

DR. EINAS OSMAN, Ph.D.

Medical Microbiology & Molecular Biology Specialist

Email: enas.osman@asu.edu.om

ORCID: <https://orcid.org/0000-0003-2567-889X>

Google Scholar: <https://scholar.google.com/citations?user=06GoXOcAAAAJ>

ResearchGate: <https://www.researchgate.net/profile/Einas-Osman>

PROFESSIONAL SUMMARY

Accomplished Molecular Biologist and Medical Microbiologist with 15+ years of progressive experience in academic research, teaching, and clinical laboratory management. Expert in antimicrobial resistance research, molecular diagnostics, and curriculum development. Proven track record of securing competitive research grants, publishing in high-impact journals, and mentoring students and junior faculty, and currently serving as an Assistant Professor while leading international research collaborations and institutional committees.

EDUCATION

PhD in Molecular Biology | 2016-2020

Institute of Endemic Diseases, University of Khartoum, Sudan

Thesis: Molecular characterisation of antimicrobial resistance mechanisms

MSc Medical Laboratory Sciences (Microbiology) | 2011-2013

University of Medical Science and Technology, Khartoum, Sudan

BSc Medical Laboratory Sciences | 2000-2004

Sudan University of Sciences and Technology, Khartoum, Sudan

Major: Microbiology

PROFESSIONAL APPOINTMENTS

Assistant Professor of Medical Microbiology | Sep 2023 – Present

College of Applied and Health Sciences, A'Sharqiyah University, Ibra, Oman

- Teach undergraduate courses in Medical Microbiology, Molecular Biology, and Genetics
- Supervise student research projects and clinical practicum
- Develop and revise curriculum for the medical laboratory sciences program
- Serve on multiple university committees, including the Teaching & Learning Committee

Assistant Professor & Postgraduate Coordinator | Nov 2020 – Jul 2023

Faculty of Medical Laboratories Sciences, Ibn Sina University, Khartoum, Sudan

- Coordinated postgraduate programs and research activities
- Taught advanced molecular biology and microbiology courses
- Mentored graduate students and junior faculty members

Molecular Biology Consultant & Technical Manager | Jul 2021 – Apr 2023

Al-Saaha Specialised Hospital, Khartoum, Sudan

- Managed molecular biology laboratory operations
- Oversaw COVID-19 testing and other molecular diagnostics
- Implemented quality control and assurance protocols

Postdoctoral Research Fellow | Nov 2019 – Jul 2023

Biosciences Research Institute, Ibn Sina University, Khartoum, Sudan

- Led research on antimicrobial resistance mechanisms
- Collaborated with international partners from UK institutions
- Supervised junior researchers and laboratory staff

Lecturer of Microbiology | Dec 2014 – Nov 2020

Faculty of Medical Laboratories Sciences, Ibn Sina University, Khartoum, Sudan

RESEARCH GRANTS & AWARDS

Principal Investigator | 2024-2026

"Predicting Cardiovascular Disease Risk Using Visceral Adiposity Index in Omani Population"

Ministry of Higher Education, Research and Innovation (MOHERI)

- Award: 2,000 OMR | Project ID: BFP/URG/HSS/24/001

Research Collaborator | 2020-2022

"Establishment of One Health Platform to Reduce Antibiotic Resistance in Nile Valley"

Global Challenges Research Fund (GCRF) – Academy of Medical Sciences

- Award: £24,950 | International consortium across 15 countries

Principal Investigator | 2019-2020

"Promoting Research Excellence in Antimicrobial Resistance Research in Sudan"
International Development Challenge Fund (IDCF)

- Award: £52,400

Principal Investigator | 2017-2018

"Molecular Characterization of β -Lactamases Producing *Klebsiella pneumoniae*"
Wellcome Trust Brighton and Sussex Center for Global Health Research

- Award: £10,000

SELECTED PUBLICATIONS FOR PROMOTION

✉ denotes corresponding author

Latest article:

Omer SA, Abdrabo AA, Omar AA, **Osman EA** ✉. (2025). Diagnostic and prognostic value of anti-cyclic citrullinated peptide and Rheumatoid Factor in rheumatoid arthritis patients. *Georgian Medical News*. (**Accepted for publication**).

Published Journal Articles:

1. **Al-Hassan L**, Nowbuth AA, Beyene GT, Yeshitela B, Berhe DF, Desta K, Wolde M, Schneiders T, Hussein A, Zafer M, Elshimy R, El-Mahallawy H, El-Amin N, Roemer-Mahler A, Aizzeldin S, Higgins PG, Moghith A, Nahar P, **Osman EA** ✉, Mukhtar M. (2025). A Scoping Review of Antibiotic Resistance through a One Health Lens. *Frontiers in Tropical Diseases*.
6. <https://doi.org/10.3389/fitd.2025.1629274>
2. **Alblooshi MM**, Alkalbani NH, Al-Joubori B, Saadoun I, Hussein E, **Osman EA**, Saifeldin T. (2025). Microbial profiling and safety assessment of fish marketed in UAE. *Arab Journal of Basic and Applied Sciences*.
32(1). <https://doi.org/10.1080/25765299.2025.2482295>
3. **Afzal M**, Agarwal S, Elshaikh RH, Babker AMA, **Osman EA** ✉, Choudhary RK, Jaiswal S, Zahir F, Prabhakar PK, Abbas AM, Shalabi MG, Sah AK. (2025). Innovative Diagnostic Approaches in HIV Management. *Life*. 15(2), 209. <https://doi.org/10.3390/life15020209>
4. **Osman EA**, Omer SA, Elmubarak RMA, Abdelnabi M, Abdelgadir S, Ahmed DG, Arbab Nasr MH, Yousif M, Mukhtar M, Al-Hassan L. (2024). Antibiotic Resistance in Sudan: Assessing Knowledge and Practices of Healthcare Workers. *JAC-Antimicrobial Resistance*. 6(2). <https://doi.org/10.1093/jacamr/dlae049>
5. **Osman EA**, Yokoyama M, Altayb HN, Cantillon D, Wille J, Seifert H, Higgins PG, Al-Hassan L. (2023). *Klebsiella pneumoniae* in Sudan: Multidrug Resistance, Polyclonal Dissemination, and Virulence. *Antibiotics*. 12(2), 233. <https://doi.org/10.3390/antibiotics12020233>

6. **Al-Hassan L**, Elbadawi H, **Osman E**, Ali S, Elhag K, Cantillon D, Wille J, Seifert H, Higgins PG. (2021). Molecular Epidemiology of Carbapenem Resistant *Acinetobacter baumannii* from Sudan. *Frontiers in Microbiology*. 12:628736. <https://doi.org/10.3389/fmicb.2021.628736>
7. **Ali KM**, Ali AH, Ali MA, **Osman E**, Yousif YS. (2021). Phenotypic and Genotypic Pattern of *Acinetobacter baumannii* at Hospital Setting Khartoum State, Sudan. *EC Microbiology*. 17(3):44-54.
8. **Osman EA†**, El-Amin N, Al-Hassan L, Mukhtar M. (2021). Multi-clonal spread of *Klebsiella pneumoniae* across hospitals in Khartoum, Sudan. *Journal of Global Antimicrobial Resistance*. 24:241-245. <https://doi.org/10.1016/j.jgar.2020.12.004>
9. **Osman EA**, El-Amin N, Adrees EAE, Al-Hassan L, Mukhtar M. (2020). Comparing conventional, biochemical and genotypic methods for accurate identification of *Klebsiella pneumoniae* in Sudan. *Access Microbiology*. 2(3). <https://doi.org/10.1099/acmi.0.000096>
10. **Ibrahim SM**, Ibrahim AM, Ibrahim OA, **Osman EA**, Amid OM, Alaziz HA. (2020). Antimicrobial Resistant Pattern of *Acinetobacter Baumannii* Among ICU Patients in Khartoum State-Sudan. *World Journal of Pharmaceutical Research*. 9(5).
11. **El Amin N**, **Osman E**, Al-Hassan L, Abdalrahman I. (2019). Epidemiology of Antibiotic Resistance in Culture-positive Hospitalised Patients in Selected Hospitals in Khartoum, Sudan. *Sudan Journal of Medical Sciences*. 14(1):15-23.
12. **Ibrahim EA**, El Amin N. (2015). High prevalence of multidrug-resistant *Acinetobacter* species in Khartoum intensive care unit. *American Journal of Research Communication*. 3(2):35-42.

Book Publication:

Osman E. (2025). *Essential Medical Mycology*. Noor Publishing.

ISBN-13: 978-6208870362 | ISBN-10: 6208870364. <https://www.amazon.com/Essential-Medical-Mycology-Einas-Osman/dp/6208870364>

Conference Abstracts & Presentations:

1. **Osman E**, Abdelrahim M. (2025). Comparative Analysis of AI-Driven Translation Platforms. *Keynote oral presentation & Session Chair*. 8th National Conference on Metaverse and AI-Driven Approaches, Al-Buraimi University College, Oman.
2. **Osman E**, Al-Gheilani S, Al-Rajhi A, Hussein E. (2025). Knowledge, Attitudes, and Practices Regarding Antibiotic Use and Resistance in Oman. *Poster presentation*. 8th UAE International Conference on Antimicrobial Resistance, Dubai, UAE.
3. **Osman E.** (2024). Antibiotic resistance in Sudan: assessing knowledge and practices of healthcare workers. *Oral presentation*. ASU Research Day, A'Sharqiyah University, Oman.

4. Satti A, Mohager MO, Abdelraheem MH, Yousif M, Alhassan L, **Osman E**. (2023). Outbreak of *Burkholderia cepacia* Complex in neonatal intensive Care Unit. *Poster presentation*. 33rd ECCMID, Copenhagen, Denmark.
5. **Al-Hassan L**, Tesfaye G, Yeshitela B, Desta K, Wolde M, Schneiders T, Farouk A, Zafer M, Elshimy R, El-Mahallawy H, El-Amin N, **Osman E**, Izzeldin S, Afdal A, Nahar P, Roemer-Mahler A, Mukhtar M. (2023). A Scoping Review of Antibiotic Resistance within One Health across the Nile Valley. *Poster presentation*. 33rd ECCMID, Copenhagen, Denmark.
6. **Osman EA**, Yokoyama M, Altayb HN, Cantillon D, Wille J, Seifert H, Higgins PG, Al-Hassan L. (2022). *Klebsiella pneumoniae* in Sudan: Multidrug Resistance, Polyclonal Dissemination, and Virulence. *Poster presentation*. IMMEX XIII, Bath, UK.
7. **Osman E**, Ali S, Cantillon D, Willie J, Seifert H, Higgins P, Al-Hassan L. (2020). Molecular epidemiology of *Acinetobacter baumannii* in Sudan. *Poster presentation*. 30th ECCMID, Paris, France.
8. **Awad E**, Mukhtar M, Al-Hassan L. (2019). Multi-clonal spread of *Klebsiella pneumoniae* across hospitals in Khartoum, Sudan. *Oral presentation*. 29th ECCMID, Amsterdam, Netherlands.
9. **Osman E**. (2018). High prevalence of New Delhi Metallo β -Lactamases in Multidrug-Resistant *Klebsiella pneumoniae* sequence type 101 in Sudan. *Poster presentation*. 3rd GCCMID, Dubai, UAE.

PROFESSIONAL DEVELOPMENT & TRAINING

- African Researcher Career Development Workshop | Nov 2024 | Johannesburg, South Africa
- Business Development Training Program | Aug 2022 | Zafar Training Centre, Sudan
- Clinical Bioinformatics of Microbial Genomics & Metagenomics | Sep 2019 | Lausanne, Switzerland
- Whole Genome Sequencing Training | Jun 2019 | Brighton and Sussex Medical School, UK
- Linux & Python Programming Course | Feb 2019 | International University of Africa, Sudan
- Molecular Biotechnology & Bioinformatics Workshop | Feb 2018 | ICSCCB, Pune, India
- Bacterial Genomes & Antimicrobial Resistance Course | Nov 2018 | Wellcome Sanger Institute, UK

LEADERSHIP & SERVICE

University Committees (A'Sharqiyah University)

- Chair, University Research Ethics and Biosafety Committee (2025-Present)
- Member, University Research and Enterprise Committee (2025-Present)
- Chair, College Research and Enterprise Committee (2025-Present)
- Member, Teaching and Learning Committee (2023-Present)
- Member, Exam & Academic Integrity Committee (2024-2025)

Professional Memberships

- European Society of Clinical Microbiology and Infectious Diseases (2018-Present)
- Member, Senate of Ibn Sina University (2017-2018)

Community Engagement

- External Grant Reviewer, University of Buraimi (2023-2024)
- Coordinator, Blood Bank Conference with Ibra Reference Hospital (2024)
- Supervisor, Secondary School Research Projects (2023-2024)
- Healthcare Professional Development Trainer

CONFERENCE PRESENTATIONS

Keynote Speaker & Session Chair | May 2025

8th National Conference on Metaverse and AI-Driven Approaches, Al-Buraimi University College, Oman

Oral Presentation | May 2024

"Antibiotic Resistance in Sudan" - ASU Research Day, A'Sharqiyah University, Oman

Poster Presentations | 2023-2025

- 33rd ECCMID (Copenhagen, Denmark)
- 8th UAE International Conference on Antimicrobial Resistance (Dubai, UAE)

- IMMEM XIII (Bath, UK)
- 30th ECCMID (Paris, France)
- 29th ECCMID (Amsterdam, Netherlands)

TECHNICAL EXPERTISE

Molecular Techniques: Whole Genome Sequencing, PCR, MLST, DNA extraction, Gel electrophoresis

Bioinformatics: Linux, Python, Genomic analysis, BLAST, MultiAlin

Laboratory Management: Quality control, SOP development, Staff training, Equipment maintenance

Teaching: Curriculum development, E-learning platforms, Student assessment, Academic advising

Research: Grant writing, Project management, Data analysis, Scientific writing, Peer review

LANGUAGES

- Arabic (Native)
- English (Fluent)

REFERENCES

Available upon request