CURRICULUM –VITAE

Dr. Poonam Sharma

Assistant Professor (Microbiology) in Eternal University, Baru Sahib, Distt Sirmour (H.P.)
Ph.D. (Microbiology)
M.Sc. (Microbiology)
B.Sc. (Medical)

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Objective

Pursue a position at a leading Corporate House/University in order to contribute to cutting edge research being pursued by utilizing experience and gaining knowledge. Learn new and advanced techniques to bring beneficial effects of functionally active microbes within reach of millions who need them.

Current Engagement

Currently working as Assistant Professor in Deptt. of Microbiology, Eternal University Baru Sahib Distt. Sirmour (H.P.) 173101, India from 18 April, 2018. I am teaching various courses of microbiology to UG and PG microbiology students of university.

Ph.D Thesis work

Doctorate in Microbiology from Department of Basic Sciences, College of Forestry, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan 173230 (H.P.), India

Ph. D. Thesis Title: "Standardization of different fermentation parameters for production of biofuel from microalgae of Himachal Pradesh**"**.

Thesis Advisor: Dr. Nivedita Sharma, Professor, Department of Basic Sciences, College of Forestry, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan 173230 (H.P.), India

Brief thesis summary: The long term goals of the studies reported in Ph.D thesis were to explore the algae of Himachal Pradesh for bioethanol production and standardization of different parameters for pretreatment and fermentation process to enhance the production of biofuel to scale-up the process in stirred tank bioreactor by using different statistical design software. Different enzyme producing microbes were also isolated from algae and different process parameters for enzyme production were also optimized.

M.Sc Thesis work

Title of M.Sc thesis: Behaviour of indigenous Plant Growth Promoting Rhizobacteria (PGPR) under different stress conditions.

M.Sc in Microbiology from Department of Microbiology, College of Basic Sciences, CSKHPKV Palampur 176062 (H.P.), India

Thesis Advisor: Dr. SS Kanwar, (Retd.) Professor and Head, Department of Microbiology, College of Basic Sciences, CSKHPKV Palampur 176062 (H.P.), India

Brief thesis summary: The major goals of M.Sc thesis were to study the behaviour of indigenous PGPR under different stress conditions of temperature, pH, Heavy metals, Salt and to study their plant growth promoting activities like Nitrogen fixation, P-solubilization and siderophore production etc.

Research Papers

1. **Sharma P,** Sharma N and Sharma N. 2019. Screening and molecular identification of microbial strain *Bacillus axarquiensis* P6 from algal biomass for production and optimization of multiple enzymes of biotechnological interest. International Journal of Chemical Studies 7(1): 1338-1346 **(NAAS rating: 5.31)**

2. **Sharma P,** Sharma N and Sharma N. 2019. Optimization of enzymatic hydrolysis conditions for saccharification of carbohydrates in algal biomass: An integral walk for bioethanol production. The Pharma Innovation Journal 8(1): 461-466 **(NAAS rating: 5.03)**

3. **Sharma P,** Sharma N and Sharma N. 2019. Scale up and optimization of process parameters for high gravity ethanol fermentation from a fresh water algae *Rhizoclonium* sp. of Trans Himalayas using Taguchi orthogonal array design, kinetics and modeling. Journal of Pharmacognosy and Phytochemistry 8(1): 1386-1398 **(NAAS rating: 5.21)**

4. **Sharma P** and Sharma N. 2018. Molecular Identification, Production and Optimization of Pectinase by using *Stenotrophomonas maltophilia* P9 isolated from Algal Biomass of Himachal Pradesh, India. International Journal of Current Microbiology and Applied Sciences 7 (1): 670-680. DOI: https://doi.org/10.20546/ijcmas.2018.701.082 **(NAAS rating 5.38)**.

5. **Sharma P,** Sharma N and Sharma N. 2019. Exploration of *Rhizoclonium* sp. algae potential under different ethanol production strategies with SEM analysis of biomass and detoxification of hydrolysate. Life Science Journal 16(6): 73-83.

6. Sharma P, Sharma N, **Sharma P**, Pathania S and Handa S. 2017. Purification and Characterization of a Halotolerant and Thermotolerant Lipase Produced From a Novel Bacteria "*Brevibacterium halotolerans* PS4 |KX671556|" and Its Application in Detergent Formulations. Proceedings of the Indian National Science Academy 83(3): 681-687. DOI: https://doi.org/10.16943/ptinsa/2017/49025 **(NAAS rating 5.89).**

7. Sharma P, Sharma N, **Sharma P** and Devi S. 2018. The use of response surface methodology as a statistical tool for process parameter optimization in lipase production by B*revibacterium halotolerans* PS4 isolated from olive orchard soil. Agricultural Research Journal (PAU) 55(1):92-98 DOI : 10.5958/2395-146X.2018.00015.7 **(NAAS rating 4.71).**

8. **Sharma P** and Sharma N. 2017. Saccharification of carbohydrates in microalgal biomass by enzymatic pretreatment- An integral approach for bioethanol Production. Journal of Research: The BEDE ANTHANAEUM 8(1): 121-129. DOI : 10.5958/0976-1748.2017.00017.0

9. **Sharma P** and Sharma N. 2017. Industrial and Biotechnological applications of Algae: A review. Journal of Advances in Plant Biology 1(1):01-26. 10.14302/issn.2638-4469.japb-17-1534

10. Vyas G, Sharma N, Sharma N and **Sharma P**. 2019. Scaleup of bioethanol production and fermentation as well as simultaneous saccahrification and fermentation from an indigenous

Algae- *Hydrodictyon* species of Indowestern Himalayas and its kinetic modeling. Trends In Carbohydrate Research, (2): 68-79.

Book Chapter

11. Sharma N and **Sharma P**. 2018. Application of Enzymes in Sustainable Liquid Transportation Fuels Production. In: Singh O., Chandel A. (eds) Sustainable Biotechnology-Enzymatic Resources of Renewable Energy. Springer, Cham. Chapter no. 9. pp. 219-246 (Online ISBN 978-3-319-95480-6) (doi.org/10.1007/978-3-319-95480-6_9).

Conferences

International and national level conferences have been attended and paper presented comprising different themes and areas. Abstracts have been published in conference proceeding booklets.

Poster Presentation

1. Behaviour of indigenous nitrogen fixers "*Azospirillum brasilense and Stenotrophomonas maltophilia*" under different stress conditions. **Poonam Sharma** and SS Kanwar, 56th Annual Conference of Association of Microbiologists of India (AMI-2015) and "International Symposium on "Emerging Discoveries in Microbiology", December 7-10, 2015.

2. Behaviour of indigenous phosphate solubilizer "*Burkholderia cepacia*" under different stress conditions**. Poonam Sharma** and SS Kanwar, National Conference "Emerging Challenges in Biotechnology" perspective & prospective, August 21-22, 2015.

3. Saccharification of Carbohydrates in Microalgal Biomass by Enzymatic Pretreatment – An Integral Approach for Bioethanol Production. **Poonam Sharma** and Nivedita Sharma. International Conference on Biodiversity: Current Scenario and Future Strategies, Department of Zoology and Botany, St. Bedes's College, Shimla, Himachal Pradesh, October 6-8, 2016.

Workshops attended

1. 'Intellectual Properties Rights: Issues and Challenges' (IPRIC-2019) held at Eternal University, Baru Sahib, Himachal Pradesh on 28th March 2019.

2. 'IPR Literacy: Patent Drafting and Filing' Department of Biotechnology, HPU Shimla, 3-4 October, 2016.

3. ‘Intellectual Property & Innovation Management in Knowledge Era’ Department of Biotechnology, HPU Shimla, 18 March, 2016.

4. “System Biology: An understanding of bacterial genomics and proteomics” Bioinformatics Centre, Himachal Pradesh University, Summer hill, Shimla, 26-28 November, 2015.

5. “21st INDO-US Flow Cytometry Workshop” Eternal University Baru Sahib, 6-7 February, 2020.

6. “Virtual International Conference on Intellectual Property Rights” Directorate of legal studies, Tamil Nadu Government Law College, Viluppuram & GNLU Center for Intellectual Property Rights and Gujrat National Law University.

Online Courses/lectures attended:

1. “Basic Microbiology” online course completed offered by WHO on August 4, 2020.
2. Survey on knowledge, attitude and Practice regarding COVID-19 Organized by Eternal University on 23 May 2020
3. “Standard Precautions: Waste management” online course completed offered by WHO on 16 May, 2020.
4. Attended the “India First Leadership Talk” webinar organized by MHRD’s Innovation cell on 02 May 2020

Education

Degree	Institution	University/Board	Year of passing	Percentage
Ph.D. (Microbiology)	Department of Basic Sciences, College of Forestry	Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan (H.P.)	2018	79.70
M.Sc.(Microbiology)	College Of Basic Sciences,	CSKHPKV, Palampur (H.P.)	2012	75.10

	CSKHPKV, Palampur			
B.Sc (Medical)	S.C.V.B. Govt. Degree College Palampur (H.P.)	HPU Shimla (H.P.)	2010	72.50
10+2	G.S.S.S. Hatwar, Distt. Bilaspur (H.P.)	Himachal Pradesh Board Of School Education, Dharamshala	2007	69.20
Matriculation	Him Public School Dehra, Distt. Bilaspur (H.P.)	Himachal Pradesh Board Of School Education, Dharamshala	2005	81.20

Awards and honours

- **ICAR Net Qualified**
- Secured 87th rank in matriculation examination.
- Merit scholarship holder during 10th class.
- University merit scholarship holder during Ph.D.

Technical expertise with respect to microbiology

- Isolation, screening, characterization of microbes from different sources
- Experience of working with Enzyme producing microorganisms
- Qualitative and Quantitative assays of different enzymes
- Optimization of culture conditions
- Chromatographic techniques (Paper chromatography, TLC and Column chromatography
- Purification and characterization of proteins
- Experience of working on PGP bacteria
- Isolation of Bacterial, Fungal DNA
- Working experience on algae cultivation, collection, handling
- Handling of 7.5 lt. stirred tank bioreactor
- Bioethanol production from algae
- knowledge of different statistical designs and software's

Instrumentation knowledge

- Autoclave, Centrifuge, Chromatographic column, Electric balance, Electrophoretic apparatus, Hot Air Oven, Incubator, Laminar air flow, Lyophilizer, Imaging Microscope, Shaker, UV-VIS spectrophotometer, PCR, Gas chromatography, Stirred tank bioreactor etc.

Personal attitude

- Learn and implement.
- Quick adoptability to any environment.
- Flexible and Responsible.
- Energetic and hardworking.
- Optimistic and Sincere.
- Convincing and cooperative dealing

Personal profile

Date of Birth	November 12, 1989
Nationality	Indian
Languages Known	English, Hindi
Address	VPO Kot, Teh. Ghumarwin, Distt. Bilaspur H.P.-174028
Contact No.	7018914692, 9882191388

I certify that the contents of this CV are complete, current and accurate.
Hope for your positive kind consideration.
Date:
Place: Baru Sahib

(Poonam Sharma)