
Einas Awad Ibrahim Osman, PhD.

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Education

PhD in Molecular Biology <i>Institute of Endemic Diseases, Khartoum University. Khartoum, Sudan</i>	2016- 2020
MSc medical laboratory sciences (microbiology specialization) <i>University of Medical Science and Technology. Khartoum, Sudan</i>	2011-2013
BSc Medical Laboratory sciences, majoring Microbiology <i>Sudan University of Sciences and Technology, Khartoum, Sudan.</i>	2000- 2004

Additional Training and Courses

- Business Development Training Program, 15-18 August 2022. Zafar Training Centre, Khartoum, Sudan.
 - Postgraduate course “Clinical bioinformatics of Microbial Genomics and Metagenomics” 9-12 September 2019, Lausanne, Switzerland.
 - One month training on Whole Genome Sequencing (WGS) at Brighton and Sussex Medical School (BSMS), Sussex University, Brighton, UK, June 2019.
 - 10 days’ workshop on Linux operating system and Python programming course at International University of Africa, Khartoum, Sudan. February, 2019
 - Online course Bacterial genomes Disease outbreaks and Antimicrobial Resistance, Wellcome Genome Campus Advanced Courses and Scientific Conferences, Sanger Institute, UK. November, 2018
 - 5 days hands-on workshop on molecular biotechnology and bioinformatics at the International Centre for Stem Cells, Cancer and Biotechnology (ICSCCB) Pune, India. February 2018
 - Molecular technique (DNA extraction, PCR, MLST (multi locus sequence typing), BLAST and MultiAlin) at Brighton and Sussex medical school, Sussex University, Brighton. UK. July, 2016
 - Advance for professional development training center (review all subjects covered in the American society for clinical pathologist international (ASCPI). Sudan. 2014.
 - ICDL certificate, 2008
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Professional Experience

- July 2021- to April 2023

Molecular Biology consultant and technical manager – *Molecular biology lab, Al-Saaha Specialized Hospital Khartoum, Sudan*

- May 2021 – July 2021

Lab supervisor – *Molecular biology lab, Al-Saaha Specialized Hospital Khartoum, Sudan*

- Feb 2021-May 2021

Lab specialist - *Molecular biology lab, Al-Saaha Specialized Hospital Khartoum, Sudan*

- Jan 2019 -July 2021

Post-doctoral research fellow in project title: Promoting Research Excellence and Capacity Building in Antimicrobial Resistance in Sudan.
Biosciences Research Institute, Ibn Sina University collaboration with Sussex University, UK. Khartoum, Sudan

- Jan 2012 – Jan 2014

Medical laboratories specialist, *Omdurman Friendship Hospital, Khartoum, Sudan.*

Teaching and supervision

- September 2023 – to date

Medical Microbiology assistant professor in Collage of Applied and Health Sciences, A'Sharqiyah University, Ibra, Oman.

- Nov 2020 – July 2023

Assistant Professor of Molecular Biology and Medical Microbiology department, *Faculty of Medical Laboratories Sciences, Ibn Sina University. Khartoum, Sudan.*

Postgraduate coordinators, *Faculty of Medical Laboratories Sciences, Ibn Sina University. Khartoum, Sudan.*

- Dec 2014 – Nov 2020

Lecturer of Microbiology Department, *Faculty of Medical Laboratories Sciences, Ibn Sina University. Khartoum, Sudan.*

- Feb 2005 – June 2006

Lab technician, *department of medical laboratory, National Ribat University, Khartoum, Sudan.*

- Supervising PhD student at the Alzaiem Alazhari University.

Title of thesis: Molecular Detection of Gene Encoding Extended Spectrum- β lactamase Producing Gram Negative Bacteria Isolate from Neonatal Septicemia in Khartoum State Hospitals, Khartoum, Sudan

Primary supervisor Prof AlFadhil Alobeid Omar at the Alzaiem Alazhari University.

Publications

Einas A Osman, Sara A Omer, Rashida M A Elmubarak, Manal Abdelnabi, Safaa Abdelgadir, Dalal G Ahmed, Mohamed H Arbab Nasr, Muna Yousif, Maowia Mukhtar, Leena Al-Hassan. Antibiotics resistance in Sudan: Assessing the Knowledge and Practices of Healthcare Workers in Khartoum. *JAC- Antimicrobial Resistance* 2024, volume 6, issue 2.

<https://doi.org/10.1093/jacamr/dlae049>

Osman, E.A.; Yokoyama, M.; Altayb, H.N.; Cantillon, D.; Wille, J.; Seifert, H.; Higgins, P.G.; Al-Hassan, L. Klebsiella pneumonia in Sudan: Multidrug Resistance, Polyclonal Dissemination, and Virulence. *Antibiotics* 2023, 12, 233. <https://doi.org/10.3390/antibiotics12020233>

Leena Al-Hassan, Hana Elbadawi, Einas Osman, Sara Ali, Kamal Elhag, Daire Cantillon, Julia Wille, Harald Seifert, Paul G. Higgins. Molecular Epidemiology of Carbapenem Resistant *Acinetobacter baumannii* from Khartoum State, Sudan". *Frontiers Microbiology* (Front. Microbiol., 2021,12:628736. DOI: 10.3389/fmicb.2021.628736.

Khairy M Ali, Ali H Ali, Muath A Ali, E Osman and Yousif S Yousif. Phenotypic and Genotypic Pattern of *Acinetobacter baumannii* at Hospital Setting Khartoum State, Sudan, *EC Microbiology* 17.3 (Feb 27, 2021): 44-54.

Einas A. Osman, N. El-Amin, Leena Al-Hassan*, Maowia Mukhtar*. Multi-clonal spread of *Klebsiella pneumoniae* across hospitals in Khartoum, Sudan. *Journal of Global Antimicrobial Resistance*, 2021, Volume 24: Pages 241-245. DOI: 10.1016/j.jgar.2020.12.004

*Joint last lead authorship.

E. A. Osman, N. El-Amin, E. A.E. Adrees, L. Al-Hassan*, M. Mukhtar* (2020). Comparing conventional, biochemical and genotypic methods for accurate identification of *Klebsiella pneumoniae* in Sudan. *Access Microbiology* 2(3). DOI: 10.1099/acmi.0.000096

*Equal contribution, joint last authorship

Shirehan M Ibrahim, Alamin M Ibrahim, Omer .A. Ibrahim, E. A. Osman, Omnia M amid and Hassan A Alaziz. Antimicrobial Resistant Pattern of *Acinetobacter Baumannii* Among ICU Patients in Khartoum State-Sudan. *World Journal of Pharmaceutical Research*. Volume 9, Issue 5. May 2020.

N. El Amin, E. Osman, L. Al-Hassan, I. Abdalrahman (2019). Epidemiology of Antibiotic Resistance in Culture-positive Hospitalized Patients in Selected Hospitals in Khartoum, Sudan. *Sudan Journal of Medical Sciences* 14(1):15-23.

Einas A Ibrahim and Nagwa El Amin. High prevalence of multidrug resistant *Acinetobacter* species in Khartoum intensive care unit (ICU). *American journal of research communication* 2015, 3(2):35-42.

ABSTRACTS, POSTERS & ORAL PRESENTATIONS

Amal Satti, Mazin O Mohager, Mohammed H Abdelraheem, Muna yousif,, Leena Alhassan, E Osman. Outbreak of Burkholderia cepacia Complex in neonatal intensive Care Unit, Al-Rebat Hospital, Khartoum, Sudan. *Accepted poster in 33th ECCMID 2023 (Copenhagen, Denmark)*.

Leena Al-Hassan, Getachew Tesfaye, Biruk Yeshitela, Kassu Desta, Mistire Wolde, Thamarai Schneiders, Amira Farouk, Mai Zafer, Rana Elshimy, Hadir El-Mahallawy, Nagwa El-Amin, Einas Awad, Sarra Izzeldin, Aalaa Afdal, Papreen Nahar, Anne Roemer-Mahler and Maowia

Mukhtar. A Scoping Review of Antibiotic Resistance within One Health across the Nile Valley. *Accepted poster in 33th ECCMID 2023 (Copenhagen, Denmark).*

Osman, E.A.; Yokoyama, M.; Altayb, H.N.; Cantillon, D.; Wille, J.; Seifert, H.; Higgins, P.G.; Al-Hassan, L. Klebsiella pneumonia in Sudan: Multidrug Resistance, Polyclonal Dissemination, and Virulence. *Accepted poster in (IMMEM XIII) 14 – 17 Sep 2022(Bath, UK).*

Einas Osman, Sara Ali, Daire Cantillon, Julie Willie, Harald Seifert, Paul Higgins & Leena Al-Hassan (2020). Molecular epidemiology of *Acinetobacter baumannii* in Sudan. *Accepted poster in 30th ECCMID 2020 (Paris, France).*

E. Awad, M. Mukhtar, L. Al-Hassan (2019). Multi-clonal spread of *Klebsiella pneumoniae* across hospitals in Khartoum, Sudan. *29th ECCMID, Amsterdam, Netherlands. (Oral presentation)*

High prevalence of New Delhi Metallo β -Lactamases in Multidrug-Resistant (MDR) *Klebsiella.pneumoniae* sequence type 101 in Sudan, *3th GCCMID 2018, Dubai, UAE*

Google Scholar link:

<https://scholar.google.com/citations?hl=ar&pli=1&user=06GoXOcAAAAJ>

ORCID number:

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

Grants and Awards

Feb 2023 –Aug 2023 Foundation of Innovative and New Diagnostics (FIND)
Sequencing of SARS-Cov-2 virus in Sudan.

2020-2022 Global Challenges Research Fund (GCRF) – Academy of Medical Sciences
Establishment of One Health Platform to Reduce the Emergence and Spread of Antibiotic Resistance in the Nile Valley (PRESAR) (£24950)

Collaboration with the Bioscience Research Institute (Khartoum, Sudan), Armauer Hanser Research Institute (Addis Ababa, Ethiopia), Cairo University (Egypt), Institute of Global Health at the University of Barcelona, & the Institute of Medical Microbiology, Immunology and Hygiene at the University of Cologne.

2019-2020 International Development Challenge Fund (IDCF)
Promoting Research Excellence and Capacity Building in Antimicrobial Resistance Research in Sudan (£52,400)

2017-2018 Research Development Fund of the Wellcome Trust Brighton and Sussex Center for Global Health Research Molecular **Characterization of Extended Spectrum AmpC, and Carbapenemases Hydrolyzing β -Lactamases Producing *Klebsiella pnemouniae* in Khartoum, Sudan. (PI) (£10,000)**

Memberships

- Member of the senate Ibn Sina University (2017 -2018)
- European Society of Clinical Microbiology and Infectious Diseases ESCMID, ID number: 451440
