

# Dr. Saqr Suleiman Abushattal

## Contact Information

- **Phone:** +962791545269
- **Email:** [saqr\\_shattal@yahoo.com](mailto:saqr_shattal@yahoo.com)  
[abushattalsaqr5@gmail.com](mailto:abushattalsaqr5@gmail.com)  
[saqr.s.abushattal@ahu.edu.jo](mailto:saqr.s.abushattal@ahu.edu.jo)
- **Twitter:** @saqerabushattal
- **Facebook:** Saqr S Abushattal
- **LinkedIn:** saqr abushattal
- **ResearchGate:** Saqr Abushattal
- **Google Scholar:** Saqr Abushattal
- **ORCID:** [0000-0003-3751-7348](https://orcid.org/0000-0003-3751-7348)
- **Scopus ID:** [57209292094](https://scopusid.org/57209292094)



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## EDUCATION

- **Ph.D. in Microbiology and Parasitology**  
*University of Santiago de Compostela, Spain (2021)*  
*PhD Thesis Title: Study of the Variable Genome of Photobacterium damsela: Acquisition of New Metabolic Traits, Antimicrobial Resistance, and a Novel Virulence Plasmid*
- **M.Sc. in Marine Invertebrate Biology**  
*Mutah University, Jordan (2014)*  
*Thesis Title: Studies on Characterization of Phenoloxidase Enzyme in Giant Clam, Aqaba, Jordan*
- **B.Sc. in Biological Science**  
*Mutah University, Jordan (2004)*
- **Secondary Education**  
*Ayl Secondary School, Jordan (1998)*

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## PROFESSIONAL EXPERIENCE

- **Biology Labs Supervisor**  
*Al-Hussein Bin Talal University, Jordan (2006–2020)*  
Supervised and managed all biology laboratories within the department, ensuring proper functioning and compliance with academic standards. Assisted faculty and students in laboratory-based research and experiments.

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## SKILLS & COMPETENCIES

- Expertise in microbiology, parasitology, and marine invertebrates.
- Strong background in laboratory management and supervision.
- Proficient in data analysis, research methodologies, and academic writing.
- Skilled in using molecular biology techniques (e.g., PCR, DNA extraction, sequencing).

## Publications

Alnaimat, S., Aladaileh, S., **Abushattal S.**, Al-asoufi, A., Nassarat, H., & Abu-Zaitoon, Y. (2017). Isolation and Molecular Characterization of a Newly Isolated Strain of *Bacillus* sp. HMB8, With a Distinct Antagonistic Potential Against *Listeria monocytogenes* and Some Other Food Spoilage Pathogens. *Jordan journal of biological sciences*, 10(2).

ALNAIMAT, S., **Abushattal S.**, ALTHUNIBAT, O., ALSBOU, E., & AMASHA, R. (2017). Iron (II) and other heavy-metal tolerance in bacteria isolated from rock varnish in the arid region of Al-Jafer Basin, Jordan. *Biodiversitas Journal of Biological Diversity*, 18(3), 1250-1257.

**Abushattal S.**, Vences A., dos Santos N.M., do Vale A., Osorio C.R. (2019) Draft genome sequences of *Photobacterium damsela* subsp. *piscicida* SNW-8.1 and PP3, two fish-isolated strains containing a type III secretion system. *Microbiology resource announcements* 8.(Q3)

**Abushattal S.**, Vences A., Osorio C.R. (2020) A virulence gene typing scheme for *Photobacterium damsela* subsp. *piscicida*, the causative agent of fish photobacteriosis, reveals a high prevalence of plasmid-encoded virulence factors and of type III secretion system genes. *Aquaculture* 521:735057. (Q1)

Vences A., **Abushattal S.**, Matanza X.M., Dubert J., Uzun E., Ogut H., Osorio C.R. (2020) Highly Transferable pAQU-Related Plasmids Encoding Multidrug Resistance Are Widespread in the Human and Fish Pathogen *Photobacterium damsela* subsp. *damsela* in Aquaculture Areas in the Black Sea. *Microbial Ecology*. (Q1)

**Abushattal S.**, Vences A., Barca A.V., Osorio C.R. (2020) Diverse Horizontally-Acquired Gene Clusters Confer Sucrose Utilization to Different Lineages of the Marine Pathogen *Photobacterium damsela* subsp. *damsela*. *Genes* 11:1244. (Q2)

**Abushattal S.**, Vences A., Osorio C.R. 2022. "A Highly Unstable and Elusive Plasmid That Encodes the Type III Secretion System Is Necessary for Full Virulence in the Marine Fish Pathogen *Photobacterium damsela* subsp. *piscicida*" *International Journal of Molecular Sciences* 23, no. 9: 4729. <https://doi.org/10.3390/ijms23094729> (Q1)

Asad, M., Al-Refai, A., **Shattal, S. A.**, & Alkhateeb, A. 2023. The Epidemiology and Trends of Cancer in Jordan, 2012–2018. In *2023 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)* (pp. 4865-4867). IEEE Computer Society.

Alshawabkeh, D. W., Rasras, A. J., Abushattal, S., Al Zubi, M. S., Shakhdoza, M. M., Younes, E. A., & Al-Qawasmeh, R. A. (2024). Synthesis and Biological Evaluation of Cholic Acid Tagged Piperazine Derivatives. *Current Organic Chemistry*, 28(1), 65-73. (Q3)

Dmour, S. M., Mohammed Saghir, S. A., **Abushattal, S.**, Qaralleh, H., Alnaimat, S. M., Al-Jaafreh, A. M., ... & Almajali, I. S. (2024). Biological activities and chemical composition of essential oil isolated from *Artemisia herba-alba*. *Electronic Journal of General Medicine*, 21(1). (Q1)

Erturk, A., Colbran, S. E., Theofanidis, F., & Abidi, O. (Eds.). (2024). *Convergence of Digitalization, Innovation, and Sustainable Development in Business*. IGI Global. Navigating Cancer Epidemiology: The Power of Digitalization and Visualization in Jordan, 2012–2018, MM Asad, A Al-Refai, **S Abushattal**, A Alkhateeb.

**ABUSHATTAL, S.**, ALNASARAT, H., ALNAIMAT, S. M., & EID, E. (2024). The use of 18S rRNA for identification of the first record of Tadpole Shrimp *Lepidurus apus* (Linnaeus, 1758) from Jordan. *Biodiversitas Journal of Biological Diversity*, 25(3). (Q2)

Alghonmeen, R. D., Dmour, S. M., Saghir, S. A., **Abushattal, S.**, Alnaimat, S., Al-Zharani, M., ... & Althunibat, O. Y. (2024). Anti-MRSA and cytotoxic activities of different solvent extracts from *Artemisia herba-alba* grown in Shubak, Jordan. *Open Veterinary Journal*, 14(4), 990. (Q2)

Al-Nsour, E. H., T AL-Hadithi, H., Al-Groom, R. M., **Abushattal, S.**, Naser, A. Y., Al Nsour, A. H., ... & Khan, M. S. A. (2024). Increased incidence of methicillin resistant *Staphylococcus aureus* and methicillin resistant *Staphylococcus epidermidis* in the skin and nasal carriage among healthcare workers and inanimate hospital surfaces after the COVID-19 pandemic. *Iranian Journal of Microbiology*, 16(5), 584. (Q3)

Alnaimat, S. M., **Abushattal, S.**, & Dmour, S. M. (2024). Comparative genomic characterization of *Cellulosimicrobium funkei* isolate RVMD1 from Ma'an desert rock varnish challenges *Cellulosimicrobium* systematics. *Frontiers in Microbiology*, 15, 1445943. (Q2)

Alnaimat, S. M., **Abushattal, S.**, Dmour, S. M., Al-Awaida, W. J., Ayyash, A. M., & Goh, K. W. (2025). Genomic insights into the taxonomic status and bioactive gene cluster profiling of *Bacillus velezensis* RVMD2 isolated from desert rock varnish in Ma'an, Jordan. *PloS one*, 20(4), e0319345. (Q1)

Alnaimat, S. M., **Abushattal, S.**, & Dmour, S. M. (2025). Draft genome of halophilic *Salinococcus roseus* H15 isolated from desert rock varnish in Ma'an, Jordan. *Microbiology Resource Announcements*, 14(1), e00928-24. (Q3)

## Qualified Skills in Life Sciences and Health Sciences

I believe that I am highly capable and experienced enough to work in many vital areas related to life sciences and health sciences, based on my practical and theoretical experiences in the following areas:

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### DNA Extraction

- Handle various DNA extraction kits for high purity and high quantity DNA.
- Evaluate extracted DNA using the Nanodrop method and gel electrophoresis.
- Extract DNA from several types of cells including gram-positive and gram-negative bacteria, plant, and animal cells.

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### Polymerase Chain Reaction (PCR)

- Design primers and troubleshoot amplification issues.
- Experienced in PCR mixes for various amplification needs, including long PCR (>8 Kbp).
- Expertise in conventional and gradient PCR techniques.

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### Gel Electrophoresis

- Prepare agarose gels in various concentrations depending on experimental needs.
- Purify extracted or amplified DNA for sequencing.
- Utilize gel documentation instruments and analyze gel images.

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### RT-PCR (Real-Time PCR)

- Purify RNA from biological samples.
- Adjust RT-PCR programs and select dyes for specific target genes.
- Experience using RT-PCR for COVID-19 testing.

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### DNA Sequence Analysis

- Proficient in selecting DNA sequencer approaches (Pacbio, Illumina, Nanopore).
- Prepare DNA for sequencing and manage sequenced files.

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### Molecular Biology Software

- NCBI, RAST, EzBioCloud, SnapGene, BioEdit, Easyfig, and Mauve for genome analysis and visualizations.

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### Genome Editing

- Work with genome editing tools such as restriction enzymes and plasmids.
- Use electroporation and heat shock for DNA insertion into bacterial cells.
- Produce deletion mutations and insertion mutants in bacterial genomes.

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### Plasmids

- Detect and analyze plasmids in bacterial genomes (resistance, virulence, and degradative plasmids).
- Use Sanger sequencing to complete gaps in plasmid sequences.
- Investigate resistance genes, especially those in multidrug resistance (MDR) strains.

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### Histology

- Perform tissue fixation, transfer to cassettes, processing, sectioning, and staining.
- Use ultramicrotome for sectioning and auto-stainer for staining, ensuring optimal specimen quality for microscopy.

## Teaching Experience

### Lecturer in Epidemiology and Biostatistics (Master's Degree Course)

*Princess Sumaya University for Technology (PSUT), Amman, Jordan*

*Dates of Employment (2021).*



جامعة الأميرة سميرة  
University for Technology  
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### Bachelor's Courses Lecturer

*University Name (AlHussain Bin Talal University)*



- **Epidemiology and Biostatistics**  
Taught key concepts in epidemiology, including disease distribution, risk factors, and biostatistical methods for nursing students. Designed and delivered lectures and practical sessions to enhance students' understanding of data analysis in health science.
- **Microbiology for Nursing Students**  
Developed and taught a comprehensive curriculum focused on microbiology, emphasizing the role of microorganisms in human health, disease prevention, and infection control strategies. Delivered practical lab sessions for hands-on learning experiences.
- **Medical Parasitology**  
Lectured on the identification, biology, and pathology of medically important parasites. Designed engaging lessons on diagnostic techniques, lifecycle analysis, and the impact of parasitic diseases on public health.
- **Animal Physiology**  
Delivered lectures on the physiological processes of animals, including homeostasis, cardiovascular, respiratory, and nervous systems. Designed laboratory exercises to provide students with a deeper understanding of animal physiology through experimentation and observation.
- **Molecular Biology**  
Taught molecular biology concepts such as gene expression, DNA/RNA structure, and techniques like PCR and gel electrophoresis. Supervised lab work and projects to help students apply theoretical knowledge in practical scenarios.
- **Ecology Science**  
Lectured on ecological principles, environmental interactions, and biodiversity. Integrated fieldwork and data collection to enhance students' understanding of ecological systems and conservation practices.
- **Invertebrate Biology**  
Taught the biology of invertebrates, covering topics from taxonomy and anatomy to ecology and evolution. Designed field-based exercises and lab activities to help students study and classify invertebrate species.

## Scientific Collaborations



### University of Jordan

Collaborator: Dr. Said Damhoureyh

Project: Collection and classification of the black widow spider in Jordan using molecular tools for accurate identification.



### Al-Balqa' Applied University

Project: Training of a master's student on Echinococcus granulosus tracing using molecular and bioinformatics tools.



### Mutah University

Collaborator: Dr. Wael Al-Zereini

Project: Training of a master's student on the isolation and evaluation of bacterial isolates and studying their antagonistic role against pathogenic bacterial strains.



### Isra University

Collaborator: Prof. Dr. Hadeel Alhudithy

Project: Targeting structural genes of MRSA and MRSE isolates from health centers.



### Tafela University

Collaborator: Dr. Amer Tarawneh

Project: Study of the bioactivity of chemical extracts against pathogenic bacterial strains.



**International Medical Research Center (iMReC), Aqaba**

Role: Research collaborator in cancer and antibiotic research.



**IBIMA Institute, Universitätsmedizin Rostock, Germany**

Applicant: Dr. Mohamed Hamed Fahmy  
Project: German-Jordanian Alliance for AI Curriculum and Capacity in Computational Biology (GJ-AICB)  
Program: Ta'ziz Partnership – Short Term Measures 2025

Declaration: The management of the institution has taken note of and supports the application for this project.



**Hashemite University**

**Collaborator: Dr. Eyad Younes,**  
**Faculty of Science, Department of Chemistry**

**Project: Study of the bioactivity of organic compounds produced as pure compounds functioning as antibiotics.**



**Middle East University**

Collaborator: Dr. Suha Mujahed Abudoleh, Associate Professor of Microbiology and Biotechnology, Faculty of Pharmacy

Project: Isolation and identification of newly isolated bacteria and evaluation of bioactive compounds produced against pathogenic bacterial strains.



## To Whom It May Concern

I know Dr. Saqr Suleiman Salameh Abushattal, as his PhD advisor from 2018 to 2021. Dr. Abushattal recently finished his PhD thesis on the molecular characterization of virulence factors and antimicrobial resistance determinants of the fish and human pathogenic bacterium *Photobacterium damsela*, making a highly original contribution to this important subject. During all these years, Dr. Abushattal has been working in my laboratory at the Microbiology Department of the University of Santiago de Compostela, taking part in several research projects, and I was most impressed by the skills he displayed in the laboratory. He is an exceptionally hard working and motivated person, he demonstrated to be very industrious, and completes work in a timely manner which makes him an asset in the laboratory. He possesses a very good knowledge on the molecular characterization of genes involved in the virulence mechanisms of bacterial pathogens, plasmids and other mobile elements, and antimicrobial resistance genes. Dr. Abushattal has shown an exceptional capability to learn and apply new techniques in his research work. He has shown initiative, creative thinking and is very innovative. In addition, he is always willing to accept novel challenges and to solve them successfully. With no doubt I believe that Dr. Abushattal is committed to scientific excellence.

The work he has conducted during the last years is of a very high standard and is evident from his success in publishing his recent work in highly rated International Microbiology Scientific Journals (e.g. *Microbial Ecology*, *Aquaculture*, and *Genes*). In addition, he possesses a very positive personality and excellent human qualities which makes very fruitful the convivence with the research group. Saqr Abushattal is without doubt one of the most motivated and productive researchers I have ever had the pleasure to work with in my laboratory.

From all the cited above, I consider that Dr. Saqr Suleiman Salameh Abushattal has enough knowledge, seriousness, maturity and leadership qualities to successfully develop a position of responsibility and scientific leadership in the field of molecular biology, microbiology and related subjects. Therefore, I strongly support the application of Dr. Saqr Abushattal in the strongest possible terms.

Yours Sincerely,

Prof. Dr. Carlos Rodríguez Osorio  
Associate Professor of Microbiology  
Microbiology & Parasitology Department  
Institute of Aquaculture  
University of Santiago de Compostela, SPAIN  
[cr.osorio@usc.es](mailto:cr.osorio@usc.es)  
Phone: (+34) 8818 16050

RODRIGUEZ  
OSORIO  
CARLOS -  
33292553F

Firmado digitalmente por RODRIGUEZ  
OSORIO CARLOS - 33292553F  
Nombre de reconocimiento (DN): c=ES,  
serialNumber=IDCES-33292553F,  
givenName=CARLOS, sn=RODRIGUEZ  
OSORIO, cn=RODRIGUEZ OSORIO  
CARLOS - 33292553F  
Fecha: 2021.07.14 18:20:40 +02'00'