

MADEEHA KOUSER

MICROBIOLOGY AND LABORATORY PROFESSIONAL

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PROFESSIONAL PROFILE

M.Sc. Microbiology postgraduate with eight months of hands-on experience in laboratory investigations, essential-oil extraction, microbiological testing and day-to-day laboratory operations. Brings practical exposure to experimental work, sample preparation, analytical instrumentation, method optimization, documentation and quality-control activities. Her academic project explored the microbial biosynthesis and characterization of selenium nanoparticles for potential biomedical applications. She is also trained in clinical research and Good Clinical Practice.

AREAS OF INTEREST

Microbial biotechnology • Nanoparticle biosynthesis • Antimicrobial and antioxidant assays • Essential-oil research • Analytical characterization • Clinical research

LABORATORY EXPERIENCE

Research Assistant cum Lab Executive Biotherm Flavours and Fragrances Pvt. Ltd., Bengaluru	<i>Jun 2025 – Jan 2026</i>
<ul style="list-style-type: none">Supported laboratory investigations and operations related to essential-oil extraction, with a focus on vetiver.Assisted with lab-scale production, experimental work, sample preparation, testing and process or method optimization.Maintained experimental records, test data and laboratory documentation, and contributed to routine reporting.Supported quality-control testing, production planning and troubleshooting of laboratory activities.Managed samples, raw materials and inventory while supporting equipment, facility and daily laboratory coordination.	

EDUCATION

Qualification	Institution	Outcome
M.Sc. Microbiology 2024–2026	Al-Ameen Arts, Science and Commerce College	Result awaited
B.Sc. Microbiology 2020–2023	Al-Ameen Arts, Science and Commerce College	9.25 CGPA

ACADEMIC PROJECT

Biosynthesis and Optimization of Selenium Nanoparticles for Potential Biomedical Applications	<i>M.Sc. Project</i>
<ul style="list-style-type: none">Investigated microbial synthesis and optimization of selenium nanoparticles using isolated soil microorganisms.Characterized the synthesized nanoparticles using UV-Visible spectroscopy, FTIR, XRD, SEM, EDX and particle analysis.Evaluated antioxidant, antibacterial, antifungal and anti-inflammatory activities to explore potential biomedical applications.	

TECHNICAL COMPETENCIES

Microbiology	Aseptic techniques, sample handling, microbiological assays and laboratory practices
Experimental work	Method optimization, record keeping, data documentation and reporting
Analytical methods	HPLC, HPTLC, UV-Visible spectroscopy, ATR, NIR, Raman spectroscopy and flash chromatography
Characterization	FTIR, XRD, SEM, EDX and particle analysis
Quality and operations	Quality-control testing, inventory handling, troubleshooting and laboratory coordination
Clinical research	Good Clinical Practice and foundational clinical-research training

PROFESSIONAL TRAINING

Medical Coding Tech Mahindra SMART Academy for Healthcare	Apr – Jun 2026
Advanced Diploma in Clinical Research Domain Professional Clini Launch Research Institute	2024 – 2025

CERTIFICATIONS AND SCIENTIFIC ENGAGEMENT

- Good Clinical Practice certification through the NIDA Clinical Trials Network.
- Hands-on training in HPLC, HPTLC, ATR, NIR, Raman spectroscopy, flash chromatography and UV-Visible spectroscopy.
- Two-day workshop on molecular characterization using RAPD.
- Training in mushroom cultivation, bio-fertilizers and biocontrol agents.
- National symposium on emerging and re-emerging infections, with a focus on antimicrobial resistance.
- Online scientific talk on the role of endophytic fungi in sustainable development.

ACADEMIC RECOGNITION

- Outstanding Student Award for academic and co-academic activities during M.Sc. Microbiology, 2024–2026.
- Selected as Best Student of the PG Department of Microbiology in 2025 by the Microbiologist Society, India.