MAITRI MISHRA **LinkedIn Profile:** www.linkedin.com/in/maitri-mishra-1823b51b3

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Nationality: Indian
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Profile:

A materials scientist with a proven track record in combating antimicrobial resistance (AMR), I am seeking a role where my expertise can drive innovative solutions. My doctoral research, focused on microbiology, nanoparticle synthesis, instrumentation, and bioinformatics; has enabled me to design tools to develop novel antimicrobial strategies. I am eager to join an organization where I can leverage my expertise to deliver cutting-edge science that benefits the society.

Academic Qualifications:

2016 onwards – Ph.D. (Biotechnology), Department of Biotechnology, University of Mumbai

2012-2014 – M.Sc. (Biotechnology), Ramnarain Ruia College, Mumbai. Grade: A (6.86 CGPA)

2009-2012 – B.Sc. (Biotechnology), Patkar-Varde College, Mumbai. Grade: Distinction (80.13%)

Publications:

- **Mishra, M.**, Ballal, A., Rath, D., & Rath, A. (2024). Novel silver nanoparticle-antibiotic combinations as promising antibacterial and anti-biofilm candidates against multiple-antibiotic resistant ESKAPE microorganisms. Colloids and Surfaces B: Biointerfaces, 236, 113826 https://doi.org/10.1016/j.colsurfb.2024.113826
- **Mishra, M.**, Kadam, P., Doshi, B., Saravya, J., & Rath, A. (2022). FEAMR: a database for surveillance of food and environment-associated antimicrobial resistance. Interdisciplinary Sciences: Computational Life Sciences, 14(4), 833-840 https://doi.org/10.1007/s12539-022-00534-y

Intellectual Property:

Type	Title	Details	Grant Date
Patent	Biological Synthesis Process of Silver Nanoparticles and Application as Antimicrobial Agent against Multiple Antibiotic Resistant Bacteria	Inventors: Archana Rath, **Maitri Mishra** Indian Patent No. 458867	12/10/2023
Copyright	FEAMR: Food and Environment associated Antimicrobial Resistance Database – Literary Work	Authors: Archana Rath, **Maitri Mishra** ROC No. L-96624/2020	09/11/2020

Awards & Achievements:

- ✓ Awarded DBT-SRF on June 2018 by the Department of Biotechnology, Govt. of India
- ✓ Cleared CSIR-UGC-NET (JRF & LS) on October 2016 (AIR – 72)
- ✓ Awarded DBT-JRF on June 2016 by the Department of Biotechnology, Govt. of India
- ✓ Cleared DBT-BET on April 2016 (Category I)
- ✓ Cleared IIT GATE (Biotechnology) on April 2015 (Percentile – 97.27%)

Research Experience:

June 2018 onwards – Senior Research Fellow, Department of Biotechnology, University of Mumbai

- Drafted and defended patent application (which was granted) for novel silver nanoparticles (AgNPs) synthesis method
- Designed and maintained the FEAMR database (with the One Health approach) which covers prevalence of AMR in non-clinical samples. Also received copyright for the db.
- Deduced the mechanism of antibacterial action of AgNPs and their combinations with clinically relevant antibiotics against antibiotic-resistant pathogens.

June 2016 to June 2018 - Junior Research Fellow, Department of Biotechnology, University of Mumbai

- Synthesized and characterized non-cytotoxic silver nanoparticles (AgNPs) and AgNP-antibiotic combinations which inhibited multiple antibiotic-resistant ESKAPE microorganisms at doses much lower than standard clinical doses.
- Managed laboratory resources, made the inventory system online for management-on-click; designed and maintained website for AMR lab for better outreach.

October 2014 to January 2015 – DBT-BITP Trainee at Organica Biotech, Mumbai

November 2013 to February 2014 – Dissertation Project Student at Radiation Medicine Centre (RMC), Bhabha Atomic Research Centre (BARC), Mumbai

- Isolated and purified 38kDa antigen from *Mycobacterium tuberculosis* for application in rapid diagnostic tests
- Implemented IPTG induced-overexpression system for protein from recombinant *E. coli*, which was confirmed by SDS-PAGE, Western Blot and ELISA

November 2012 to January 2013– M.Sc. Student at Department of Biotechnology, Ramnarain Ruia College, Mumbai

- Learnt basic laboratory techniques – such as purifying microbial strains, performing PCR, and using different instruments to record and analyse results
- Designed natural sanitizers that could kill pathogens such as *E. coli* and *S. aureus*

Research Skills:

- ✓ Nanotechnology
- ✓ Microbiology
- ✓ Molecular Biology
- ✓ Bioinformatics
- ✓ Scientific Writing
- ✓ Laboratory Management
- ✓ Quality Control
- ✓ Analytical and problem-solving skills

Languages Known: English, Hindi, and Marathi (Full Professional proficiency)

References:

1. Dr. Archana Rath, Assistant Professor & PI, Antimicrobial Research (AMR) Lab, Department of Biotechnology, University of Mumbai, Vidyanagari, Kalina, Santacruz (E), Mumbai-400098
   Email ID: drarath@mu.ac.in, Mob: 9819190733
2. Dr. Savita Kulkarni, Scientific Officer G, RMC, BARC, Mumbai-400012
   Email ID: Savita.kulkarni1@gmail.com, Mob: 9821083165
3. Dr. GK Rao, Adjunct Faculty, UMDAE CEBS, University of Mumbai, Vidyanagari, Mumbai-400098
   Mob: 9702573763