

Dr. CHIKA E.P. EJIKEUGWU, PhD

Environmental Antimicrobial Resistance (eAMR) Research Group, Department of Applied Microbial Ecology (AME),
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<https://www.linkedin.com/in/chika-ejikeugwu/?originalSubdomain=ng>

1. Education

- 2013-2017 **Ph.D., Pharmaceutical Microbiology & Biotechnology, Nnamdi Azikiwe University, Nigeria**
Dissertation: Characterization of Metallo- β -Lactamase and AmpC Genes from Environmental Isolates of *Escherichia coli*, *Klebsiella* species and *Pseudomonas aeruginosa*
Dissertation Advisors: Prof. Charles Esimone, PhD, Prof. Michael Adikwu, PhD, Prof. Iroha I.R, PhD.
- 2010-2012 **M.Sc., Pharmaceutical Microbiology & Biotechnology, Nnamdi Azikiwe University, Nigeria**
Thesis: Detection and Antimicrobial Studies on Some Gram-Negative Bacteria Producing Extended Spectrum β -Lactamases and Metallo- β -Lactamases from a Tertiary Hospital in Enugu State
Thesis Advisors: Prof. Charles Esimone, PhD, Prof. Michael Adikwu, PhD.
- 2005-2008 **B.Sc., Applied Microbiology (Second Class Upper Division), Ebonyi State University, Nigeria**
Thesis title: Prevalence of Extended Spectrum Beta – Lactamase (ESBL)- Producing *Escherichia coli* from Two Tertiary Hospitals in Enugu State, Nigeria
Thesis Advisor: Professor Iroha Ifeanyichukwu, PhD.

2. Professional Experience / Employment

- 2023-present **Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany**
Department of Applied Microbial Ecology (AME)
Research Fellow
- 10/2024-01/2025 **Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany**
Department of Applied Microbial Ecology (AME)
Research Associate (Working Contract: E13 TVöD)
- 2021-2023 **Enugu State University of Science & Technology (ESUT), Enugu, Nigeria**
Department of Pharmaceutical Microbiology & Biotechnology
Senior Lecturer
- 2019-2021 **Coal City University (CCU), Enugu, Nigeria**
Department of Microbiology
Visiting Senior Lecturer
- 2021 **Federal Institute for Materials Research and Testing (BAM), Berlin, Germany**
Division of Biodeterioration and Reference Organisms
Postdoctoral Fellow
- 2021 **Federal University of Health Sciences, Uburu, Nigeria**
Department of Microbiology & Parasitology
Part-time (Senior Lecturer)
- 2017-2020 **Ebonyi State University (EBSU), Abakaliki, Nigeria**
Department of Applied Microbiology
Lecturer
- 2018 **Kyoto University, Kyoto, Japan**
Center for the Evolutionary Origins of Human Behavior
Postdoctoral Fellow
- 2014-2016 **Ebonyi State University (EBSU), Abakaliki, Nigeria**
Department of Applied Microbiology
Assistant Lecturer
- 2012-2013 **Konigin Des Friedens College (KFC), Enugu, Nigeria**
Vice Principal (Academics) & Biology Teacher
- 2009-2010 **Government Secondary School (G.S.S.), Jagindi-Tasha, Kaduna, Nigeria**
Biology Teacher (National Youth Service Corps, NYSC)

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3. Academic Awards and Achievements

1. National Institute of Health (NIH) Grant (\$25,000) **2024**
2. Alexander von Humboldt-Stiftung/Foundation (AvH) Research Fellowship, Germany (€166,000) **2023**
3. COMPASS Mentoring Program Grant, Germany (€5,000.00) **2023**
4. Travel Grant to Science and Technology in Society *forum* (STS *forum*), Kyoto, Japan (¥393,000) **2023**
5. Rising Star Postdoctoral Fellowship, Freie Universität Berlin, Berlin, Germany (declined) **2023**
6. Hamburg Institute for Advanced Study (HIAS) Fellowship, Hamburg, Germany (declined) **2023**
7. The World Academy of Sciences (TWAS) Young Affiliateship Award **2023**
8. Young Investigator Award on Antimicrobial Resistance (AMR), Institute Mérieux, France (€10,000) **2021**
9. DAAD Postdoctoral Fellowship, BAM Institute, Berlin, Germany (€10,000) **2021**
10. Elected Affiliate Member of the African Academy of Sciences (AAS) **2021**
11. Speakers Fund Scholarship from Institut de Recherche pour le Développement, France **2021**
12. DAAD Postdoctoral Fellowship, Germany [declined due to COVID-19] **2020**
13. National Researchers Prize in Microbiology (₦50,000) **2020**
14. Elected Member of the Global Young Academy (GYA), Germany **2020**
15. Elected Fellow of the Africa Science Leadership Programme **2020**
16. Travel Grant from Tertiary Education Trust Fund (TETFund), Nigeria to ASM Meeting in USA (\$1,500) **2019**
17. Travel Grant from Association of Commonwealth Universities to FEMS Meeting in Scotland (£2,000) **2019**
18. Travel Grant from Bill & Melinda Gates Foundation to Keystone Symposia in Canada (\$5,000) **2019**
19. Postdoctoral Fellowship, Kyoto University, Kyoto, Japan (¥1,640,000) **2018**
20. Institutional Based Research Grant for Early Career Researchers from TETFund, Nigeria (₦2,000,000) **2018**
21. Millennium Development Goals (MDGs) Award of Excellence, Nigeria **2010**

4. Funded Research (Grant) Projects

- 2023-present Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany; (€166,000), PI
Title: Impact of antibiotic mixtures on soil microbiomes in agricultural soils (soilRESIST)
Awarding body: Alexander von Humboldt-Stiftung/Foundation, Bonn, Germany
- 2024-2025 Enugu State University of Science & Technology (ESUT), Enugu, Nigeria; \$25,000, PI
Title: Metagenomics to monitor abundances and diversity of antimicrobial resistance (AMR) genes and strains circulating in poultry food chain in Nigeria
Awarding body: National Institutes of Health (NIH), USA
- 2021 Enugu State University of Science & Technology (ESUT), Enugu, Nigeria; \$10,000, PI
Title: Functional Metagenomics to Reveal and Monitor Novel AMR Genes and Strains Circulating in Food Chain in Nigeria
Awarding body: Institute Mérieux, France
- 2018 Ebonyi State University, Abakaliki, Nigeria; ₦2,000,000, Co-PI
Title: Detection of methicillin resistant *Staphylococcus aureus* (MRSA) from clinical samples
Awarding body: Tertiary Education Trust Fund (TETFund), Nigeria

5. Teaching: Course(s) Taught, Supervising and Mentoring Activities

Courses Taught

- 2024 **Co-Instructor, University of Leipzig, Germany;**
Courses: Global Change Microbiology and Antimicrobial Resistance in Soil and the Environment
- 2021-2023 **Lecturer, Enugu State University of Science & Technology, Nigeria;**
Courses: PMB531/PMB232 Pharmaceutical Microbiology and Antimicrobial Pharmaceutical Products
- 2019-2021 **Lecturer, Coal City University, Nigeria;**
Courses: MCB201/MCB431/MCB432 General Microbiology, Virology, and Epidemiology & Public Health
- 2017-2020 **Lecturer, Ebonyi State University, Nigeria;**
Courses: AMB421/AMB422/AMB457/AMB435/AMB361/AMB424/AMB351 Pharmaceutical Microbiology, Medical Virology, Research Methods in Microbiology, Microbial Genetics, Principles of Biotechnology, Analytical Microbiology, and Microbial Physiology & Metabolism
- 2014-2016 **Assistant Lecturer, Ebonyi State University, Nigeria;**
Courses: AMB323/AMB325/AMB101 Pathogenic Bacteriology, Mycology, and Introductory Microbiology

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Supervising and Mentoring Activities

1. Students Projects Supervised (including Co-supervision, Indirect Supervision, or Oversight)
 - B.Sc., students (>30)
 - M.Sc., students (>10)
 - Ph.D., students (5)
2. Other Supervisory and mentoring activities
 - Supervising and mentoring one student as part of a Bachelors Thesis on the project: Effect of manure from antibiotic-treated animals on soil microbial activity and antibiotic resistance genes (ARGs) levels in agricultural soils at the University of Leipzig, Germany (2024 – present).
 - Supervising and mentoring one student on internship as part of examination regulations in the field of Biotechnology on the subject: effects of antibiotic mixtures on bacterial communities in the soil at the Brandenburgische Technische Universität Cottbus - Senftenberg, Germany (Oct. 2024 – Apr. 2025).
 - Mentored three (3) selected Members of the Global Young Academy (GYA), Germany (2022-2024).
 - Supervised work activities of research and technical staff of the Antibiotic Resistance Research Group of Enugu State University of Science and Technology, Nigeria (2021 – 2023).
 - Supervised the microbiology aspects of projects carried out by pharmacy students of the Pharmaceutical Microbiology Department at Enugu State University of Science and Technology, Nigeria (2021 – 2023).
 - Supervised and mentored graduating university students at Coal City University, Nigeria (2019 – 2021).
 - Mentored graduating students at Federal University of Health Sciences, Uburu, Nigeria (2021).
 - Supervised work activities of research staff at Ebonyi State University, Nigeria (2017 – 2020).
 - Mentored students on grant and CV/resume writing at Ebonyi State University, Nigeria (2018-2019).
 - Supervised work activities of technical staff at Ebonyi State University, Nigeria (2015 – 2016).
 - Trained and mentored 500 youths on the Millennium Development Goals (MDGs) at National Youth Service Corps, Nigeria (2010 – 2015).

6. Research (Fellowship) Experience

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| 2023-present | Alexander von Humboldt-Stiftung Fellowship, Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany. eAMR Lab: https://www.ufz.de/index.php?en=38744Leipzig <ul style="list-style-type: none">• Designed and conducted a study to unravel effect of antibiotic mixtures on soil microbiomes and antibiotic resistance evolution and spread in the environment.• Drafted and prepared 1 peer-reviewed manuscript for publication.• Submitted 1 conference abstract paper to attend International One Health Symposium in Berlin (October 17-19, 2024). |
| 2021 | DAAD Postdoctoral Fellowship, Federal Institute for Materials Research and Testing (BAM), Berlin, Germany. Dr. rer. nat Frank Schreiber's Lab: https://shorturl.at/DgFzE <ul style="list-style-type: none">• Designed and developed research to study effect of antibiotics and biocide mixtures on <i>Pseudomonas aeruginosa</i> mutant strains.• Developed soft skills in project management, experimental research design and data analysis using R and ORIGIN Pro. software.• Contributed to the drafting and writing of 1 peer-review manuscript for publication. |
| 2018 | Matsumae international Foundation (MIF) Postdoctoral Fellowship, Kyoto University, Kyoto, Japan. Prof. Hirofumi AKARI's Lab: https://akari-labo.jimdofree.com/ <ul style="list-style-type: none">• Assisted in sample collection for investigating HIV-1 reservoir in HIV-1mt (HIV-1 macaque tropic) cell lines.• Drafted and published 1 review paper on: minding the gap of primate research in Africa.• Assisted in data management and analysis, and in literature reviews on topics related to <i>functional HIV cure</i>. |

7. Research Interests

- ✓ One Health
- ✓ New perspectives to control and prevent antimicrobial resistance (AMR) and infectious disease spread in humans.
- ✓ Application of metagenomics for early detection and reporting of viral and bacterial infections.
- ✓ Pandemic preparedness: Zoonotic diseases and bioterrorism risks in human population.
- ✓ Development of educational tools to understand climate change impact on the evolution and spread of diseases.

8. Journal Publications

Peer-reviewed articles (selected)

1. **Ejikeugwu C**, Duru C, Onu E, Adonu C, Ujam N, Nwakaeze E, Okorie N, Ebenebe I, Mba T, Mba A, Ezeador C, Edeh C, Ugwu M, Adikwu M (2024). Food chain milieus: Potential reservoirs and sources of metallo-beta-lactamase-producing antibiotic-resistant bacteria in Southeast Nigeria. *Microbe and Immunity* 1(1), 2319.
2. Nwike IE, Ugwu MC, **Ejikeugwu PC**, Ujam NT, Iroha IR and Esimone CO (2023). Phenotypic and molecular characterization of enteropathogenic *Escherichia coli* and *Salmonella* spp. causing childhood diarrhoea in Awka, South-Eastern Nigeria. *Bulletin of the National Research Centre*, 47:97.
3. Okafor COO, Iroha IR, Ude IU, Onuoha SC, **Ejikeugwu C**, Ovia KN, Eromonsele BO, Agah VM, Okoronkwo C, Gabriel-Ibeh I, Okoroafor I, Nwachukwu OB (2022). Drug resistance profile of biofilm forming *Pseudomonas aeruginosa* isolated from aquatic environment in South Eastern Nigeria. *Environmental Challenges*, 8:100530.
4. **Ejikeugwu C**, Nworie O, Saki M, Al-Dahmoshi HOM, Al-Khafaji NSK, Ezeador C, Nwakaeze E, Eze P, Oni E, Obi C, Iroha I, Esimone C, Adikwu MU (2021). Detection of metallo- β -lactamase and AmpC genes in *Escherichia coli*, *Klebsiella* species, and *Pseudomonas aeruginosa* isolates from abattoir and poultry origin in Nigeria. *BMC Microbiology*, 21(124):1-9.
5. Enabulele EE, Platt RN, Adeyemi E, Agbosua E, Aisien MSO, Ajakaye OG, Ali MU, Amaechi EC, Atalabi T.E, Auta T, Awosolu OB, Dagona AG, Edo-Taiwo O, **Ejikeugwu CEP**, Igbeneghu C, Njom VS, Orji MKN, Oyinloye FOP, Ozemoka HJ, Ugah UI, Anderson TJC (2021). Urogenital schistosomiasis in Nigeria post receipt of the largest single praziquantel donation in Africa. *ACTA Tropica*, 219:105916.
6. **Ejikeugwu C**, Hasson SO, Al-Mosawi RM, Alkhudhairy MK, Saki M, Ezeador C, Eze P, Ugwu M, Duru C, Ujam NT, Edeh C, Udu-Ibiam O, Iroha I, Adikwu M (2020). Occurrence of FOX-1 AmpC Gene among *Pseudomonas aeruginosa* isolates in abattoir samples from south-eastern Nigeria. *Reviews in Medical Microbiology*, 31(2):99-103.
7. **Ejikeugwu C**, Saki M, Nwakaeze E, Eze P, Chinedu O, Carissa D, Edeh C, Esimone C, Iroha I, Adikwu M (2019). Characterization of *bla*_{IMP-1} MBL genes among *Klebsiella* species from abattoir samples by multiplex PCR. *Gene Reports*, 16:100428.
8. **Ejikeugwu C**, Esimone C, Iroha I, Adikwu M (2018). First Detection of FOX-1 AmpC β -lactamase gene expression among *Escherichia coli* isolated from abattoir samples in Abakaliki, Nigeria. *Oman Medical Journal*, 33(3):134-140.
9. **Ejikeugwu C**, Esimone C, Iroha I, Okonkwo EC, Gugu T, Oli AN, Ugwu M, Ezeador C, Moses NI (2017). Detection of metallo- β -lactamase (MBL) among carbapenem-resistant Gram-negative bacteria from rectal swabs of cow and cloacae swabs of poultry birds. *Annals of Medical Health Science Research*, 7:51-56.
10. Ikegbunam MN, Anagu LO, Iroha IR, **Ejikeugwu C**, Esimone CO (2014). Abattoirs as Non-Hospital Source of Extended Spectrum Beta Lactamase Producers: Confirmed by the Double Disc Synergy Test and Characterized by Matrix-Assisted Laser Desorption/Ionization Time of Flight Mass Spectrometry. *PLoS ONE*, 9(4):e94461.
11. **Ejikeugwu C**, Iroha I, Adikwu M, Esimone C (2013). Susceptibility and Detection of Extended Spectrum β -Lactamase Enzymes from Otitis Media Pathogens. *American Journal of Infectious Diseases*, 9(1):24-29.

Complete list of my publications can be accessed via the following links:

ORCID: <https://orcid.org/0000-0002-3506-2346>

Google Scholar: <https://scholar.google.com/citations?user=FRvOnisAAAAJ&hl=en>

Loop: <https://loop.frontiersin.org/people/476560/overview>

Research Gate: <https://www.researchgate.net/profile/Chika-Ejikeugwu>

Book Chapters (selected)

1. Tim Sandle and **Ejikeugwu Chika** (2022). Antimicrobials: past, present and future. Amazon Kindle Edition. pp. 1-608. <https://www.amazon.com/Antimicrobials-Present-Future-Tim-Sandle-ebook/dp/B0BGJLL7QG>
2. C. Odimegwu, Kenneth Ngwoke, **Chika Ejikeugwu**, Charles O. Esimone (2015). Lichen Secondary Metabolites as Possible Antiviral Agents. In: Lichen Secondary Metabolites: Bioactive Properties and Pharmaceutical Potential. A Branislav Ranković (Ed). Springer International Publishing, Switzerland. pp. 165-177. <https://link.springer.com/book/10.1007/978-3-319-13374-4>

9. Selected Workshops

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| 2024 01 | COMPASS Mentoring Program -EAF Berlin & Helmholtz Center for Environmental Research, Leipzig. |
| 2024 09 | Communication Lab#9: Migration, Climate Change & AI -IJP Berlin & Humboldt-Stiftung, Berlin. |
| 2018 02 | Academic Integrity Workshop -Association of Commonwealth Universities (ACU), Nigeria. |
| 2015 12 | Electronic Teaching & Learning Platform Workshop -National Universities Commission, Nigeria. |

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10. Presentations: Conference Papers and Invited Lectures

Conference papers (selected)

- 7-10 May, 2024 **Chika Ejikeugwu.** Transformative and Inclusive Science for a Sustainable Future. International Conference of Young Scientist and Annual General Meeting (AGM) of the Global Young Academy (GYA). U.S. National Academies of Science, Engineering, and Medicine, Washington D.C., USA. [*Lightning talk*].
- 7-11 July, 2019 **Chika Ejikeugwu.** FOX-1 AmpC β -Lactamase Gene Expression in *Escherichia coli* Isolates from Abattoir. 8th Congress of European Microbiologists (FEMS 2019). SEC Center, Glasgow, Scotland, UK. [*Presented 1 Poster*].
- 24-28 March, 2019 **Chika Ejikeugwu.** Frequency and antibiogram of uropathogens isolated from urine samples of HIV infected patients on antiretroviral therapy. X7 HIV Vaccines conference. Fairmont Chateau Whistler, Whistler, British Columbia, Canada. [*Presented 1 Poster*].
- 3-6 Sept., 2019 **Chika Ejikeugwu.** *Schistosoma haematobium* miracidia sampling in Nigeria for population genomics analysis. 42nd Nigerian Society for Microbiology (NSM) Conference. Crawford University, Igbesa, Ogun State, Nigeria. [*Presented 1 Poster*].

Invited lectures (selected)

- 2021 09 **Science Presenter**, 10th Biannual Conference of the Society of Environmental Toxicology & Chemistry (SETAC). Held a 2-hour session to teach undergraduate students on "How to become Successful in Academia."
- 2020 07 **Science Presenter**, Kachem Young Initiative, Ebonyi State, Nigeria. Held a 1-hour talk to teach young people on "The truth about COVID-19 pandemic and how to stay safe in the pandemic."
- 2020 08 Science Presenter, The Teenz Global Foundation in partnership with the YALI Network Ebonyi State, Nigeria. Held a 1-hour session to guide young people on "Mental Health Perspective in Combating COVID-19 Pandemic."

11. Academic and Community Service and Volunteerism

Manuscript Peer Review

Journal of Pediatrics & Child Health, Gene Reports, Journal of Clinical Laboratory Analysis, Nigerian Journal of Microbiology, European Journal of Medicinal Plants, African Journal of Microbiology Research

Academic Service

- 2023 Member, Selection Committee on Calls for Membership of Global Young Academy (GYA), Germany
- 2022 Member, Selection Committee on Calls for Membership of the GYA, Germany
- 2021 Member, Planning Organizing Committee (POC) for 2021 Annual General Meeting (AGM) of Global Young Academy (GYA) and International Conference of Young Scientists
- 2021 Member, POC of the First Online International Applied Microbiology Conference for Early and Mid-Career Scientists organized by the Society for Applied Microbiology, United Kingdom
- 2020 Secretary, POC of the 7th Nigerian Society for Microbiology Annual Southeast AGM, Imo, Nigeria
- 2019-2021 Assistant Editor-in-Chief I, *EBSU Science Journal*, an Institutional Journal of Ebonyi State University

Additional Activities

- Volunteered in de-worming of 1080 indigent primary school pupils in Kaduna State, Nigeria. **2010**
- Volunteered in vaccination of 200 high school students against HBV infection in Kaduna State, Nigeria **2010**
- Volunteered in empowering high school students with 800 books & writing materials in Kaduna, Nigeria **2010**
- Volunteered in distributing 10 treated mosquito nets to a primary healthcare center in Kaduna, Nigeria **2010**
- Volunteered in distribution of 10 classroom desks to a high school in Kaduna, Nigeria **2010**

12. Membership of Scientific Societies

- 2008-present** Member, American Society for Microbiology (ASM)
- 2023-present** Member, European Society of Clinical Microbiology and Infectious Diseases (ESCMID)
- 2019 present** Member, Applied Microbiology International
- 2019 present** Member, Nigerian Society for Microbiology (NSM)
- 2020 present** Affiliate Member, Microbiology Society, Scotland, UK
- 2018 present** Member, Asian Council of Science Editors (ACSE)