Curriculum Vitae

Dr. Jijnasa Barik

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Qualifications

Academic qualifications Degree	University/ Institute/ College/School	Year of passing
Ph.D	Central University of Odisha, Koraput	2019
M.Sc.	National Institute of Technology, Rourkela, Odisha	2014
B.Sc.	G.M. College (Auto), Sambalpur, Odisha	2012

Experiences

Teaching

1. Assistant Professor in the Department of Botany, Government Degree College, Sundargarh, Odisha (from 13.01.2024 – continuing).
2. Guest faculty in the Department of Botany, Gangadhar Meher University, Sambalpur, Odisha (from 01-12-2021- 04.07.2023).

Research

1. Ten months research experience (September 2020- July 2021) as an Young Professional II in a DBT-funded project i.e. 'Establishment of Biotech-KISAN Hub for aspirational districts of Eastern Plateau and Hills, and Western Hills' with focus to improve farming practices, sustainable use of soil and create access to rural processing technology, value addition and markets' at Biju Patnaik Tribal Agro-biodiversity Centre, M. S. Swaminathan Research Foundation, Jeypore, Odisha, India.
2. Five years research experience (August 2014- October 2019) during my Ph.D. on 'Physiological and molecular profiling of indigenous lowland rice (*Oryza sativa* L.) landraces of Koraput in relation to flooding tolerance' under the guidance of Dr. Debabrata Panda, Assistant Professor, Department of Biodiversity and Conservation of Natural Resources, Central University of Odisha, Koraput, India.
3. One year of research experience (July 2013- June 2014) during my M.Sc. dissertation on 'Effect of immobilization on production of ethanol using yeast cells' under the guidance and supervision of Dr. Rasu Jayabalan, Assistant Professor, Food Microbiology and Bioprocess Laboratory, Department of Life Science, National Institute of Technology, Rourkela, Odisha, India.

Trainings and workshops

1. Participated in the **Faculty Development Programme on 'Designing, Developing and Delivering Online/MOOCs'** from 19th August to 18th September 2022 organized by School of Education, Gangadhar Meher University, Amruta Vihar, Samalpur, Odisha.
2. Participated in the **'Four Day Residential Training Programme of Stake Holders/Buyer-Seller meet in Jeypore Forest Division**' from 16th to 19th December 2020 organized by Biju Patnaik Tribal Agro-biodiversity Centre, M. S. Swaminathan Research Foundation, Jeypore in collaboration with Jeypore Forest Division and with funding support from State Medicinal Plants Board, Odisha at M.S. Swaminathan Research Foundation, Jeypore, Koraput, Odisha.
3. Participated in 2 days workshop on '**Climate Change Impact and Mitigation Measures**' during 27th to 28th November 2018 organized by ICAR-Indian Institute of Soil & Water Conservation at Sunabeda, Koraput, Odisha.
4. Successfully completed a 5-day workshop on '**Plant Ecology and Ecophysiology**' at Sirsi, Karnataka from 17th to 22nd September 2018, jointly coordinated by the Indian Institute of Science, the National Centre for Biological Sciences, Indian Institute of Science Education and Research, Pune and the University of Leeds, United Kingdom.
5. Attended and successfully completed a short-term training course on '**Biotechnological Techniques**' at Regional Plant Resource Centre (RPRC), Bhubaneswar, Odisha from 6th May to 7th June 2013.
6. Participated in '**INSPIRE Science Camp**' organized by National Institute of Technology, Rourkela, Odisha sponsored by INSPIRE, Department of Science and Technology, Government of India, New Delhi during 15th to 20th December 2013.
7. Attended '**Annual Training Camp (ATC)**' by 5 Orissa Battalion NCC Sambalpur at Guru Nanak Public School, Khetrajpur from 7/9 to 18th June 2005.

Conferences Attended

1. Presented a paper (poster) in the International Conference on **'Recent Advances in Biodiversity and Agriculture for a Sustainable Future (ICRABASF – 2024)'** organised by School of Biodiversity and Conservation of Natural Resources, Central University of Odisha, Koraput during 19th – 20th April, 2024.
2. Participated in the seminar on **'International Day of Biological Diversity-2019'** organized by Biju Patnaik Tribal Agro-biodiversity Centre. M.S Swaminathan Research Foundation, Jeypore on 22nd May 2019 at MSSRF, Jeypore, Koraput, Odisha.
3. Presented a paper (poster) in the National Conference on '**Farmers First for Conserving Soil and Water Resources in Eastern Region (FFCSWR-2019)**' organized by Indian Association of Soil and Water Conservationists (IASWC), Dehradun, Uttarakhand in collaboration with ICAR-Indian Institute of Soil and Water Conservation (IISWC), Dehradun, Uttarakhand and ICAR-Indian Institute of Soil and Water Conservation (IISWC), RC, Sunabeda, Koraput, Odisha on 6th to 8th February 2019.

4. Presented a paper (oral) in the National Conference on '**Biodiversity Conservation for Sustainable Development and Environment Management (BCSDEM-2018)**' organized by Department of Life Science and Department of Chemistry, School of Applied Sciences, Centurion University of Technology & Management, Bhubaneswar at Centurion University of Technology & Management, Bhubaneswar held on 1st and 2nd April 2018.
5. Presented a paper (poster) in the ADNAT Silver Jubilee Convention and **'International symposium on Biodiversity and Biobanking (BIODIVERSE 2018)'** organized jointly by Centre for the Environment, IIT, Guwahati, Directorate of Sericulture, Bodoland Territorial Council and Association for Promotion of DNA Fingerprinting and other DNA Technologies (ADNAT) at Indian Institute of Technology, Guwahati, Assam held from 27th to 29th January 2018.
6. Presented a paper (poster) in the National Seminar on '**Science and Technology for Environmental Security**' on the occasion of the 19th Odisha Bigyan 'O' Paribesh Congress organized by Orissa Environmental Society, Bhubaneswar and KIIT University, Bhubaneswar at KIIT University, Bhubaneswar held on 25th and 26th November 2017.
7. Presented a paper (oral) in the National Seminar on '**Climate change and Biodiversity**' organized inconnection with the 4TH Indian Biodiversity Congress (IBC 2017) at Pondicherry University, Puducherry held on 10th -12th March 2017.
8. Presented a paper (poster) in the National Seminar on '**Forestry & Agriculture for Sustainable Future**' on the occasion of the 18th Odisha Bigyan 'O' Paribesh Congress under the auspices of Odisha Environmental Society, Bhubaneswar and Orissa University of Agriculture & Technology, Bhubaneswar held on 03rd and 04th December, 2016.
9. Participated in the '**40th Annual Conference of Orissa Botanical Society'** organized jointly by P.G. Department of Biosciences and Biotechnology and P. G. Department of Environmental Science of Fakir Mohan University, Balasore, Odisha on 09th and 10th February, 2016
10. Participated in the seminar on '**Biodiversity & Conservation Initiatives in Koraput Region, Odisha'** organised by School of Biodiversity and Conservation of Natural Resources, Central University of Orissa, Koraput, in collaboration with Foundation for Ecological Security, Anand, Gujurat on 28th and 29th March, 2015.
11. Presented a paper (poster) in the National Seminar on '**Recent Advances in Food Science & Nutrition' (NSFSN-2014),** organized by Center for Food Science & Technology, Sambalpur University at Jyoti-Vihar during 21st and 22nd March 2014.
12. Participated in the seminar on '**Conservation of Biodiversity**' organized by Department of Life Science, National Institute of Technology, Rourkela, Odisha in association with Youth Movement Federation of India (YMFI) on 11th January 2013.

List of Publications

Book

Panda D., **Barik J.** (2022) Traditional Rice Landraces for Flooding Tolerance. LAP LAMBERT Academic Publishing, ISBN: 978-620-5-49242-0.

Research paper

Barik J., Kumar V., Lenka S. K., Panda D. (2020) Assessment of variation in morpho-physiological traitsand genetic diversity in relation to submergence tolerance of five indigenous landraces of lowland rice. *Rice Science*, 27(1): 32-43. DOI: 1 0.1016/j.rsci.2019.12.004. **Impact factor- 4.412**, UGC listed, Sl no-21906, Journal no-22655.

Barik J., Panda D., mohanty S. K., Lenka S. K. (2019) Leaf photosynthesis and antioxidant response in selected traditional rice landraces of Jeypore tract of Odisha, India to submergence. *Physiology and Molecular Biology of Plants*, 25(4): 847-863, https://doi.org/10.1007/s12298-019-00671-7. **Impact factor- 3.023**, UGC listed, Sl no-19849, Journal no-30885.

Barik J., Kumar V., Lenka S. K., Panda D. (2019) Genetic potentiality of lowland indigenous indica rice (*Oryza sativa* L.) landraces to anaerobic germination potential. *Plant Physiology, Reports*, 24(2): 249-261, https://doi.org/10.1007/s40502-019-00441-3. **Impact factor- 1.42**, UGC listed, Sl no-9748, Journal no-20852.

Panda D., **Barik J.** (2021) Flooding tolerance in rice: Focus on mechanisms and approaches. Rice Science, 28(1):43-57, https://doi.org/10.1016/j.rsci.2020.11.006. **Impact factor- 4.412**, UGC listed, Sl no-21906, Journal no-22655.

Panda D., **Barik J.**, Sarkar R. K. (2021) Recent advances of genetic resources, genes and genetic approaches for flooding tolerance in rice. *Current Genomics*, 22(1): 41-58, https://doi.org/10.2174/1389202922666210114104140. **Impact factor- 2.689**, UGC listed, Sl no- 5496, Journal no-14221.

Panda D., Mohanty B., Behera P. K., **Barik J.**, Mishra S. S. (2020) Harnessing leaf photosynthetic traits and antioxidant defence for multiple stress tolerance in three premium indigenous rice landraces of Jeypore tract of Odisha, India. *Functional Plant Biology*, 47: 99-111, https://doi.org/10.1071/FP19126. **Impact factor- 2.812**, UGC listed, Sl no-8062, Journal no-17840.

Panda D., Mandal L., **Barik J.** (2020) Phytoremediation potential of naturally growing weed plants grown on fly ash-amended soil for restoration of fly ash deposit. *International Journal of Phytoremediation*, 22(11): 1195-1203. https://doi.org/10.1080/15226514.2020.1754757. **Impact factor- 4.003**, UGC listed, Sl no-11291, Journal no-23355.

Panda D., Barik J. R., **Barik J.**, Behera P. K., Dash D. (2020) Suitability of Brahmi (*Bacopa monnieri* L.)cultivation on fly ash-amended soil for better growth and oil content. *International Journal of Phytoremediation*, 23(1): 72-79. https://doi.org/10.1080/15226514.2020.1791052. **Impact factor- 4.003**, UGC listed, Sl no-11291, Journal no-23355.

Bisoi S. S., Mishra S. S., **Barik J**., Panda D. (2017) Effects of different treatments of fly ash and mining soil on growth and antioxidant protection of indian wild rice. *International Journal of Phytoremediation*, 19(5): 446-452. **Impact factor- 4.003**, UGC listed, Sl no-11291, Journal no- 23355.

Panda D., Mahakhud A., Mohanty B., Mishra S. S., **Barik** J. (2018) Genotypic variation of photosynthetic gas exchange and stomatal traits in some traditional rice (*Oryza sativa* L.) landraces from Koraput, India for crop improvement. *Physiology and Molecular Biology of Plants*, 24(5): 973-983. **Impact factor- 3.023**, UGC listed, Sl no-19849, Journal no-30885.

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*, 6(8): e04567, https://doi.org/10.1016/j.heliyon.2020.e04567. **Impact factor- 3.776**, UGC listed, Sl no- 8845, Journal no-17185.

Panda D., Sahu T., **Barik J.**, Mishra S. S., 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, https://doi.org/10.1016/j.dib.2019.104305. **Impact factor- 0.131**, UGC listed, Sl no-5748, Journal no-12743.

Panda D., Mandal L., **Barik J**., Mishra S. S., 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*, 89(3): 853-860, https://doi.org/10.1007/s40011-018-0996-7. **Impact factor- 0.282**, UGC listed, Sl no-20384, Journal no-38612.

Panda D., Sahoo R. S., Behera P. K., **Barik J.,** Nayak J. K. (2020) Leaf photochemical activity and antioxidant protection in selected hill rice genotypes of Koraput, India in relation to Aluminum (Al^{3+}) stress. *Journal of Stress Physiology & Biochemistry*, 16 (2): 13-21. ISSN 1997-0838.

Dash I., **Barik J**., Nayak A., Sahoo M., Dethose A., Jhonson E., Kumar S., Jayabalan R. (2015) Comparative studies of ethanol production and cell viability: free cells versus immobilized cells. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, 6(2): 1708-1714. **Impactfactor- 0.282**, Scopus Indexed. ISSN 0975-8585.

Panda D., Mishra S. S., Bisoi S. S., **Barik J.** (2016) Antioxidant response of indian wild rice exposed to different concentration of chromium for phytoremediation. Journal of Environmental Science and Pollution Research, 2(1): 46-49. ISSN: 2455-0272.

Book Chapter

Panda, D., Behera, P.K., & **Barik, J.** (2024) Anaerobic Germination in Rice. *Responses of plant to soil flooding*, 159-170.

Panda, D., **Barik, J.**, & Behera, P. K. (2022). Improving Submergence Tolerance in Rice: Recent Progress and Future Perspectives. *Response of Field Crops to Abiotic Stress*, 111-122.

Fellowships awarded

'Post-Graduate Merit Scholarship for University Rank Holders' for the academic session 2012-14 duringM.Sc. by University Grant Commission, Bahadurshah Zafar Marg, New Delhi.

Laboratory skills/Instrument handling proficiency

1. Plant physiology techniques (Photosynthetic gas analyser, chlorophyll fluorometer, plant efficiencyanalyzer Handy PEA, SPAD chlorophyll meter etc)
2. Cell and Molecular biology techniques (PCR, electrophoresis systems, gel documentation systemsetc)
3. Biochemical techniques (UV-visible spectrophotometer, centrifuge, pH meter, flame photometer, soxhlet apparatus etc)

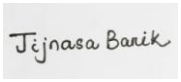
4. Microbiology techniques (Laminar air flow, incubators and shakers, microscope etc)
5. Imaging (Trinocular microscope system with a computer attachment and Carl Zeiss Trinulocular Stereozoom Microscope with Axiocam)
6. Bioinformatics (BLAST, RasMol, Swiss Model, Swiss PDBViewer, Clustal Omega etc)

Computer Knowledge/ Technical skills/ Softwares

1. Good knowledge of computers and internet
2. BASIC, C Programming
3. MS Office
4. **Course :** Diploma in Computer Applications, I-Tech, Sambalpur, Odisha
5. **Statistical Software** - CROPSTAT (International Rice Research Institute, Philippines) software,Paleontological Statistics (PAST) software

Declaration

I do hereby declare that the above-furnished information is true to the best of my knowledge.



Place: Sundargarh, Odisha
Date: 30.05.2024

Jijnasa Barik