

Dr. BANDANA PADHAN



CONTACT

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h-Index: 16

SUMMARY

Looking for Academic/ Research position to enrich the knowledge for the better understanding of sustainable growth and proper use of bio-resources using Biotechnology tools and to embark in the research mission of the institute in the career path of Biotechnology.

SKILLS

- Phyto-chemical Analysis
- Molecular marker analysis
- Food and nutritional analysis
- Microbiological research
- Plant tissue culture
- Bio-fertilizer production
- Phyto-remediation work
- Plant identification
- Antioxidant activity of plants
- Plant stress physiology study
- Ethno-medicinal plant study
- Medicinal plant tissue culture
- Plant Biotechnology
- Agricultural Biotechnology
- Molecular Biology
- Immunology
- Biochemistry
- Biotechnology and Environments
- Food Biotechnology

EXPERIENCE

Assistant Professor Adamas University - Barasat, West Bengal, India
04/2022 - Current

Research Associate M. S. Swaminathan Research Foundation - Jeypore, Odisha, India
06/2021 - 03/2022

Guest faculty in (Botany) Government College - Sundargarh, Odisha, India
08/2020 - 03/2021

Medicinal plant tissue culture and Bio-fertilizer production M. S. Swaminathan Research Foundation - Jeypore, Odisha, India
01/2011 - 08/2014

PERSONAL INFORMATION

Date of birth: 03/15/89

C/O- Biranchi Padhan, At/Po: Bahabal, Near Jagannath temple,
P/S- Belpada, Balangir, Odisha, 767026, India

AWARDS

- 2010, Certificate of Merit for securing highest mark in 'Instrumental Techniques' from Alumni Association School of Life Sciences, Sambalpur University, Odisha.
- 2010, Certificate of Merit for securing highest mark in 'Microbiology' from Alumni Association School of Life Sciences, Sambalpur University, Odisha.
- 2010, Certificate of Merit for securing highest mark in 'Biochemistry' from Alumni Association School of Life Sciences, Sambalpur University, Odisha.
- 2010, Anant Ram Badhan Memorial Trophy and certificate of Merit for Best Biotechnology MSc. Student 2008-2009 from Alumni Association School of Life Sciences, Sambalpur University, Odisha.
- 2011, Second prize in Poster presentation in 3rd IYSC, New Delhi.
- 2017, Best poster presentation in 4th Indian Biodiversity Congress, Pondicherry.
- 2019, Best poster presentation in a conference on Farmers first for conserving soil and water resources in Eastern region, Sunabeda, Koraput.

PUBLICATIONS

- Padhan, B.,** Patel, R., Bhowmik, P., Roy, A., Das, J., Yu, Y., & Patel, M. (2024). Recent advancements in nanocomposites-based antibiofilm food packaging. *Journal of Polymer Materials Tech Science Press*. <https://doi.org/10.32604/jpm.2024.059156>.
- Chakraborty, B., Patel, G., **Padhan, B.,** Das, J., & Madhumita. (2024). Evolution of lipid nanoparticles as charioteers of Alzheimer's disease

LANGUAGES

English:

Hindi:

Odia:

- therapeutics. *Applied Materials Today*, 47, 102442. <https://doi.org/10.1016/j.apmt.2024.102442>.
3. Padhan, B., Ryoo, W., Patel, M., Dash, J. K., & Patel, R. (2024). Cutting-edge applications of cellulose-based membranes in drug and organic contaminant removal: Recent advances and innovations. *Polymers*, 16, 2938. <https://doi.org/10.3390/polym16202938>.
 4. Jena, B., **Padhan, B.**, Pati, K., & Chauhan, V. B. S. (2024). Critical review on Nutra-pharmaceutical usage of yams. *Food and Humanity*, 2, 100273.
 5. Panda, D., **Padhan, B.**, Nanda, M., Sahu, A., & Nayak, J. K. (2023). Blending neglected and underutilised wild yam tubers from forest to functional food. *Food and Humanity*, 1, 1338–1344.
 6. **Padhan, B.**, Ray, M., Patel, M., & Patel, R. (2023). Production and bioconversion efficiency of enzyme membrane bioreactors in the synthesis of valuable products. *Membranes*, 13(7), 673. <https://doi.org/10.3390/membranes13070673>.
 7. Jang E J, **Padhan B**, Patel M., Pandey J. K., Xu B, Patel R. (2023). Antibacterial and biodegradable food packaging film from bacterial cellulose. *Food Control*. 153: 109902. <https://doi.org/10.1016/j.foodcont.2023.109902>.
 8. Jiang A, Patel R, **Padhan B**, Palimkar S, Galgali P, Adhikari A, Varga I, Patel M. (2023). Chitosan Based Biodegradable Composite for Antibacterial Food Packaging Application. *Polymers (Basel)*. May 9;15(10):2235. doi: 10.3390/polym15102235.
 9. Meenu M, **Padhan B**, Patel M, Patel R, Xu B. (2023). Antibacterial activity of essential oils from different parts of plants against *Salmonella ana Listeria spp.* *Food Chem.* 404(Pt B):134723. doi: 10.1016/j.foodchem.2022.134723.
 10. Maninder M., **Padhan B.**, Zhou J., Ramaswamy H. S., Pandey J. K., Patel R., Yong Yu. (2022). A Detailed Review on Quality Parameters of Functional Noodles. *Food Reviews International*. <https://doi.org/10.1080/87559129.2022.2092747>.
 11. Lenka K.C., **Padhan B.**, Pradhan N., Mantry T., Sahu R., Venkatlaxmi S. (2022). The Effect of Growth Conditions on Mycelial Run of Oyster Mushrooms spp. (*Pleurotus* spp.): Implication for Agricultural Practices. *Bhartiya Krishi Anusandhan Patrika*. (37):137–143.
 12. **Padhan B.**, Nayak J. K., Panda D. (2020). Natural antioxidant potential of selected underutilized wild yams (*Dioscorea*spp.) for health benefit. *Journal of Food Science and Technology*. <https://doi.org/10.1007/s13197-020-04470-x>.
 13. Panda D., Mandal L., Barik J., **Padhan B.**, Bisoi S. S. (2020). Physiological response of metal tolerance and detoxification in castor (*Ricinus communis* L.) under fly ash-amended soil. *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04567>.
 14. Panda D., Biswas M., **Padhan B.** (2020). Traditional processing associated changes in chemical parameters of wild Yam (*Dioscorea*) tubers from Koraput, Odisha, India. *Indian Journal of Traditional Knowledge*. 19(2): 268–276.
 15. **Padhan B.**, Panda D. (2020). Potential of Neglected and Underutilized Yams (*Dioscorea* spp.) for Improving Nutritional Security and Health Benefits. *Frontiers in Pharmacology*. 11: 496.
 16. Panda D., Kumar SS., **Padhan B.**, Nayak J. K. (2020). Phytochemical evaluation of ethnomedicinal plants used against snake bite by the tribal People of Koraput, Odisha, India. *Annals of Ayurvedic Medicine*. 9(1): 12–21.
 17. Panda D., Behera A. K., **Padhan B.**, Nayak J. K. (2020). Chemical Profiling of Selected Plants of Zingiberaceae Used in Ethnomedicine of Koraput, India. *Journal of Stress Physiology & Biochemistry*. 16: 50–60.
 18. **Padhan B.**, Biswas M., Panda D. (2020). Nutritional, anti-nutritional and physico-functional properties of wild edible yam (*Dioscorea* spp.) tubers from Koraput, India. *Food Bioscience*. 34: 100527.
 19. **Padhan B.**, Mukerjee A.K., Mohanty S. K., Lenka S.K. and Panda D. (2019).

- Genetic variability and inter species relationship between wild and cultivated yams (*Dioscorea* spp.) from Koraput, India based on molecular and morphological markers. *Physiology and Molecular Biology of Plants*. <https://doi.org/10.1007/s12298-019-00691-3>.
20. Panda D, Sahu T, Barik J, Mishra SS, **Padhan B**, Lenka S. K. (2019). Data assessing genotypic variations in selected traditional rice landraces of Jeypore tract of Odisha, India based on photosynthetic traits. *Data in Brief* 25:104305.
 21. Panda D., Hema N. S., **Padhan B.**, Lenka KC. (2019). Sprouting-Associated Changes in Nutritional and Physico-Functional Properties of Indigenous Millets from Koraput, India. *Proceedings of the National Academy of Sciences, India - Section B: Biological Sciences*. DOI: 10.1007/s40011-019-01085-x.
 22. Panda D., Sethy K., Padhan B., Mandal L. and Biswas M. (2019). Physiological Response of Black Gram [*Vigna mungo* (L.) Hepper] Grown on Fly Ash-Amended Soil: Growth, Photosynthesis, and Antioxidant Defense. *International Journal of Plant and Environment*. 5(2): 103-110.
 23. **Padhan B.**, Biswas M., Dhal NK., Panda D. (2018). Evaluation of mineral bioavailability and heavy metal content in indigenous food plant wild yams (*Dioscorea* spp.) from Koraput, India. *Journal of Food Science and Technology*, 55(11): 4681-4686.
 24. Lenka K. C, Pradhan N, **Padhan B.** (2018). Ethnoveterinary medicines: a potential alternative to animal health care for the tribal communities of Koraput, Odisha. *International Journal of Pharmacology, Phytochemistry and Ethnomedicine*, 11: 26-38.
 25. **Padhan B.** and Panda D. (2018). Variation of photosynthetic characteristics and yield in wild and cultivated species of yams (*Dioscorea* spp.) from Koraput, India. *Photosynthetica*. 56 (4):1010-1018.
 26. Panda D, Mandal L, Barik J, Mishra SS, **Padhan B.** (2018). Improvement of growth, photosynthesis and antioxidant defense in rice (*Oryza sativa* L.) grown in fly ash-amended soil. *Proceedings of the National Academy of Sciences, India - Section B: Biological Sciences*. <https://doi.org/10.1007/s40011-018-0996-7>.
 27. Panda D., Panda D., **Padhan B.** and Biswas M. (2018). Growth and physiological response of lemongrass (*Cymbopogon citrates* (D.C.) Stapf.) under different levels of fly ash amended soil. *International Journal of Phytoremediation*. 20(6). 538-544.
 28. Kumar SS, **Padhan B**, Palita SK and Panda D. (2016). Plants used against snakebite by tribal people of Koraput district of Odisha, India. *Journal of Medicinal Plants Studies*. 4(6): 38-42
 29. **Padhan B** and Panda D. (2016). Wild Tuber Species Diversity and Its Ethno-Medicinal Use by Tribal People of Koraput District of Odisha, India. *Journal of Natural Products and Resources*. 2(1): 33-36.
 30. **Padhan B.** (2015). Regeneration of plantlets of *Piper longum* L. through in vitro culture from nodal segments. *Journal of Applied Biology and Biotechnology*. 3 (05): 035-039.
 31. **Padhan B** and Panda D. (2015). Wild Edible Plant Diversity and its Ethnomedicinal use by Indigenous Tribes of Koraput, Odisha, India. *Research Journal of Agriculture and Forestry Sciences*. 3(9): 1-10.

PROCEEDINGS

1. **Padhan B** and Panda D. "Ethno-Medicinal Survey of Under-Utilized Tuber Species of Koraput District of Odisha, India", Centre For Environment and Development, Human Development, 2015, December 22-24, Foundation Cdar, Regional Centre For Development, India, 113-122; ISSN: 978-81-920841.
2. **Padhan B**, Swain S., Lenka K.C. "Efforts in Conservation of RET Medicinal Plant Species Through In Vitro Clonal Propagation" Centre for Innovation in Science and Social Action (CISSA), Indian Biodiversity Congress,



TRAINING

- Training on mushroom spawn production and cultivation, 02/24/11 to 03/05/11, Bhubaneswar, Odisha
- Advanced Statistical Techniques for Data Analysis using R, 01/03/22 to 01/15/22, Hyderabad, Telangana
- Principles and Practices of GC and GC-MS Techniques, 01/28/22, Dehradun, Uttarakhand
- Biomedical & Health Research: Methodology and Ethics, 03/13/23 to 03/17/23, West Bengal
- Teaching & Research Practices, 06/05/23 to 06/10/23, Waknaghat, Himachal Pradesh
- Revised NAAC Framework, 06/26/23 to 06/30/23, Kolkata, West Bengal
- Research Advances in Plant & Microbial Biotechnology, 08/14/23 to 08/19/23, NOIDA, Uttar Pradesh



DISCLAIMER

I hereby declare that the information given by me is true, complete and correct to the best of my knowledge and belief.



EDUCATION

Ph.D.: Department of Biodiversity and Conservation of Natural Resources

Central University of Odisha, 12/2024

Title: "Biochemical and Molecular Profiling of Wild Dioscorea Species of Koraput Region, Odisha"

NET: Life sciences

CSIR/UGC, 01/2013

M.Sc.: Biotechnology

Sambalpur University - Odisha, India, 01/2010

- Title: "Identification of Sex in *Momordica dioica* Roxb. Ex Wild. (Spine Guard) using RAPD markers"

- GPA: 80.05%

B.Sc.: Biotechnology

MITS School of Biotechnology - Odisha, India, 01/2008

GPA: 70.75%