

**Dr. Ranjeeta Bhari**  
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### **EDUCATIONAL QUALIFICATIONS**

- ❖ Ph.D. (Biotechnology)
- ❖ Qualified UGC-CSIR (NET) in Life Sciences
- ❖ M.Sc. (Biotechnology)

### **PRESENT POSITION**

- ❖ Assistant Professor, Department of Biotechnology, Punjabi University, Patiala (from October, 2006 – January 15, 2014 on Adhoc and since January 16, 2014 as regular faculty).

### **MEMBERSHIP OF PROFESSIONAL SOCIETIES**

- ❖ Life member, the Biotech Research Society, India
- ❖ Life Member, Indian Mycological Society

### **Ph.D. SUPERVISED**

Completed: 01

Under Supervision: 03

### **M. SC. SUPERVISED**

Supervised: 47

### **MAJOR RESEARCH PROJECT (COMPLETED)**

Purification and Characterization of bacterial keratinase for the production of nitrogen fertilizer.  
Funded by SERB, DST, Government of India **2016-2019**

### **RESEARCH CREDENTIALS**

Total citations: 718

h-index: 15

i-10 index: 19

### **LIST OF PUBLICATIONS**

## A. Research Papers

1. Kaur, G., **Bhari, R.**, Kumar, K. (2023). Novel and green method for synthesis of fluorescent quantum dots from latex of plant *Calotropis gigantea*. *Current Pharmacology Reports*.9: 1-6. <https://doi.org/10.1007/s40495-022-00311-x> (Impact factor: 0.597).
2. **Bhari, R.**, Kaur, M., Singh, R.S. (2021). Optimization and validation of keratinase production by *Bacillus aerius* NSMK2 in a stirred tank reactor using response surface methodology. *SN Applied Sciences* 3: 1-10. <https://doi.org/10.1007/s42452-021-04629>. (Impact factor: 2.6).
3. Kaur, M., **Bhari, R.**, Singh, R.S. (2021). Chicken feather waste-derived hydrolysate as a potential biostimulant for the cultivation of mung beans. *Biologia*. 76: 1807-1815. <https://doi.org/10.1007/s11756-021-00724-x> (Impact factor: 1.5).
4. **Bhari, R.**, Kaur, M., Singh, R.S. (2020). Nutritional enhancement of chicken feather waste by *Bacillus aerius* NSMk2. *Indian Journal of Microbiology*. 60: 518-525. <https://doi.org/10.1007/s12088-020-00897-0> (Impact factor: 3.0)
5. **Bhari, R.**, Kaur, M., Singh, R. S. (2019). Thermostable and halotolerant keratinase from *Bacillus aerius* NSMk2 with remarkable dehairing and laundry applications. *Journal of Basic Microbiology* 59: 555-568. <https://doi.org/10.1002/jobm.201900001> (Impact factor 3.1)
6. **Bhari, R.**, Kaur, M., Singh, R. S., Pandey, A. (2018). Bioconversion of chicken feathers by *Bacillus aerius* NSMk2: a potential approach in poultry waste management, *Bioresource Technology Reports* 3:224-30. <https://doi.org/10.1016/j.biteb.2018.07.015>
7. **Bhari, R.**, Kaur, B., & Singh, R. S. (2016). Lectin activity in mycelia extracts of *Fusarium* species. *Brazilian Journal of Microbiology*, 47, 775-780. doi: 10.1016/j.bjm.2016.04.024 (Impact factor 2.2)
8. Singh, R. S., **Bhari, R.**, & Kaur, R. (2015). Purification, characterization and mitogenic potential of a mucin-specific mycelial lectin from *Aspergillus sparsus*. *Applied Biochemistry and Biotechnology*, 175, 1938-1947. doi: 10.1007/s12010-014-1419-8. (Impact factor 3.0)
9. Singh, R. S., **Bhari, R.**, Rana, V., & Tiwary, A. K. (2011). Immunomodulatory and therapeutic potential of a mycelial lectin from *Aspergillus nidulans*. *Applied Biochemistry and Biotechnology*, 165, 624-638. <https://doi.org/10.1007/s12010-011-9281-4> (Impact factor 3.0)
10. Singh, R. S., **Bhari, R.**, Singh, J., & Tiwary, A. K. (2011). Purification and characterization of a mucin-binding mycelial lectin from *Aspergillus nidulans*. *World Journal of Microbiology and Biotechnology*, 27, 547-554. <https://doi.org/10.1007/s11274-010-0488-2> (Impact factor 4.1)
11. Singh, R. S., **Bhari, R.**, & Rai, J. (2010). Further screening of *Aspergillus* species for occurrence of lectins and their partial characterization. *Journal of Basic Microbiology*, 50, 90-97. doi: 10.1002/jobm.200900299 (Impact Factor: 3.1)

12. Singh, R. S., **Bhari, R.**, Kaur, H. P., & Vig, M. (2010). Purification and characterization of a novel thermostable mycelial lectin from *Aspergillus terricola*. *Applied Biochemistry and Biotechnology*, 162, 1339-1349. doi: 10.1007/s12010-009-8906-3 (Impact factor 3.0)
13. Singh, R. S., Sharma, S., Kaur, G., & **Bhari, R.** (2009). Screening of *Penicillium* species for occurrence of lectins and their characterization. *Journal of Basic Microbiology*, 49, 471-476. doi: 10.1002/jobm.200800282 (Impact Factor: 3.1)
14. Singh, R. S., Thakur, G., & **Bhari, R.** (2009). Optimization of culture conditions and characterization of a new lectin from *Aspergillus niger*. *Indian Journal of Microbiology*, 49, 219-222. doi: 10.1007/s12088-009-0041-x. (Impact factor 3.0)
15. Singh, R. S., Tiwary, A. K., & **Bhari, R.** (2008). Screening of *Aspergillus* species for occurrence of lectins and their characterization. *Journal of Basic Microbiology*, 48, 112-117. doi: 10.1002/jobm.200700314 (Impact Factor: 3.1)

## B. Review Articles

1. Kaur, G., **Bhari, R.**, Kumar, K. (2023). Nanobiosensors and their role in detection of adulterants and contaminants in food products. *Critical Reviews in Biotechnology*. <https://doi.org/10.1080/07388551.2023.2175196> (Impact Factor: 9.0)
2. **Bhari, R.**, Kaur, M., Singh, R.S. (2021). Chicken feather waste hydrolysate as a superior biofertilizer in agroindustry. *Current Microbiology*. 78: 2212-2230. <https://doi.org/10.1007/s00284-021-02491-z>. (Impact Factor 2.6)
3. Singh, R. S., **Bhari, R.**, & Kaur, H. P. (2011). Characteristics of yeast lectins and their role in cell–cell interactions. *Biotechnology Advances*, 29, 726-731. doi: 10.1016/j.biotechadv.2011.06.002 (Impact Factor: 16.0)
4. Singh, R. S., **Bhari, R.**, & Kaur, H. P. (2011). Current trends of lectins from microfungi. *Critical Reviews in Biotechnology*, 31, 193-210. doi: 10.3109/07388551.2010.505911 (Impact factor 9.0)
5. Singh, R. S., **Bhari, R.**, & Kaur, H. P. (2010). Mushroom lectins: Current status and future perspectives. *Critical Reviews in Biotechnology*, 30, 99-126. doi: 10.3109/07388550903365048 (Impact factor 9.0)

## C. Book Chapters

1. **Bhari, R.** and Kaur, M. (2023) Fungal keratinases: Enzymes with immense biotechnological potential. In: Singh I, Rajpal VR and Navi SS (Eds.), *Fungal Resources for Sustainable Economy. Current Status and Future Perspectives*, Springer Nature, Singapore, pp. 89-126. ISBN 978-981-19-9102-8
2. Kaur G, **Bhari R.** and Kumar K (2022). Electronic noses and tongue-based sensor systems in food science. In: Chandra P and Panesar PS (Eds.), *Nanosensing and Bioanalytical Technologies in Food Quality Control*, Springer, Singapore, pp. 357-384. ISBN: 978-981-16-7028-2

3. Bhari R and Singh RS (2021) Microbial production of natural flavours. *In: Joshi VK (Ed.), Postharvest Management of Fruits and Vegetables, Volume 2, New India Publishing Agency, India, pp. 719-764. ISBN: 9789386546395.*
4. **Bhari R** and Kaur M (2019). Introduction and applications of microbial products in the food processing industries. *In: Sharma A, Yadav M and Shehrawat N (Eds.), Microbial Enzymes and Additive in Food Industry* by Nova Science Publishers, USA, pp. 1-22. ISBN: 978-1-53615-101-5
5. **Bhari R** and Kaur M (2019). Role of microbial proteases in food industry: Recent trends and future perspectives. *In: Sharma A, Yadav M and Shehrawat N (Eds.), Microbial Enzymes and Additive in Food Industry* by Nova Science Publishers, USA, pp. 53-131. ISBN: 978-1-53615-101-5
6. **Bhari R**, Kaur M and Singh RS (2017). New trends in enzyme immobilization and nanostructured interfaces for biofuels production. *In: Singh, R.S., Pandey, A.K. and Larroche, C. (Eds.), Biofuels: Production and Future Perspectives*, Taylor and Francis, USA, pp. 497-516. ISBN 9780367873110
7. **Bhari, R.** and Singh, R.S. (2017). Novel enzymes in biofuels production. *In: Singh, R.S., Pandey, A.K. and Larroche, C. (Eds.), Biofuels: Production and Future Perspectives*, Taylor and Francis, USA, pp. 467-496. ISBN 9780367873110
8. Singh, R.S. & **Bhari, R.** (2014). Current status of microbial lectins in biomedical research. *In: Singh, R.S., Pandey, A.K. & Larroche, C. (Eds.), Industrial Biotechnology*, IK International Pvt. Ltd., New Delhi, pp.315-362.
9. Singh, R.S. & **Bhari, R.** (2012). Microbial flavours: Current status and future prospects. *In: Joshi, V.K. & Singh, R.S. (Eds.), Food Biotechnology Principles and Practices*, IK International Pvt. Ltd., New Delhi, pp.691-738.
10. Singh, R.S. and **Bhari, R.** (2012). Screening of Aspergilli for lectin activity and their carbohydrate specificity. *In: Biodiversity Evaluation- Botanical Perspective*, Atri, N.S., Gupta, R.C., Sagoo, M.I.S. and Singhal, V.K. (eds.), M/S Bishen Singh Mahendra Pal Singh, Dehradun, India, pp. 125-136.

#### **D. Book Review**

1. **Bhari, R.** (2011). *Handbook of Enology: Principles, Practices and Recent Innovations*, Joshi, V.K. (ed.), *Ind. J. Fd. Ferm. Tech.* **1(2)**: 267-268.

#### **E. Abstracts Published in Conference Proceedings**

1. **Bhari, R.,** Kaur, M., Singh, R.S. (2018). Green remediation of keratinous waste by *Bacillus licheniformis*: An eco-friendly approach in agroindustry. International Conference on Food Security Challenges & Opportunities by Thapar Institute of Engineering & Technology, Patiala, Punjab.
2. **Bhari, R.,** Kaur, M., Singh, R.S. (2017). Purification and characterization of thermostable keratinase from *Bacillus aerius* and its application for biodegradation of chicken feathers.

International Conference on Emerging Trends in Biotechnology for Waste Conversion, XIV Annual Convention of the Biotech Research Society, organized by CSIR-National Environmental Engineering Research Institute, Nagpur (India).

3. Singh, R.S., **Bhari, R.** and Kaur, B. (2014). New lectins from *Fusarium* sp. having complex carbohydrate specificity. International Conference on Emerging Trends in Biotechnology held at Jawaharlal Nehru University, New Delhi
1. Singh, R.S. and **Bhari, R.** (2011). Purification and characterization of a mycelial lectin from *Lentinus squarrosulus*. International Conference on New Horizons in Biotechnology held at National Institute of Interdisciplinary Science and Technology, Trivandrum.
2. Singh, R.S., **Bhari, R.** and Yadav, A.K. (2010). Purification and characterization of a thermotolerant mycelial lectin from *Aspergillus sparsus*. International conference on Genomic Sciences & VII Convention of the Biotech Research Society, India & Indo-Italian Workshop on Industrial and Pharmaceutical Biotechnology held at Madurai Kamaraj University, Madurai.
3. Singh, R.S. and **Bhari, R.** (2006). Partial purification and characterization of a bacterial xylanase. New Horizons in Fermentation and Food Biotechnology held at Department of Biotechnology, Punjabi University, Patiala.

## CONFERENCES ATTENDED

### National

1. National Seminar and Workshop on “*Recent Trends in Biological Sciences*”, organized by Asian Institution, Patiala, February 23-24, 2011
2. National Symposium on “*Biotech 2009: Present and Future Perspectives*”, organized by Department of Biotechnology, Punjabi University, Patiala, March 19-20, 2009
3. National Workshop on “*Quality Control of ASU Drugs with Pharma Industry as a Partner*”, organized by National Institute of Ayurvedic Pharmaceutical Research, Patiala, January 24, 2009
4. National Symposium on “*New Horizons in Fermentation & Food Biotechnology*”, organized by Department of Biotechnology, Punjabi University, Patiala, March 21-22, 2006
5. National Symposium on “*Advances in Biotechnology*”, organized by Department of Biotechnology, Punjabi University, Patiala, February 23-24, 2004

### International

1. International Conference on Food Security Challenges and Opportunities held at Thapar Institute of Engineering and Technology Patiala, Punjab, December 7-8, 2018.
2. International Conference on Emerging Trends in Biotechnology for Waste Conversion, XIV Annual Convention of the Biotech Research Society, organized by CSIR-National Environmental Engineering Research Institute, Nagpur, October 8-10, 2017.

3. International Conference on Emerging Trends in Biotechnology, XI Convention of the Biotech Research Society, India & Indo-Italian Workshop on Industrial Pharmaceutical Biotechnology, organized by Jawaharlal Nehru University, New Delhi, November 6-9, 2014
4. International Conference on Industrial Biotechnology, IX Convention of the Biotech Research Society, India & Indo-Italian Workshop on Food Biotechnology: Industrial Processing, Safety & Health, organized by Punjabi University, Patiala, November 21-23, 2012
5. International Conference on New Horizons in Biotechnology, organized by National Institute of Interdisciplinary Science & Technology, Trivandrum, November 21-24, 2011
6. International Conference on Genomic Sciences, VII Convention of the Biotech Research Society, India & Indo-Italian Workshop on Industrial and Pharmaceutical Biotechnology, organized by Madurai Kamaraj University, Madurai, November 12-14, 2010