Surabhi Zainith

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Education

Ph.D. in Environmental Microbiology **March 2020**
B. B Ambedkar Central University, Lucknow

M. Sc. in Environmental Microbiology **June 2011**
B. B Ambedkar Central University, Lucknow

B. Sc. in Biotechnology **June 2008**
Dr. B. R Ambedkar University, Agra

Research expertise

- **Applied and Environmental Microbiology**
- **Ligninolytic enzymes**
- **Bioremediation of industrial wastes and wastewaters**

Experience

- One year teaching experience in Microbiology department, BFIT College, Dehradun, U.K.
- Currently working as a JRF in Pollution Control Board, Lucknow, U.P.

Publications

Research papers:

1. **Zainith, S.,** Purchase, D., Saratale, G. D., Ferreira, L. F. R., Bilal, M., Bharagava, R. N., (2019). Isolation and characterization of lignin-degrading bacterium *Bacillus aryabhattai* from pulp and paper mill wastewater and evaluation of its lignin-degrading potential. 3 Biotech, Springer.
2. **Zainith, S.,** Bharagava, R. N., (2019). Isolation and screening of a bacterial strain for the degradation and decolourization of pulp and paper mill wastewater. Journal of Emerging Technologies and Innovative Research.

Book chapters:

1. **Zainith, S**., Sandhya, Sujata, Saxena, G., Bharagava, R.N., 2016. Microbes: An ecofriendly tools for the treatment of industrial wastewaters. Microbes and Environmental Management. Studium Press (India) Pvt. Ltd. (ISBN: 978-93- 80012-83-4).
2. **Zainith, S**., Chowdhary, P., Bharagava, R.N., 2018. Recent advances in physico-chemical and biological techniques for the management of pulp and paper mill waste. (Bharagava and Chowdhary (Eds). Springer
3. **Zainith, S**., Saxena, G., Kishor, R., Bharagav, R.N., 2020. Application of microalgae in industrial effluent treatment, contaminants removal, and biodiesel production: opportunities, challenges, and future prospects. Bioremediation for Environmental Sustainability-Toxicity, Mechanisms of Contaminants Degradation, Detoxification and Challenges. Elsevier. ISBN: 9780128205259, 0128205253.
4. **Zainith, S**., Ferreira, L.F.R., Saratale, G.D., Mulla, S.I. and Bharagava, R.N., 2021. Membrane-based hybrid processes in industrial waste effluent treatment. In Membrane-Based Hybrid Processes for Wastewater Treatment (pp. 205-226). Elsevier.
5. **Zainith, S**., Chowdhary, P., Mani, S. and Mishra, S., 2020. Microbial ligninolytic enzymes and their role in bioremediation. Microorganisms for Sustainable Environment and Health, p.179.
6. Mishra, S., Bharagava, R.N., More, N., Yadav, A., **Zainith, S.,** Mani, S. and Chowdhary, P., 2019. Heavy Metal Contamination: An Alarming Threat to Environment and Human Health. In Environmental Biotechnology: For Sustainable Future (pp. 103 125). Springer, Singapore.
7. Boudh, S., **Zainith, S**., Chowdhary, P., Mishra, S., 2020. Biodiesel as a Renewable Energy Source. Contaminants and Clean Technologies. 10.1201/9780429275852-12. Taylor and Francis.
8. Mani, S., Chowdhary, P., **Zainith, S**., 2020. Microbes mediated approaches for environmental waste management. Microorganisms for Sustainable Environment and Health. (ISBN: 9780128190012). Elsevier. 10.1016/B978-0-12-819001-2.00002-4.
9. Rabbani, A., **Zainith, S**., Deb, V.K., et al., 2020. Microbial Technologies for Environmental Remediation: Potential Issues, Challenges, and Future Prospects. Microbe Mediated Remediation of Environmental Contaminants. Elsevier. 10.1016/B978-0-12-821199-1.00022-5.
10. Saxena, G., Kishor, R., **Zainith, S**., Bharagava, R.N., 2020. Environmental contamination, toxicity profile and bioremediation technologies for treatment and detoxification of textile effluent. Bioremediation for Environmental Sustainability-Toxicity, Mechanisms of Contaminants Degradation, Detoxification and Challenges. Elsevier. ISBN: 9780128205259, 0128205253.

Workshops/ Conferences/Symposium participated

1. International Symposium on, **"Microbes for Sustainable Development: Scope & Applications (MSDSA-2017)",** Association of Microbiologist of India (AMI)-2017) at Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar, Raebareli Road, Lucknow- 226 025 (U.P)
2. National Conference on **"Empowering Mankind with Microbial Technologies (AMI-EMMT-2014)",** Association of Microbiologist of India at Tamil Nadu Agriculture University, Coimbatore.
3. International Symposium on **"Microbes and Biosphere: What's New what's Next",** Association of Microbiologist (AMI-2016) of India at Gauhati University, Guwahati, Assam, India.
4. Workshop **"Hands on Training"** (2015) on SEM, FTIR, FPLC and Ion Chromatography at University Science Instrumentation Center, Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar, Raebareli Road, Lucknow- 226 025 (U.P).
5. Symposium on **"Environmental Sustainability: Present Scenario and Future Aspects",** (2019) organized by Department of Environmental Science, Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar, Raebareli Road, Lucknow- 226 025 (U.P).
6. Lucknow Science Congress (**LUSCON-2017**) on "**Science Technology & Innovations for Sustainable Development"**, at Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar, Raebareli Road, Lucknow- 226 025 (U.P).
7. World Wetlands Day, organized by School of Environmental Sciences at Babasaheb Bhimrao Ambedkar University (A Central University), Vidya Vihar, Raebareli Road, Lucknow- 226 025 (U.P).

Awards and Scholarships

- **Awarded SRF** from Indian Council for Agriculture Research (ICAR) in 2013
- **Qualified National eligibility test, ICAR – NET** in 2016(Agricultural Microbiology)
- **Qualified GATE** in 2013 (Life Sciences)
- **Awarded RGNF** (Rajeev Gandhi National Fellowship) in 2017 for Ph. D work
- **Qualified Common Eligibility Test (CET) 2012** for Lecturer ship in Life Sciences category (2012)

Laboratory Skills and Techniques

- **Microbiology**: Highly skilled in microbial culturing and maintenance- aerobic and anaerobic, screening, isolating and characterizing pure culture, Microscopy, enrichment and biofilm characterization, and various microbial techniques.
- **Molecular biology and Genetics:** DNA/RNA isolation and quantification, electrophoresis etc.
- **Biochemistry:** Enzyme assay, peptide synthesis, blotting, SDS-PAGE, Protein purification, biochemical assays, etc.
- **Imaging:** Bright field, Phase contrast, and Fluorescence microscopy, etc.
- **Bioprocessing:** Batch and Continuous culture method, Bioreactors, Fermentation, RSM etc.
- **Characterization techniques**: XRD, XPS, FTIR, Raman spectroscopy etc
- **Bioinformatics:** Primer design, phylogenetic analysis and mapping using MEGA, gene sequence analysis, basics knowledge on R, and MATLAB etc.
- Spectroscopy, Chromatography (HPLC, GC-MS, LC-MS), Qualitative and Quantitative techniques and various analytical techniques.