciences***, 6, pp. 10488-10493.
 14. E Albataineh, N Al-Nawaiseh, **S Al-Sarayreh**, Y Al-Saraireh, E Al-Zayadneh, M Abu-Lobbad (2018). Serologic Screening of Celiac Disease in Patients With Type 1 Diabetes. ***J Endocrinol Metab***, 8(2-3):37-42
 15. M Abu-Helalah, H Alshraideh, **S Al-Sarayreh**, A Al-Shawabkeh, A Nesheiwat, N Younes, A AL-Hader (2019). A Cross-Sectional Study to Assess the Prevalence of Adult

- Thyroid Dysfunction Disorders in Jordan, *THYROID*, 29(8): 1052-1059.
16. J Al-Shuneigat, **S Al-Sarayreh**, M Al-Qudah, Y Al-Saraireh, I Al-Tarawneh (2019). Chemical composition and antioxidant activity of essential oil of *Achillea biebersteinii*, *International Journal of Biology, Pharmacy and Allied Sciences*, 8(11):2002-2014.
 17. J Al-Shuneigat, **S Al-Sarayreh**, M Al-Qudah, Y Al-Saraireh, I Al-Tarawneh (2019). Chemical composition and antioxidant activity of essential oil of *Achillea santolina*, *Indian Journal of Natural Sciences*, 56(10):17694-17701.
 18. Al-Shuneigat JM , **Al-Sarayreh SA**, Al-Qudah MA, Al-Saraireh YM (2020). Antibacterial and antibiofilm activity of essential oil of *Achillea biebersteinii* and its mode of action, *Journal of Pharmacy & Pharmacognosy Research*, 8(2): 155-166.
 19. **S Al-Sarayreh** , J Al-Shuneigat, , M Al-Qudah, I Al-Tarawneh (2020). Chemical Composition and Antioxidant Activity of Essential Oil of *Achillea fragrantissima*, *Indian Journal of Natural Sciences*, 58(10):18001-18007.
 20. Al-Shuneigat J , **Al-Sarayreh S**, Rawashdeh A, Al-Saraireh Y, Al-Shagahin H, Al-Qudah M, Altarawneh B (2020).Evaluating some biomarkers for diagnosis, prediction and therapy monitoring in a sample of hepatocellular carcinoma patients from Jordan, *Medical Science*, 24(103): 1027-1035.
 21. **Sameeh Al- Sarayreh**, Jehad Al-Shuneigat, Mahmoud Al-Qudah, Yousef Al-Saraireh, Ibrahim Al-Tarawneh (2020). Chemical composition and antioxidant activity of essential oil of *artemisia judaica* L., *International Journal of Biology, Pharmacy and Allied Sciences*, 9(12): 3451-3462.
 22. **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Yousef Al-Saraireh, Faris Al-saraireh, Arwa Rawashdeh, Samir Mahgoub (2020). The relationship between Adipocytokines & Ghrelin and Obesity associated with Type II Diabetes Mellitus among Jordanians, *Medical Science*, 24(105): 3459-3468.
 23. Yousef Al-saraireh, Nafea Alboaisa, Hamzeh Alrawashdeh, Omar Hamdan, **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Mohammad Nofal (2020). Screening of cytochrome 4Z1 expression in human non-neoplastic, pre-neoplastic and neoplastic tissues, *ecancermedicalscience*, 14:1114

24. Omar Al-Sammarraie, Khalid Alsharafa, Muhamad Al-limoun, Khaled Khleifat, **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Hazem Kalaji (2020). Effect of various abiotic stressors on some biochemical indices of *Lepidium sativum* plants, ***Scientific reports- Nature***, 10:21131
25. Yousef Al-Saraireh, Amal Akour, Muyyed Alhamydeh, Alaaldeen Alfaqara, Said Al-Dalaen, **Sameeh Al -Sarayreh**, Arwa Rawashdeh, Jehad Al-Shuneigat (2020). The Efficacy and Safety of Metformin and Glimepiride Combination among Jordanian Patients with Type 2 Diabetes during Ramadan, ***Jordan Journal of Pharmaceutical Sciences***, 13(4): 389-396.
26. Jehad Al-Shuneigat, **Sameeh Al-Sarayreh**, Yousef Al-Saraireh Mahmoud Al-Qudah (2020). Effect of *Achillea santolina* essential oil on bacterial biofilm and its mode of action, ***Current Issues in Pharmacy and Medical Sciences***, 33(2): 83-89.
27. Yousef Al-Saraireh, Ahmed Youssef, Ahmad Alsarayreh, Tayel Al Hujran, **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Hamzeh Alrawashdeh (2021). Phytochemical and anti-cancer properties of *Euphorbia hierosolymitana* Boiss. crude extracts, ***Journal of Pharmacy & Pharmacognosy Research***, 9(1): 13-23.
28. Yousef Al-Saraireh, Fatemah Alshammari, Ahmed Youssef, **Sameeh Al-Sarayreh**, Ghadeer Almuhaissen, Nedal Alnawaiseh, Jehad Al-Shuneigat, Hamzeh Alrawashdeh (2021). Profiling of CYP4Z1 and CYP1B1 expression in bladder cancers, ***Scientific reports- Nature***, 11:5581
29. **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Yousef Al-Saraireh, Mahmoud Al-Qudah (2021). Evaluating the effect of achillea fragrantissima essential oil on bacterial biofilm and its mode of action, ***International Journal of Biology, Pharmacy and Allied Sciences***, 10(12): 3451-3462.
30. **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Yousef Al-Saraireh, Mahmoud Al-Qudah (2021). Effect of Artemisia Judaica Essential Oil on Bacterial Biofilm and its Mode of Action, ***Journal of Evolution of Medical and Dental Sciences-Jemds***, 10(23).
31. Yousef Al-Saraireh, Fatemah Alshammari, Ahmed Youssef, **Sameeh Al-Sarayreh**, Yahya Al-Sarayra, Emad Aborajoo, Jehad Al-Shuneigat, Hamzeh M Alrawashdeh (2021). Screening of Glypican-6 Expression in Benign, Primary and Metastatic Colon Cancers. ***Clinical Medicine Insights: Oncology***, 15: 1-7.

32. Yousef Al-saraireh, Ahmed Youssef, Fatemah Alshammari, **Sameeh Al-Sarayreh**, Jehad Al-Shuneigat, Hamzeh Alrawashdeh, Samir Mahgoub (2021). Phytochemical characterization and anti-cancer properties of extract of Ephedra foeminea (Ephedraceae) aerial parts. **Tropical Journal of Pharmaceutical Research**, 20(8):1675-1681
33. Yousef Al-saraireh, Fatemah Alshammari, Ahmed Youssef, Fatima Al-Tarawneh, **Sameeh Al-Sarayreh**, Ghadeer Almuhausen, Anas Satari, Jehad Al-Shuneigat, Hamzeh Alrawashdeh (2021). Cytochrome 4Z1 Expression is Associated with Unfavorable Survival in Triple-Negative Breast Cancers. **Breast Cancer: Targets and Therapy**, 13: 565–574
34. M Abu-Helalah, H Alshraideh, **S Al-Sarayreh**, A AL-Hader (2021). Transient High TSH and Hypothyroidism Incidence During Follow up of Subclinical Hypothyroidism. **Endocrine Regulations**, 55(4): 204-214
35. Yousef Al-saraireh, Fatemah Alshammari, Ahmed Youssef, **Sameeh Al-Sarayreh**, Ghadeer Almuhausen, Nedal Alnawaiseh, Jehad Al-Shuneigat, Hamzeh Alrawashdeh (2021). Cytochrome 4Z1 Expression is Associated with Poor Prognosis in Colon Cancer Patients. **OncoTargets and Therapy**, 14: 5249–5260
36. Al-saraireh Y, Alshammari F, Satari A, Al-mahdy Y, Almuhausen G, Abu-azzam O, Uwais, A; Abufraijeh S, Al-Kharabsheh A, Al-dalain S, Al-Qtaitat A, Al-Tarawneh F, Al Shuneigat J, **Al-Sarayreh S** (2022). Cytochrome 4Z1 Expression Connotes Unfavorable Prognosis in Ovarian Cancers. **Medicina**, 58, 1263.
37. Alshammari F, Satari A, Aljabali A, Al-Mahdy Y, Alabdallat Y, Al-Sarayra Y, Alkhozah M, Alwardat A, Haddad M, **Al-Sarayreh S**, Al-Saraireh Y (2023). Glypican-3 Differentiates Intraductal Carcinoma and Paget's Disease from Other Types of Breast Cancer. **Medicina**, 59(1):86.
38. Al-Saraireh Y, Alshammari F, Abu Azzam O, Al-dalain S, Al-Sarayra Y, Haddad M, Makeen H, Al-Qtaitat A, Almermesh M, **Al-Sarayreh S** (2023). Targeting Cytochrome P450 Enzymes in ovarian Cancers: New approaches to tumour selective intervention. **Biomedicines**, 11:11

Scores

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Current research activities

- Molecular pathways of hypertrophic and dilated cardiomyopathies
- Thyroid dysfunction
- Cancer Studies
- Metabolic Diseases
- Essential oil research: this research involves extraction, characterizing (using GCMS) and testing the activity of the extracted essential oil against resistant bacteria and resistant cancer cell lines.

References

Available on request