

MOHAMMED ALI WEDYAN
CURRICULUM VITAE



Professor of Biology

The Hashemite University

Department of Biology and Biotechnology

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Education:

Liverpool University, UK

Ph.D. in Oceanography, July 2005.

Supervisor: Prof Martin Preston.

Thesis: "***Amino acids in the atmospheric and marine environments: distributions and the influence of chiral characteristics.***" . Thesis Committee: Martin Preston (Advisor, Liverpool University) Prof. George Wolff, (Liverpool University. Head of Department), Dr. Mark Fitzsimons (Plymouth University).

Al albyat University. Jordan

MSc degree. Marine Biology, June 2000.

Supervisor: Prof. Ihsan Mahasneh

Thesis: "***Phenotypic characterization of blue green algae (cyanobacteria) under salinity stress.***"
Emphasis in biological analysis, impact assessment, contamination, biosensors, remediation techniques for land and seawater, quality systems and pollution management.

Jordan University of Sciences and Technology, Jordan

BSc degree of Applied Biology, June 1996.

Employment and Research Experience:

The Hashemite University, Department of Biology and Biotechnology

Full Professor, 4/9 /2019-

Associate Professor, 1/9/2013 – 4/9 /2019

Head of Department ,10/9/2015 -1/9/2016

Served as PI on 73000 JD HU-Granted (73000 JD) 2015-2017.). (Bioavailability of Dissolved Organic Nitrogen in Rain Water for marine phytoplankton)

Examined how much of the DON in marine aerosol collected over the Hashemite University, Zarqa, is potentially available for use by marine phytoplankton and the potential effect of aerosol DON on phytoplankton production.

Al Hussein bin Talal University, Dept. of Biology.

Assistant Professor, July. 2005 - April. 2011.

Associate Professor May. 2011 – September 2013.

Served as PI on 120000 JD in grants (Red Sea and Dead Sea Ecology).

carried out research in relationship between nutrients and cycling of organic nitrogen and other organic compound in the environment and I was also interested in understanding the distribution of dissolved organic carbon, nitrogen and phosphorus in the seawater, and also in investigating the ecological effect of the **red sea** water transfer to the **dead sea** water.

Served as Co - PI on 110000JD in grants (Red Sea Pollutions).

Carried out an experimental to address the correlations between Hg and organic matter in sediment and seawater.

Max-Plank Institution research group in Marine biogeochemistry, Oldenburg University Oldenburg, Germany.

Visiting Scholar, June 2010 – August 2010.

Carried out an experimental and modeling study of new technique to detect the trace concentration of dissolved organic matter in the different environmental samples.

Stanford University, Biological department, Palo Alto, USA

Visiting Scholar September-October. 2006

Collaborated on microbial metabolism data analysis and other projects with host group.

Environmental School, Liverpool University, Liverpool, UK

Ph.D. Student (Marine Sciences) , 2002 - 2005.

Advisor: Prof. Martin Preston

1. I was researching the transport and effect of organic pollutant on the surface seawater particularly organic nitrogen, using the overland flow system. This research was conducted as part of AMT research.
2. The investigations are geared towards understanding the "black box" of mass balance regarding nitrogen, phosphorous and carbon in the input and run-off from the over the Atlantic Ocean. This requires wide-ranging environmental knowledge regarding the issues of discharge and consent, agricultural practice, farming attitudes and public perception, as well as the technical laboratory skills and capacity for self-motivated fieldwork.

Teaching Experience

AHU Department of Biology,

1. Marine & Environmental biochemistry (Biology, Undergraduate Course).
2. Bioorganic Pollution (Biology, Undergraduate Course)
3. Environmental Biotechnology (Biology, Undergraduate Course)
4. Special topics (Marine environmental issues) (Biology, Undergraduate Course).
5. Ecology (Biology, Undergraduate Course).
6. Marine Sciences, Introduction (Biology, Undergraduate Course).

HU Department of biology and biotechnology

1. Ecology (Biology, Undergraduate Course)
2. Marine Biology (Biology, Undergraduate Course)
3. Special topics (Marine environmental issues) (Biology, Undergraduate Course).
4. Special topics (Marine environmental issues) (Biology, Undergraduate Course).
5. Molecular Ecology of communities and Populations (Biology, **graduate Course**)
6. Environmental Marine Biotechnology (Biology, **graduate Course**)

Editorial board of *Advances in Environmental Biology*, from 2008-2010.

American-Eurasian Network for Scientific Information (AENSI Publisher)

Research Interests

1. Understanding the relationship between nitrogen fixation and export production.
2. Determining the distribution and elemental stoichiometry of dissolved organic carbon, nitrogen and phosphorus in the Gulf of Aqaba.
3. Factors influencing the transfer of both pollutant and naturally occurring organic molecules from terrestrial to marine environments including atmospheric and coastal systems the Gulf of Aqaba.

4. Some additional interests in aquatic nutrient dynamics.

Past Grants

1. Effect of Organic nitrogen on the Phytoplankton, in the Gulf of Aqaba. AHU- Granted (2500JD) 2005-2007.
2. Gut content analysis and in situ grazing experiments of selected species of Copepod. AHU- Granted (2500JD) 2006-2008.
3. Speciation analysis of organometallic and inorganic compounds of mercury in water, fish and sediments of Gulf of Aqaba, Jordan. Scientific Research Support Fund-Granted (108.400 JD) 2008-2010.
4. The Dead Sea Ecosystem as influenced by Red Sea-Dead Sea conduit project Scientific Research Support Fund –Granted (117100JD). 2009-2012.

Current Grants

1. Dissolved Organic Nitrogen in Water Environment, HU-Granted (73000 JD) 2015-2017.
2. Springs of life in a “Dead Sea”. Submitted to DFG collaborated with MPI- Bremen, marine microbiology group.

MSc students supervised

1. Ahmed al harahsh, Identification and characterization of dissolved organic nitrogen in wastewater plants, Jordan, (2015).
2. Tahreer Hamdan, Study the bioavailability of dissolved nucleic acids (D-NA's) in freshwater environment. (2017)
3. Bilal Abu Hanieh, Biochemical characterization of amino acids and fatty acids extracted from olive wastewater collected from different areas of north Jordan.(2016).
4. Lina abu mharib, Assessment of contaminations in drinking water in dulil region in Jordan . (2017)
5. Nardin Halosh, Characterizations of Dissolved Amino acids in red sea (Aqaba). (2021-)

MSc. Internal examiner in examination committee

1. Doaa Budier, The antinociceptive and anti-inflammatory activities of Alcea Setosa Extract. (2015)
2. Ahmed Alatshan, The antinociceptive and anti-inflammatory effect of anastatica heirochuntica extracts in animal models. (2015)
3. Hia Mashgiah, Larval Trematodes in physa Snail in Jordan. (2016)
4. Elham Al Zud, Biological Activity and Apoptosis Signaling Pathway for Cephalostatin 1 analogues. (2016)

Invited Seminars

1. Seminar, Department of biology, Al Hussein University, Maan, Jordan, Apr. 2007.
2. Seminar, Department of Chemistry and biology, Oldenburg University, Germany, Aug. 2010.
3. Seminar, Laboratory for Microbial environment, Environmental Institute, Stanford University, Oct. 2006.

Professional Association Memberships

1. 02/2007- Present. Member of Jordan Badia Research and Development Center
2. 05/ 2007- Present . Member of The National Center for Biotechnology
3. 2006- Present. Member of the Global Network for Environmental Science and Technology.
4. 2005- Present. Member of Challenger Society for Marine Science, UK

Languages

1. Fluent in English
2. Native Arabic speaker

Journal Publications Peer-Review

1. **Wedyan, M.** and Preston, M.R., 2005. Isomer-selective adsorption of amino acids by components of natural sediments. *Environmental science & technology*, 39(7), pp.2115-2119.
2. **Wedyan, M.A.** and Fandi, K., 2007. Soluble organic nitrogen in the marine aerosol over the Gulf of Aqaba (Jordan). *Journal of Applied Sciences Research*, 3(8), pp.787-790.
3. **Wedyan, M.A.**, Fandi, K.G. and Al-Rousan, S., 2007. Bioavailability of atmospheric dissolved organic nitrogen in the marine aerosol over the Gulf of Aqaba. *Aust J Basic*, 1(3), pp.208-212.
4. **Wedyan, M.A.** and Preston, M.R., 2008. The coupling of surface seawater organic nitrogen and the marine aerosol as inferred from enantiomer-specific amino acid analysis. *Atmospheric Environment*, 42(37), pp.8698-8705.
5. Karatas, A., **Wedyan, M.**, Sozen, M., Shehab, A., & Amr, Z. 2008. Karyotypes of bats (chiroptera: Rhinolophidae, vespertilionidae) from Jordan. *Arab Gulf Journal of Scientific Research*, 26 (4): 193- 198.
6. Tarawneh, K.A., **Wedyan, M.A.**, Al-zou'bi, M., Khleifat, K.M. and Tarawneh, A., 2008. Isolation and characterization of halophilic bacteria from the dead sea coast, Jordan. *Adv Environ Biol*, 2(2), pp.63-9.
7. Khleifat, K.M., Tarawneh, K.A., **Wedyan, M.A.**, Al-Tarawneh, A.A. and Al Sharafa, K., 2008. Growth kinetics and toxicity of *Enterobacter cloacae* grown on linear alkylbenzene sulfonate as sole carbon source. *Current microbiology*, 57(4), pp.364-370.

8. Tarawneh, K.A., Khleifat, K.M., AlMustafal, A., Aliouil, N. and **Wedyan, M.A.**, 2008. Temporal expression of *Neurospora crassa* tyrosinase gene under the control of glucoserepressible gene-1 (Grg-1) promoter. *Aust. J. Basic and Appl. Sci*, 2, pp.805-814.
9. Tarawneh, K.A., Khleifat, K.M., AlMustafal, A., Aliouil, N. and **Wedyan, M.A.**, 2008. Temporal expression of *Neurospora crassa* tyrosinase gene under the control of glucoserepressible gene-1 (Grg-1) promoter. *Aust. J. Basic and Appl. Sci*, 2, pp.805-814.
10. Khleifat, K.M., Tarawneh, K.A., **Wedyan, M.A.**, Al-Tarawneh, A.A. and Al Sharafa, K., 2008. Growth kinetics and toxicity of *Enterobacter cloacae* grown on linear alkylbenzene sulfonate as sole carbon source. *Current microbiology*, 57(4), pp.364-370.
11. **Wedyan, M.**, Altaif, K. and Aladaileh, S., 2009. Heavy metals in wet deposition of South of Jordan. *European Journal of Science and Research*, 36, pp.554-560.
12. **Wedyan, M.** and Altaif, K., 2009. Distribution of dissolved nucleic acids in the soil of southern Jordan. *Transylvanian Review of Systematical and Ecological Research*, (8), p.65.
13. Khleifat, K.M., Halasah, R.A., Tarawneh, K.A., Halasah, Z., Shawabkeh, R. and **Wedyan, M.A.**, 2010. Biodegradation of linear alkylbenzene sulfonate by *Burkholderia* sp.: Effect of some growth conditions. *Int J Agr Biol*, 12, pp.17-25.
14. **Wedyan, M.A.**, Ababneh, F.A. and Al-Rousan, S., 2012. The correlations between mercury speciation and dissolved organic matter in the sediment of the Red Sea. *American Journal of Environmental Sciences*, 8(4), pp.403-411.
15. **Wedyan, M.**, El-Oqlah, A., Altif, K., & Khlifate, K. 2013. The Dead Sea Ecosystem Influenced by Red Sea– Dead Sea Conduit Project (Peace Conduit). *Transylvanian Review of Systematical and Ecological Research*, 15(2), 45-60.
16. **Wedyan, M.A.**, 2014. Characterization of dissolved organic nitrogen (DON) in rainwater of Qassim, Saudi Arabia. *World Journal of Applied Sciences and Research*, 3(2), pp.1-7.
17. Abuiraq, L., Kanan, G., **Wedyan, M.** and El-Wahl, A., 2015. Efficacy of extracts of some lichens for potential antibacterial activity. *Research journal of pharmaceutical biological and chemical sciences*, 6(1), pp.318-331.
18. **Wedyan, M.**, Harahsheh, A. and Qnaish, E. 2016. Determination of the Fate of Dissolved Organic Nitrogen in the Three Wastewater Treatment Plants, Jordan *International Journal of Environmental and Science Education*, 11(5), pp. 767-777.

19. Qnais, E., Bseiso, Y., **Wedyan, M.**, Al-Omari, M., & Alkhateeb, H. 2016. Chemical composition and antinociceptive effects of essential oil from aerial parts of *Gundelia tournefortii* L Asteraceae (Compositae) in rats. *Tropical Journal of Pharmaceutical Research*, 15(10), 2183-2190.
20. Ismail, Y., **Wedyan, M.**, Al-zuabe, M., Abderrahman, S., Lee, J.H., Kim, S., Kim, S.K., Han, S.B., Lee, J.W., Gallaher, J.R. and Grudziak, J., 2016. Screening methods to determine antibacterial activity of natural products. *Research Journal of Medicinal Plants*, 10(8), pp.181-189.
21. **Wedyan, M.**, Al Harahsheh, A., Muhaidat, R., Bsoul, E. and Qnais, E., 2016. Cd and Fe Concentrations of the Surface Water of a Stream in Jordan. *Polish Journal of Environmental Studies*, 25(6), pp.2617-2521.
22. Al-Tawaha, A.R., Turk, M.A., Abu-Zaitoon, Y.M., Aladaileh, S.H., Al-Rawashdeh, I.M., Alnaimat, S., Al-Tawaha, A.R.M., Alu'datt, M.H. and **Wedyan, M.**, 2017. Plants adaptation to drought environment. *Bulgarian Journal of Agricultural Science*, 23(3), pp.381-388.
23. **Wedyan, M.**, Qnais, E., Ismail, Y. And Al Tawaha, A.R., 2017. The molecular composition of dissolved free amino acids in rainwater. *Bulgarian Journal of Agricultural Science*, 23(6), pp.1004-1010.
24. **Wedyan, M.**, Hanieh, B.A. and Al Harahsheh, A., 2017. Chemical Characterization of Olive Pomace in the Northern Region of Jordan. *Bulgarian Journal of Agricultural Science*, 23 (No 5) 2017, 866–872
25. Qnais, E., Bseiso, Y., **Wedyan, M.** and Alkhateeb, H., 2017. Evaluation of Analgesic Activity of the Methanol Extract from the Leaves of *Arum palaestinum* in Mice and Rats. *Biomedical & Pharmacology Journal*, 10(3), p.1159.
26. Qnais, E., Modallal, N., Bseiso, Y., **Wedyan, M.**, & Alkhateeb, H. 2017. Evaluation of the antinociceptive effects of the essential oil from aerial parts of *anastatica hierochuntica* in experimental models. *Evaluation*, 3, 112-122.
27. Dahamsheh, A. and **Wedyan, M.**, 2017. Evaluation and assessment of performance of Al-Hussein bin Talal University (AHU) wastewater treatment plants. *International Journal of Advanced and Applied Sciences*, 4(1), pp.84-89.
28. Al-Tawaha, A.R., Turk, M.A., Al-Tawaha, A.R.M., Alu'datt, M.H., **Wedyan, M.**, Al-Ramamneh, E.A.D.M. and Hoang, A.T., 2018. Using chitosan to improve growth of maize cultivars under salinity conditions. *Bulg J Agric Sci*, 24(3), pp.437-442.
29. Al-Tawaha, A.R., Al-Tawaha, A.R., Alu'datt, M., Al-Ghzawi, A.L., **Wedyan, M.**, Al-Obaidy, S.D.A. and Al-Ramamneh, E.A.D., 2018. Effects of soil type and rainwater harvesting treatments in the growth, productivity and morphological traits of barley plants cultivated in semi-arid environment. *Australian Journal of Crop Science*, 12(6), p.975.

30. Dahamsheh, A., **Wedyan**, M. and Alhasanat, M.B., 2018. Climate change impact assessment on rainwater in Jordan. *International Journal Of Advanced And Applied Sciences*, 5(1), pp.148-155.
31. Alatshan, A., Qnais, E., **Wedyan**, M., Bseiso, Y., Alzyoud, E., Banat, R. and Alkhateeb, H., 2018. Antinociceptive and Antiinflammatory Activities of *Anastatica hierochuntica* and Possible Mechanism of Action. *Indian Journal of Pharmaceutical Sciences*, 80(4), pp.637-646.
32. Qnais, E., Bseiso, Y., Kayed, K., **Wedyan**, M. and Alkhateeb, H., 2018. Analgesic effect of quercetin 3, 7-o-dimethyl ether isolated from *salvia officinalis*. *Pharmacologyonline* 2:64-73
33. **Wedyan**, M.A., Qnais, E., Altaif, K. and Al-Tawaha, A., 2019. Characteristics of dissolved organic nitrogen in municipal and biological nitrogen removal wastewater treatment plants in Jordan. *Transylvanian Review of Systematical and Ecological Research*, 21(2), pp.1-12.
34. Qnais, E., Bseiso, Y., **Wedyan**, M., Abu-Safieh, K, and Alkhateeb, H., 2019 Anti-nociceptive effect of methanol extract of roots of *sarcopoterium spinosum* in mice, *Pharmacologyonline* 3:71 -73
35. Al-Tawaha, A.R.M., Jahan, N., Odat, N., Al-Ramamneh, E.A.D., Al-Tawaha, A.R., Rauf, A., **Wedyan**, M., Shariati¹⁰, M.A., Qaisi¹¹, A.M., Imran, K.T. and Turk¹², M., 2020. Growth, Yield and Biochemical Responses in Barley to DAP and Chitosan Application Under Water Stress. *Journal of Ecological Engineering*, 21(6), pp.86-93.
36. **Wedyan**, M., Abu-Mhareb, L., Qnais, E. and Alqudah, A., 2021. Evaluation of Health Risk after Nitrate Exposure in Drinking Water in the Al Duliel Area, Jordan, *Pakistan Journal of Biological Sciences* 24, (7), 741-747.
37. Alqudah, A., **Wedyan**, M., Qnais, E., Jawarneh, H., & McClements, L. (2021). Plasma Amino Acids Metabolomics' Important in Glucose Management in Type 2 Diabetes. *Frontiers in Pharmacology*, 12.
38. **Wedyan** M, Mesloub I, Qnais E, Bseiso Y, Alqudah A, Hussein E, Al Ghenaimi S. (2021)The correlation between serum leptin level and thyroid hormones in Jordanian hypothyroidism patients. *Gazzetta Medica Italiana - Archivio per le Scienze Mediche* 2021 mese;180(0):000–000DOI: 10.23736/S0393-3660.20.04556-8
39. Alqudah A, Oqal M, Al-Samdi A, Qnais E, **Wedyan** M, Abu Gneam M, Alnajjar R, Alajarmeh M, Yousef E, Gammoh O. Knowledge and practice of community pharmacists towards SGLT2 inhibitors. *F1000Res*. 2022 Jun 15;11:659. doi: 10.12688/f1000research.122170.2. PMID: 35811806; PMCID: PMC9237554.
40. Alqudah, A., Oqal, M., Al-Samdi, A., Qnais, E., **Wedyan**, M., Gneam, M.A., Alnajjar, R., Alajarmeh, M., Yousef, E. and Gammoh, O., 2022. Knowledge and practice of community pharmacists towards SGLT2 inhibitors [version 1; peer review: awaiting peer review].

41. Alqudah A, Qnais EY, **Wedyan MA**, Oqal M, Alqudah M, AbuDalo R, Al-Hashimi N. (2022) Ceratonia siliqua leaves ethanol extracts exert anti-nociceptive and anti-inflammatory effects. *Heliyon*. 2022 Aug 24;8(8):e10400. doi: 10.1016/j.heliyon.2022.e10400.
42. Alqudah A, Qnais EY, **Wedyan MA**, Oqal M, Alqudah M, AbuDalo R, Al-Hashimi N. Erratum to "Ceratonia siliqua leaves ethanol extracts exert anti-nociceptive and anti-inflammatory effects" [*Heliyon* 8 (8), (August 2022) Article e10400]. *Heliyon*. 2022 Sep 28;8(10):e10795. doi: 10.1016/j.heliyon.2022.e10795. Erratum for: *Heliyon*. 2022 Aug 24;8(8):e10400. PMID: 36217465; PMCID: PMC9547209.
43. Alqudah, A., AbuDalo, R., Qnais, E., **Wedyan, M.**, Oqal, M. and McClements, L., 2022. The emerging importance of immunophilins in fibrosis development. *Molecular and Cellular Biochemistry*, pp.1-11.
44. Alqudah, Abdelrahim, Esam Y. Qnais, **Mohammed A. Wedyan**, Sara Altaber, Yousra Bseiso, Muna Oqal, Rawan AbuDalo, Khaled Alrosan, Amjad Z. Alrosan, Suhad Bani Melhim, Mohammad Alqudah, Rabaa Y. Athamneh, and Omar Gammouh. 2023. "Isorhamnetin Reduces Glucose Level, Inflammation, and Oxidative Stress in High-Fat Diet/Streptozotocin Diabetic Mice Model" *Molecules* 28, no. 2: 502. <https://doi.org/10.3390/molecules28020502>
45. Alqudah, Abdelrahim, Esam Y. Qnais, **Mohammed A. Wedyan**, Sara Altaber, Rawan Abudalo, Omar Gammoh, Hakam Alkhateeb, Sajeda Bataineh, Rabaa Y. Athamneh, Muna Oqal, Kayed Abu-Safieh, and Lana McClements. 2023. "New Treatment for Type 2 Diabetes Mellitus Using a Novel Bipyrazole Compound" *Cells* 12, no. 2: 267. <https://doi.org/10.3390/cells12020267>

Conference Articles

1. Wedyan M, and Preston M. 2nd International Conference on Environmental Science and Technology . Houston, USA. 19-22 August 2006
2. El-oqlah, A. and Wedyan, M. A. Plant biodiversity in mountainous cost of Dead Sa area (Jordan) , Mountains of the world- Ecology, Conservation and Sustainable Development , Muscat, Sultanate of Oman. 10-14 February 2008.

Unpublished Research Reports

1. Wedyan, M ; Fandi, K and Al Najjar, M (2007) Gut content analysis and in situ grazing experiments of selected species of copepod. AHU- Granted (2500JD)
2. Ababneh, F and Wedyan, M (2011) Speciation analysis of organometallic and inorganic compounds of mercury in water, fish and sediments of Gulf of Aqaba, Jordan. SRF-Granted (108.400 JD)

3. Wedyan, M ; Altif, K; Eleogla, A and Khlifate, K (2012) The Dead Sea Ecosystem as influenced by Red Sea-Dead Sea conduit project. SRF-Granted (117.100JD).

References

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