

The University of Jordan
School of Sciences
Department of Biological Sciences
Amman, 11942
Jordan

Email: m.rshaidat@ju.edu.jo
Phone: +962-6-535-5000, Ext: 22210
Mobile: +962-79-723-8572

Website: <http://scholar.google.com/citations?user=SkMss28AAAAJ&hl=en>
https://www.researchgate.net/profile/Mamoon_Al-Rshaidat
<http://academic.ju.edu.jo/m.rshaidat>

Mamoon M.D. Al-Rshaidat, Molecular & Microbial Ecology

Education/Professional Preparation

Bowling Green State University, Bowling Green, Ohio, USA.

- **Doctor of Philosophy in Biological Sciences**, Aug 2001 - Dec 2006.

Agouon Institute & University of Hawaii, Honolulu, HI, USA

- **Summer School “Microbial Oceanography: Genomes to Biomes”**, Summer 2006.

Bowling Green State University, Bowling Green, Ohio, USA

- **Summer School “Bioinformatics: Structural Biology”**, Summer 2005.

University of Toledo, College of Medicine, Toledo, Ohio, USA.

- **Certificate in Bioinformatics and Proteomics/Genomics**, Aug 2004 - Jun 2006.

Jordan University of Science and Technology, Irbid, Jordan.

- **Bachelors of Science in Applied Biological Sciences, Major: Genetics and Molecular Biology**, Aug 1991 - Jun 1995

Jordan University of Science and Technology, Irbid, Jordan.

- **Undergraduate Research**, Sep 1993 - Jun 1995

Thesis

Mamoon M D Al-Rshaidat: Iron Physiological Autecology of the Vertically Migrating Diatoms *Ethmodiscus spp.* and *Rhizosolenia spp.* in the Central North Pacific (CNP) Gyre. 12/2006, Degree: Ph.D., Supervisor: R. Michael L. McKay

Teaching & Research Experience

Sep 2015 – present **Assistant Professor**

University of Jordan, Department of Biological Sciences
Amman, Jordan

Nov 2010 – Sep 2011

Department Chair, Department of Coastal Environment
University of Jordan, Faculty of Marine Sciences
Aqaba, Jordan

- Mar 2010 – Aug 2016* **Group Leader**, Laboratory for Molecular and Microbial Ecology (LaMME)
University of Jordan, Marine Science Station
Aqaba, Jordan
- Mar 2010 – Aug 2015* **Assistant Professor**
University of Jordan, Faculty of Marine Sciences
Aqaba, Jordan
- May 2008 – Feb 2010* **Postdoctoral Research Associate**
Old Dominion University, Department of Ocean, Earth and Atmospheric Sciences
Norfolk, United States
- Nov 2006 – July 2007* **Postdoctoral Research Associate**
Bowling Green State University, Department of Biological Sciences
Bowling Green, United States
- Aug 2001 – Oct 2006* **Research and Teaching Assistant**
Bowling Green State University, Department of Biological Sciences
Bowling Green, United States
- Oct 1995 – July 2001* **Teaching and Research Laboratory Technician**
Jordan University of Science and Technology, Department of Natural Resources and the
Environment
Irbid, Jordan

Workshops and Professional Training

- 2017 *Evaluating Students' Performance using Student's Portfolio*, The University of Jordan, Amman, Jordan
- 2017 *Open Educational Resources (OER) Applications in Teaching*, The University of Jordan, Amman, Jordan
- 2017 *Introduction to High Throughput Sequence Analysis with SeqMonk*, Babraham Institute, Cambridge, UK
- 2016 *Second National Workshop on Invasive Alien Species in Jordan*, Ministry of Environment and GIZ, Amman, Jordan
- 2016 *A National Dialogue towards a Regulatory Framework on Invasive Species*, Ministry of Environment and GIZ, Amman, Jordan
- 2015 *Training of Trainers: Integrating Ecosystem Services into Development Planning*, Ministry of Environment and GIZ, Amman, Jordan
- 2014 *National Workshop on Compliance Monitoring and Enforcement of the BWM Convention, with Emphasis on Sampling and Analysis*. PERSGA, Project No. (XB/0102-02-19-05-2270), Aqaba, Jordan
- 2012 *IMO OPRC LEVEL 2, National Training Workshop on Preparedness and Response to Oil Spills*, PERSGA, Aqaba, Jordan
- 2010 *Cost-effective shoreline management*, Marine and Coastal Engineering Middle East Summit, Aqaba, Jordan
- 2007 *International and interdisciplinary collaboration*, PICES/ICES Early Career Scientists Conference, Baltimore, Maryland, USA
- 2005 *Leadership Academy*, Bowling Green State University, Bowling Green, Ohio, USA
- 1999 *Molecular Tools for Biodiversity Studies*, International Center for Agricultural Research in Dry Areas (ICARDA), Aleppo – Syria
- 1999 *Communication, Mediation and Conflict Management*, World Organization of Scout Movement, Geneva – Switzerland

Service/Volunteering Activities

- 15/-- **Reviewer:** The Mediterranean Journal of Biosciences.
- 14/-- **Reviewer:** Jordan Journal of Biological Sciences.
- 10/-- **Coordinator/Member:** several scientific, educational, technical, and social committees at the department, college, university, and community levels.
- 14/14 **National Expert (Project Team Member):** writing and reviewing the Fifth National Report for the *Convention on Biodiversity*, for country Jordan (5th Convention CBD NR for Jordan)
- 14/14 **Advisory Panel:** for evaluating and promoting student projects submitted to *Intel International Science and Engineering Fair (Intel ISEF)*, King Abdullah II School for Excellence, Aqaba, Jordan
- 14/14 **Organizing Committee:** Aqaba International Conference on Marine and Coastal Environment, Aqaba, Jordan
- 13/15 **Parent Council:** King Abdullah II School for Excellence, Aqaba.
- 13/14 **Coordinator/Chair:** committee for the private accreditation of the “Marine Transport Technology” B.Sc. program at Al-Balqa’ Applied University in Aqaba. *Jordanian Education Accreditation Commission*
- 11/12 **EACEA-TEMPUS-Expert.** Education, Audiovisual and Culture Executive Agency (EACEA), EU
- 08/09 **Member:** Old Dominion University Chaplains Association
- 06/07 **Judge:** Judging high school research projects for the Ohio Academy of Science (OAS)
- 05/06 **Senator:** Graduate Student Senate (GSS) at Bowling Green State University (BGSU)
- 05/06 **Chair:** Webpage Committee, Biology Graduate Student Association at BGSU
- 2005 **Orientation Leader:** Center for International Programs, BGSU (Summer)
- 05/06 **Member:** Graduate Students Senate (GSS) representative to Faculty Senate’s Information Technology Committee at BGSU
- 04/06 **Member:** Technology Committee, Biology Graduate Student Association (BGSA) at BGSU
- 2003 **Volunteer:** ASLO Aquatic Sciences Meeting

Research Grants

PI, (awarded) Detection of Harmful Bacteria Discharged from Ships’ Ballast Water Into the Gulf of Aqaba, a Metagenomic Approach, 1/2015-7/2016, JOD 15,000.00, Abdul Hameed Shoman Fund For Supporting Scientific Research. Amman, Jordan

PI, (awarded) Detection of Harmful Microbes Discharged from Ships’ Ballast Water Into the Gulf of Aqaba, a Metagenomic Approach, 9/2014-3/2016, JOD 10,000.00, Deanship of Scientific Research, The University of Jordan. Amman, Jordan

Co-I, (awarded – withdrew from the project) Understanding the Bacterial Community Shift Associated with Coral Reefs in Gulf of Aqaba. 2/2014-1-2016, JOD 131,000.00. Scientific Research Support Fund (SRSF), Amman, Jordan

PI, and Ayman Hammoudeh, Ziad Al-Taani (rejected) Isolation of Microalgae from Wastewater and Characterization Using Molecular Biology and Flow Cytometry Techniques for Biofuel production (2014). Scientific Research Support Fund (SRSF), Amman, Jordan

PI, and Ibraheem Yousef (awarded) The role of coral reef sponges in organic carbon cycling on Red Sea coral reefs: an FTIR approach. August 2014, (Beam-line time) allocated machine time for sample measurements using FTIR connected to Infrared Beamline (EMIRA) at SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East), Allan, Jordan.

PI, and Mohamad Wahsha (awarded) Isolation and molecular identification of toxin producing cyanobacteria (Algae) from King Talal Dam and testing their toxin’s virulence against dominant fresh-water fish species, 1/2013-7/2014, JOD 17,400.00, Deanship of Scientific Research, The University of Jordan. Amman, Jordan

Co-I (awarded) Development of a MODIS image product for mapping phycocyanin pigment in blue-green algal blooms (Toxic Algae), 4/1/2005-6/30/2006, \$13,253.00, NOAA Ohio Sea Grant. USA

Citations 157

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Journal Publication

- Mamoon M D Al-Rshaidat**, Matthieu Leray, Nancy Knowlton: *Exploring the Cryptic Diversity of the Jordanian Coral Reefs*. Barcode Bulletin 09/2016; 7(3)
- Mamoon M D Al-Rshaidat**, Allison Snider, Sydney Rosebraugh, Amanda M. Devine, Thomas D. Devine, Laetitia Plaisance, Nancy Knowlton, Matthieu Leray: *Deep COI sequencing of standardized benthic samples unveils overlooked diversity of Jordanian coral reefs in the Northern Red Sea*. Genome 07/2016; 59(9): 724-737. DOI:10.1139/gen-2015-0208
- Ulisse Cardini, Nanne van Hoytema, Vanessa N. Bednarz, Laura Rix, Rachel A. Foster, **Mamoon M. D. Al-Rshaidat**, Christian Wild: *Microbial dinitrogen fixation in coral holobionts exposed to thermal stress and bleaching*. Environmental Microbiology 05/2016; 18(8): 2620–2633. DOI:10.1111/1462-2920.13385
- Ulisse Cardini, Vanessa N. Bednarz, Nanne van Hoytema, Alessio Rovere, Malik S. Naumann, **Mamoon M. D. Al-Rshaidat**, Christian Wild: *Budget of Primary Production and Dinitrogen Fixation in a Highly Seasonal Red Sea Coral Reef*. Ecosystems 03/2016; 19: 771. DOI:10.1007/s10021-016-9966-1
- Ulisse Cardini, Vanessa N. Bednarz, Malik S. Naumann, Nanne van Hoytema, Laura Rix, Rachel A. Foster, **Mamoon M. D. Al-Rshaidat**, Christian Wild: *Functional significance of dinitrogen fixation in sustaining coral productivity under oligotrophic conditions*. Proceedings of the Royal Society B: Biological Sciences 10/2015; 282(1818). DOI:10.1098/rspb.2015.2257
- Ulisse Cardini, Nanne van Hoytema, **Mamoon Al-Rshaidat**, Helmut Schuhmacher, Christian Wild, Malik Naumann: *37 Years later: revisiting a Red Sea long-term monitoring site*. Coral Reefs 07/2015; 34(4). DOI:10.1007/s00338-015-1321-z
- Vanessa Bednarz, Nanne van Hoytema, Ulisse Cardini, MS Naumann, **MMD Al-Rshaidat**, Christian Wild: *Dinitrogen fixation and primary productivity by carbonate and silicate reef sand communities of the Northern Red Sea*. Marine Ecology Progress Series 05/2015; 527:47-57. DOI:10.3354/meps11224
- Vanessa Bednarz, Ulisse Cardini, Nanne van Hoytema, **Mamoon M. D. Al-Rshaidat**, Christian Wild: *Seasonal variation in dinitrogen fixation and oxygen fluxes associated with two dominant zooxanthellate soft corals from the northern Red Sea*. Marine Ecology Progress Series 01/2015; 519:141-152. DOI:10.3354/meps11091
- Amal Jayakumar, **Mamoon M D Al-Rshaidat**, Bess B Ward, Margaret R Mulholland: *Diversity, distribution, and expression of diazotroph nifH genes in oxygen-deficient waters of the Arabian Sea*. FEMS Microbiology Ecology 06/2012; 82(3):597–606. DOI:10.1111/j.1574-6941.2012.01430.x
- Tracy A. Villareal, R.M.L. McKay, **MMD Al-Rshaidat**, R. Boyanapalli, R.M. Sherrell: *Corrigendum to “Compositional and fluorescence characteristics of the giant diatom *Ethmodiscus* along a 3000km transect (28°N) in the central North Pacific gyre”*. Deep Sea Research Part I Oceanographic Research Papers 10/2007; 54(8-54). DOI:10.1016/j.dsr.2007.04.018
- R. M. L. McKay, S. W. Wilhelm, J Hall, DA Hutchins, **M. M. D. Al-Rshaidat**, C. E. Mioni, S Pickmere, D Porta, P. W. Boyd: *Impact of phytoplankton on the biogeochemical cycling of iron in subantarctic waters southeast of New Zealand during FeCycle*. Global Biogeochemical Cycles 12/2005; 19(4). DOI:10.1029/2005GB002482
- R. M. L. McKay, David Porta, George S Bullerjahn, **Mamoon M. D. Al-Rshaidat**, Jeffrey A. Klimowicz, Robert W. Sterner, Tanya M. Smutka, Erik T. Brown, Robert M. Sherrell: *Bioavailable Fe in oligotrophic Lake Superior assessed using biological reporters*. Journal of Plankton Research 10/2005; 27(10). DOI:10.1093/plankt/fbi070

Robert K. Vincent, R. Michael McKay, **Mamoon M. D. Al-Rshaidat**, Kevin Czajkowski, Thomas Bridgeman, Jeffrey Savino: *Mapping the Bacterial Content of Surface Waters with LANDSAT TM Data: Importance for Monitoring Global Surface Sources of Potable Water*. Proceedings of the 16th Pecora Conference on Global Priorities in Land Remote Sensing, Sioux Falls, SD, October 23-27, 2005, pp83-86.

Technical Reports

FAO/NCARE. 2015. *The State of the World's Biodiversity for Food and Agriculture, Report for Jordan*, Amman, Jordan

UNDP/ASEZA. 2015. *State of the Coastal Environment, Report for Aqaba*, Gulf of Aqaba, Red Sea, ASEZA, Aqaba, Jordan.

UN/Ministry of Environment. 2014: *Jordanian Fifth National Report on the Implementation of the Convention on Biological Diversity*, Amman, Jordan.

Presentations and Conference Proceedings (*Invited Speaker, **Oral Communication, ***Poster)

- 2017 International Conference on Ecosystem Services (ES) and Integrated Coastal Zone Management (ICZM), The Euro-Arab Organization for Environment, Water, and Desert Research, Aqaba, Jordan
- 2016 1st Conference on the Sustainable Use of Ecosystem Services in the MENA region, Dead Sea, Jordan**
- 2015 Annual Conference of the Society for Tropical Ecology, ETH Zurich, Switzerland **
- 2015 5th Coral Reef Ecology (CORE) Symposium, Bremen, Germany **
- 2014 12th SESAME Users Meeting, Amman, Jordan*
- 2014 Aqaba International Conference on Marine and Coastal Environment, Aqaba, Jordan**
- 2013 European Geosciences Union General Assembly, Vienna, Austria***
- 2012 Leibniz Center for Tropical Marine Ecology (ZMT), Bremen, Germany*
- 2010 2010 Ocean Sciences Meeting, Portland, OR, USA***
- 2007 PICES/ICES ECSC on “New Frontiers in Marine Science”, Baltimore, MD, USA**
- 2007 The American Society of Limnology and Oceanography Aquatic Sciences Meeting, Santa Fe, NM, USA***
- 2006 “Microbial Oceanography: Genomes to Biomes”, University of Hawaii, Honolulu, HI**
- 2006 Biological Sciences Seminar, University of Jordan, Amman, Jordan*
- 2006 The Fourth Biennial Lake Erie Millennium Network Conference, Canada***
- 2005 9th Conference of the International Society for Salt Lake Research, Australia***
- 2005 The American Society of Limnology & Oceanography Summer Meeting, Spain(*Best Student Poster Award*) ***
- 2005 Annual Meeting of the Ohio Academy of Science. Bowling Green, OH, USA***
- 2004 Third Annual BGSU Research Conference. Bowling Green, OH, USA***

Awards and Honors

- 2007 Participant, PICES/ICES Early Career Scientists Conference (ECSC) on “New Frontiers in Marine Science”
- 2007 Travel award, International Council for the Exploration of the Sea (ICES)
- 2007 Travel award, US Delegation to ICES
- 2006 Participant, Agouron Institute/University of Hawaii, Manoa Summer School “*Microbial Oceanography: Genomes to Biomes*”
- 2006 Katzner and University Bookstore Graduate Student Research and Professional Development Funds, Bowling Green State University
- 2006 Winifred O. Stone Graduate Student Development Award, Bowling Green State University
- 2006 KEY Yearbook Famous Faces, Bowling Green State University
- 2005 Outstanding Student Poster Award, American Society of Limnology and Oceanography
- 2005 Travel Award, American Society of Limnology and Oceanography
- 2001 Research Assistant Fellowship, US National Science Foundation.

Seagoing Cruise Experience

- 2006 Six day cruise aboard the RV *Kilo Moana*. Around the Hawaiian Islands, USA.
- 2006 Six day cruise aboard the RV *Kilo Moana*. Mapping Cyclonic Eddies South of Hawaiian Islands, USA.
- 2003 Twenty eight days cruise aboard the RV *New Horizon*. 30°N Hawaii-San Diego transect, USA.
- 2002 Twenty seven days cruise aboard the RV *Melville*. 30°N Transect NW of Hawaii, USA

Supervision (Undergraduate Students)

- Supervisor, Undergraduate Research; Waed Al-Momani, The University of Jordan Aqaba Branch, Aqaba, Jordan (2012-2013)

Teaching Assignments

The University of Jordan, Jordan

- 2010-present General Biology I (5501101) and (0304101) Marine Sciences (5502221)
Cell Biology (5501232) Marine Microbiology (5501333)
Biotechnology (5501423) Molecular Biology (5501421)
Seminar (0304491) Microbial Ecology (0304742)
Molecular Biology and Biotechnology (5501715) Environmental Microbiology (0654733)

Ohio Northern University, Ada, Ohio, USA

- Spring 2007 Lecturer (Part-Time): BioSciences Laboratory II (BIOL 323): 3rd year pharmacy students' class helping
students develop key experimental analysis skill in Biochemistry, Cell and Molecular Biology, Microbiology and bioinformatics.

Bowling Green State University, Bowling Green, Ohio, USA

- 2005-2007 Guest Lecturer: Marine Biology (BIOL 374), Environmental Microbiology (BIOL 400)
- 2003-2006 Graduate Teaching Assistant: Concepts of Biology II (BIOL 205)
- 2003-2006 Teaching Honors classes: Training Biology honors undergraduate students in laboratory research and helping them in conducting laboratory experiments

Skills & Activities

Skills & Interests Biodiversity, Environmental Genomics, Functional Genomics, DNA Barcode, Metabarcoding, Metagenomics, Molecular Ecology, Microbial Ecology, Biological Dinitrogen Fixation, Water Quality & Monitoring, Environmental Pollution, Algal Biotechnology (Algal biomass for Food, Feed, and Biofuel), Integrated Ecosystem Services (Valuation & Management).

Languages Arabic, English