Dr. Rashmi Saraswat

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Education

Shri Mata Vaishno Devi University — J&K, India
Ph.D. in Biotechnology — 2013-2019

Ph.D. Topic: Isolation, characterization, purification and immobilization of microbial lipase for enantioselective resolution of bioactive molecules.

Global Open University — Nagaland, India
M.Sc. in Biotechnology — 2011-2013

University of Abertay Dundee — Scotland, U.K.
M.Sc. in Biotechnology — 2009-2010

University of Delhi — Delhi, India
B.Sc. Honors in Microbiology — 2006-2009

Research Experience

Shri Mata Vaishno Devi University — J&K, India
Research Assistant — Jan 2014- Dec 2018

- Designed, modified and executed experiments to isolate, characterized, purify and immobilize bacterial lipase.
- Developed statistical model for maximum lipase production using Response surface methodology.
- Developed protocol for enzyme immobilization on silica gel.
- Performed statistical analysis on experimental Data using Excel and Design Expert software.
- Collaborated with Ph.D. Scholars at chemistry laboratory in IIIM-CSIR Research Institute, Jammu, and with Associate Professor at Govt. college, Kathua, Jammu.
- Assisted in microbiology laboratory maintenance and organization
- Demonstrated and assisted in practical experiments of M.Sc. students in qualitative analysis of protein using Native and SDS-Poly Acrylamide Gel Electrophoresis.
- (Planning, Provisioning and Procurement cell) Managed and negotiated ordering of biochemicals, lab consumables and equipments.
- Facilitated and trained M.Sc. students in dissertation projects with problem solving and discussion sections.

Scottish Crop Research Institute (Now, The James Hutton Institute) — Scotland, U.K.
Master's Researcher — Jan- June 2010

- Investigated diversity in *Globodera pallida* SPRYSEC genes under the supervision of Dr John Jones, Research Scientist at Plant Pathology Department.

Work Experience

TERI University — Delhi, India
Consultant (Research Assistant) — Aug 2011- Oct 2012

- Investigated and conducted experiments to characterize Methylation dependent regulation of genome in *Bacillus anthracis* at Department of Natural Resources under supervision of Dr Ramakrishnan Sitaraman, Associate Professor.

Batra Hospital and Medical Research Centre Delhi, India
Summer undergraduate researcher June- Aug 2008

- Studying and understanding sample collection, microscopy and media engineering for microbial cultures for medical microbiology at Medical Microbiology Department.

Achievements

- Qualified National Eligibility Test for Lectureship December 2012
- Qualified National Eligibility Test for Lectureship June 2013
- Research Assistant Scholarship (based on GATE qualification) December 2013

Publications

1. Saraswat, R., Verma, V., Sistla, S. & Bhushan, I. (2017) Evaluation of alkali and thermotolerant lipase from an indigenous isolated *Bacillus* strain for detergent formulation. *Electronic Journal of Biotechnology* (Elsevier), 30. **Impact Factor: 2.5 (SCI-E-Journal)**

2. Bhushan, I., Saraswat, R., Gupta, P., & Shah, B. A. (2018). Enantioselective resolution of 2-arylpropionic acid derivatives employing immobilization of lipase from *Bacillus subtilis* strain Kakrayal_1 (BSK-L). *Bioresource Technology* (Elsevier), 269 (2018), 581–585. **Impact Factor: 6.6 (SCI-Journal)**

3. Saraswat, R., Bhushan, I., Gupta, P., Kumar, V. & Verma, V. (2018). Production and purification of an alkaline lipase from *Bacillus* sp. for enantioselective resolution of (±)-Ketoprofen butyl ester. *Biotech 3* (Springer), 8 (12): 491. **Impact Factor: 1.7 (SCI-Journal)**

4. Bhushan, I., Alabbas, A., Sistla, J. C., Saraswat, R., Desai, U. R., & Gupta, R. B. (2017). Heparin depolymerization by immobilized heparinase: A review. *International Journal of Biological Macromolecules* (Elsevier), 99 (2017), 721–730. **Impact Factor: 5 (SCI-Journal)**

5. Saraswat, R., Sharma, S., Verma, V., & Bhushan, I. (2016). *Bacillus subtilis* strain Kakrayal_1 16S ribosomal RNA gene, partial sequence Nucleotide- NCBI. Retrieved March 16, 2018, from https://www.ncbi.nlm.nih.gov/nuccore/KT985358.1

Conferences /Workshops

Presented "Enhancement of Lipase Production from *Bacillus* sp. using different fermentation processes" in National conference on Renewable energy and Sustainable Environment Challenges and Remedies, Shri Mata Vaishno Devi University (2018), India

Oral presentation on "Enhancement in the production of enzyme isolated from microorganism of Himalayan region of J and K (India) using various statistical and fermentation techniques" in the International Conference on Engineering and Technology (2016), New York, USA

Oral presentation on "Isolation, characterization and potential application of alkalophilic lipase produced by soil bacteria" in the 4th J&K Women Science congress (2016), India

Poster presented on "Enantioselective resolution of chiral drugs by biocatalytically active microbial cells in organic solvents" in National conference on basic and applied research in plants and microbes (2016), Punjab, India

Oral presentation on "Biochemical properties of whole cell lipase from *Bacillus* strain for enantioselective resolution of ketoprofen" in 4th international conference on recent trends and advancements in engineering and technology (2017), India