CURRICULUM VITAE

Dr. Preeti M. Sharma

Ph. D. (Microbiology), Researcher & Academic Support Staff

Department of Microbiology
Shri R .L. T. College of Science, Akola, Maharashtra, India

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Academic Qualifications

Qualification	College/ University	Year of passing	Percentage obtained
Ph. D. (Microbiology: Medical Microbiology & Nanotechnology)	SGB Amravati University (MS)	Awarded on 17th September 2016	
M. Sc. (Microbiology)**University Gold Medal**	Shri Shivaji College of Art, Commerce and Science, Akola, SGB Amravati University (MS)	2009	75.00%
B. Sc. (Micro+ Biochem. + Chem.)	Shri R. L. T. College of Science, Akola, SGB Amravati University (MS)	2007	70.40%
D.M.L.T	Smt. Shardadevi Paramedical College, Akola, Central Board, Nagpur (MS)	2004	71.23%
HSC	S. R. Naik Arts and Science College, Akola, Amravati Board	2004	66.33%
SSC	Mount Carmel High School, Akola, Amravati Board	2001	69.73%

Professional Experience:

1. **Professional Consultant: Faculty of Biology** at Pune branch of Vidyasagar Learning Pvt. Ltd. (July 17, 2017- October 09, 2017)
2. **Junior Research Fellow in UGC-Major Research Project, New Delhi** (April 01, 2013- March 31, 2017)
3. **Academic Support Staff in Department of Microbiology, Shri RLT College of Science, Akola** (July 2009- May 2017)
4. **Researcher of SGB Amravati University, Amravati** (February 2011- February 2017)

Research Pursuit

Research Title: **"Studies on effects of Antibiotics, Metal Nanoparticles and Nanoparticle conjugated antibiotics against bacterial skin diseases: A nanomedical approach for dermatological therapies"**

Research Supervisor : Dr. V. D. Nanoty,
Principal, Shri R .L. T. College of Science, Akola (MS), India

Research Outline: Taking into consideration the antimicrobial potentialities of metallic nanoparticles to revolutionize the innovative trend in biomedical research and medical field, the research in designed the experiment to evaluate and access the antimicrobial activities of metallic nanoparticles, commercially available dermatological antibiotics and nanoparticle-antibiotic conjugates against the bacterial skin pathogens causing different skin infection conditions. The research thus notified the new research avenues to improve the dermal therapeutics by utilizing bactericidal effects of metal nanoparticles and nanoparticle antibiotic conjugate against bacterial skin diseases.

Research Project (Junior Research Fellow: UGC, New Delhi)

Major Research Project Title: **"Analysis of bactericidal efficiencies of Metal Nanoparticles and Nanoparticle conjugated antibiotics for diverse biomedical applications in treatment of bacterial skin diseases"**(tenure of Project: 2013-2017, Completed)

Project Supervisor: Dr. V. D. Nanoty,
Principal, Shri R .L. T. College of Science, Akola (MS), India

Experience: Three year experience in scientific project management, monitoring and evaluation including handling/monitoring project related to medical microbiology and Nanotechnology for control of bacterial skin diseases. Experience in planning, coordination monitoring, initiating and implementing research project/activities, writing reports, preparing documents, organizing meetings, preparing minutes etc.

Supervisory Abilities: 17 M. Sc. Projects co- supervised

1. "Assay and characterization of extracellular lipases comprising the discrete optimization of lipolytic bacteria isolated from oil spilled soils"
2. "Demographic & Clinical presentations of enetric fever causing *Salmonella sp*. Isolated from human blood samples in Akola city."
3. "Microbiology, Demographics &Antibiogram of bacteria causing polymicrobial skin Abscess in Akola city."
4. "Amylase activity of starch degrading bacteria isolated from soil receiving kitchen waste."
5. "Microbiology &Physico-chemical analysis of drinking water in diverse public areas of Akola city."
6. "Optimization & characterization of Cellulase production from bacteria isolated from cow dung soil."
7. "Assessing risk of Eutrophication: Comprehensive dynamic equation to analyze water quality parameters"
8. "Extracellular alkaline proteases from soil habitat: Their partial characterization and optimization"
9. "Exploring polygalacturonase potentialities of *Pseudomons* and *Bacillus* species: Study of Pectinase production conditions"
10. Bioconversion efficiencies of fruit wastes into Single cell protein (bioprotein) using *Saccharomyces cerevisiae*
11. Study of diagnostic performances of qualitative and quantitative tests in laboratory diagnosis of *Salmonella* infection in children and its antibacterial susceptibilities.
12. Bacterial abilities to produce Rhamnolipid and Surfactin biosurfactants: A clue towards environment cleaning of hydrocarbon pollution.
13. Alginate and Levan EPS production and extraction from *Pseudomonas aeruginosa* and *Bacillus subtilis* isolated from soil
14. In-silico identification of epitope-based vaccine candidate against MERS-CoV: A reverse vaccinology and immunoinformatics approach
15. Utilization of vegetable wastes for biogas production: An appropriate technology for sustainable development
16. Identification and molecular identification of haloalkalophilic bacterium and its potential for extracellular alkaline protease production
17. Microbial Fuel Cells utilized for electricity generation from biowastes.

Academic Distinctions& Achievements:

- **University Grants Commission (UGC), New Delhi,Research Project Fellowship** to carry out Research work.
- Awarded with **1st Prize**& Selected as **State Representative**(2015) at 1st rank in Research category to represent Medicine and Pharmacy Research of Maharashtra state in **National Level Research Festival.**
- **Two** times **SGB Amravati University Color Holder** to represent SGBAU in **State Level Inter University Research Festival "Avishkar 2015"**
- Registered **Researcher** of SGB Amravati University, Amravati.
- **Best oral presentation prizes** in many International and National Conferences.
- Awarded with 1st, 2nd and 3rd positions at various National Level Researchcompetitions.
- **Awarded with Gold Medal as secured 1st merit in M. Sc. (Microbiology) in presence of Her Excellency Hon'ble Smt. PratibhataiPatil, President of India during 26th Convocation of SGB Amravati University, Amravati**.
- Merit Certificate for being placed as **1stin order of merit in M. Sc**. from SGB Amravati University.
- **Certificate of Excellence** awarding as a **Best Student of institution** for highest score in M. Sc. (Microbiology) throughout the SGB Amravati University from ShriShivaji College of Arts, Commerce and Science, Akola.
- **Certificate of Honor** for good academics and for highest score in M. Sc. I (Microbiology) from ShriShivaji College of Arts, Commerce and Science, Akola

Computer Knowledge:

- Maharashtra State Certificate in Information Technology (MS-CIT) with 86%
- Database Management System (DBMS)

Laboratory Skills:

Microbiology Techniques	Pure culture techniques, Isolation and identification of microbial strains, Antibiotic susceptibility testing, Epidemiology, Demographics and clinical presentation studies of bacterial diseases. Bacterial counts. Biosurfactant production, SCP production, EPS extraction, extremophile cultivation.
Water quality testing techniques	Estimation of MPN, TDS, TSS, DO, BOD, Alkalinity, Chlorine, Sulphur, Phosphate, Ammonical nitrogen, Nitrite, Hardness, etc.
Biochemistry Techniques	Protein estimation, Qualitative and quantitative estimation of enzymes, Partial characterization of enzymes, Spectrophotometry, Electrophoresis, Paper and Thin layer chromatography, Adsorption Chromatography
Molecular Biology Techniques	Molecular Biology Techniques like DNA/RNA estimation and isolation, Transformation, Preparation of competent cell, Restriction digestion of DNA, Agarose gel electrophoresis. Pure culture techniques, Real time PCR, Restriction digestion and Molecular cloning, transgenic technologies, DNA Ligation, RNA isolation and cDNA construction, Southern blotting.
Analytical Techniques	FT-IR and other Spectrophotometry, Electrophoresis, Paper and Thin layer chromatography, Adsorption Chromatography, Real time PCR,
Plant Biotechnology	Aseptic techniques in tissue culture, Callus and Embryo culture, Preparation of artificial seeds. Molecular cloning and transgenic technologies for crop improvement, *Agrobacterium* mediated genetic transformation, Molecular characterization of transgenic plants by PCR,
Immunology	ELISA, many Antigen- Antibody reactions
Hematology	Blood grouping, Hemoglobin estimation, DLC, TLC, RBC count, ESR, PCV, BT and CT.
Bioinformatics Tools	*In-silico* approach for vaccine design, *In-silico* Approach for Species Nucleotide Data Analysis, Protein structure prediction, Tools for genome analysis, Phylogeny reconstruction tools, Protein modeling tools (Homology modeling, Evaluation and Refinement of the Structure), Tools for structure based drug design and computational docking, Protein-Ligand & Protein-Protein Docking.
In-vitro pharmacology study	In-vitro assay related to metal NPs drug testing, MTT cytotoxicity assay on HaCaT cell lines.

Research Contributions:
A) Research Paper Publications: 08

1. **Sharma Preeti,** Nanoty Vijay. 2017. Synthesis of *nano*-ZnO by chemical reduction method and their micro biocide activity against bacterial skin pathogens. *International J. Of Life Sciences*. **5 (2)**
2. **Sharma P. M.**, Nanoty V. D., Bhalekar U. K. 2015. Ultrafine dispersed Silver Nano hexagons and their antibacterial activity against bacterial skin pathogens. *J. Microb. World*. **17 (1)**: 55-63
3. Virwani V. D., **Sharma P. M**., Bhalekar U. K., Nanoty V. D. 2013. Assay and characterization of extracellular lipases comprising the discrete optimization of lypolyitc bacteria isolated from oil spilled soil. *J. Microb. World*. **15 (2)**: 47-60
4. **Sharma P. M**., Nanoty V. D.,Bhalekar U. K. 2012. Antimicrobial susceptibilities of *Pseudomonas aeruginosa* isolated from primary and secondary wound infections; *UGC sponsored National Conference on Innovative Research Trends in Biological sciences*. 8-9 September 2012: 630-633
5. **Sharma P. M**., Nanoty V. D.,Bhalekar U. K. 2012. Drug sensitivities of *Pseudomonas aeruginosa* isolated from primary and secondary wound infections.*UGC sponsored National Conference on Recent Trends in Biosciences*. 27-28 July 2012: 79-82
6. **Sharma P. M**., Ali Y. A., Bhalekar U. K. 2010. Studies on proteolytic activity of soil bacterial isolates on various proteinaceous substrates.*J. Microb. World*. **12 (2)**: 133-140
7. **Sharma P. M**. 2010. Biodegradation by Proteolytic bacteria: An attractive alternative for biological waste treatment.*Nature Environment and Pollution Technology*. **9 (4)**: 707-711
8. **Sharma P. M**., Ali Y. A. 2009. Proteolytic activity of bacterial isolates using different proteinaceous compounds & their comparative account. *Awishkar SGB Amravati Journal*. **1**: 94-106

Research Contributions:
B) Research Paper Presentations: 11

1. **Sharma P. M**., Musaddiq M. 2007. Global warming. One Day Student's Conference in Microbiology; Akola

2. **Sharma P. M**., Ali Y. A., Musaddiq M. 2009.Proteolytic activity of bacterial isolates using different proteinaceous compounds & their comparative account.96th Indian Science Congress;Shillong
3. **Sharma P. M**., Ali Y. A. 2009. Proteolytic activity of bacterial isolates using different proteinaceous compounds & their comparative account. State level Inter University Research Festival "Avishkar 08"; Amravati
4. **Sharma P. M**., Ali Y. A. 2009. Studies on proteolytic activity of soil bacterial isolates on various proteinaceous substrates. National Science Day 2009. Theme: Expanding horizons of Science; Amravati
5. **Sharma P. M**., Ali Y. A. 2010. Stustaiablities of Probiotics in retrospection of Proteases activity. National Conference on Biotechnology for better tomorrow; Akola
6. **Sharma P. M**., Ali Y. A. 2010. Proteases & Probiotics: En-route to sustainable development. National Seminar on Expanding Panorama of Microbiology; Mumbai
7. **Sharma PM**, Nanoty VD, Bhalekar UK. 2011. In-vitro assessment of antibacterial susceptibilities of metal NPs: A nanomedical approach addressing challenges in treatment of primary & secondary bacterial skin diseases. *52nd Annual Conference of AMI-2011, International Conference on Microbial Biotechnology for Sustainable Development*. Chandigarh
8. **Sharma PM**, Nanoty VD, Bhalekar UK. 2011.Studies & applications of biomedical Nanoparticles as futuristic dermatological medication; *National Conference on Innovations in Bio-Sciences*. Washim
9. **Sharma PM**, Nanoty VD, Bhalekar UK. 2011.Oligodynamic attributes of Metal Nanoparticles in therapeutic development for bacterial cutaneous conditions. *National Conference on Advances in Life sciences for sustainable rural development*. Akola
10. **Sharma PM**, Nanoty VD, Bhalekar UK. 2012. Bactericidal effects of metal nanoparticles: A novel avenue in dermatalogical medication. *International IInd World Congress for Man & Nature 2012 on Global change: Impact on Biodiversity, Culture & Technology*. Nagpur, 3-5 November 2012
11. **Sharma PM**, Nanoty VD, Bhalekar UK. 2012. Biomedical Implications of Metal Nanoparticles as key future therapeutic in treatment of bacterial skin treatment. *National Congress on "Stepping up with Bio scientific Technologies*. Wardha

Personal Profile:

- **Father's Name** : ShriMadhusudan R. Sharma
- **Permanent Address** : Shakti Industries, Kholeshwar Road, P.B.No.-94, Akola-444001, Maharashtra, India
- **Contact** : **+91-9421744195**
- **Date of Birth** : 08 August, 1985
- **Sex** : Female
- **Marital Status** : Single
- **Nationality** : Indian
- **Languages Known** : English, Hindi and Marathi

Declaration:

I hereby declare that all information given by me above are true and correct to the best of my knowledge.

Place: Akola

Dr. Preeti M. Sharma