Staff Details (Dr. Manas K. Tripathy)

Title	DR.	First Name	MANAS	Last Name	TRIPATHY	Photograph
Designation		Assistant Professor (OES-I)				
Department		Botany				
Phone Number (M)		07735163057				
Email		mktripathy@gmail.com				
		Google Scholar: https://scholar.google.com/citations?user=0JheIcQAAAAJ&hl=en **Orcid**: https://orcid.org/0000-0002-8044-5696 **Researchgate:** https://www.researchgate.net/profile/Manas-Tripathy-2				

Educational Qualifications

Subject	Institution	Year	Details
Ph.D.	International Centre for Genetic Engineering and Biotechnology (I.C.G.E.B), New Delhi Campus, India and University of Delhi, Delhi, India	2013	Plant Molecular Biology and Biotechnology Thesis Title: Functional validation of a small GTP- binding protein PgRab7 in rice for abiotic stress tolerance Supervisors: 1. Padma Shri Prof. Sudhir K. Sopory (Ex-JNU VC, Ex-Director-ICGEB) 2. Prof. Renu Deswal (DU)
PG	Berhampur University, Odisha, India	2001	Botany (Special Papers: Plant Physiology and Biochemistry) First Division: 72%
UG	Utkal University, Odisha, India	1999	Botany (Hons.), Chemistry, Zoology, English, Odia, Polymer Science First Division with Distinction: 62.3%
Certificate in Computing (CIC)	Indira Gandhi National Open University (IGNOU), New Delhi, India	2003 (January - June)	Subjects: The Context, The Technology, The Applications, Microsoft office

Professional Experiences

Organisation/ Institution	Designation	Duration	Role
Dhenkanal Autonomous College, Dhenkanal, Odisha, INDIA	Assistant Professor-Botany (Odisha Educational Service-I)	August 21st 2025-Continuing	-Teaching UG, PG courses. -NAAC Member
Government Science College Chatrapur-761020, Ganjam Odisha, INDIA	Assistant Professor-Botany (Odisha Educational Service-I)	January12th, 2024- August 20th , 2025	-Teaching UG, PG courses. -Counsellors, Youth Red Cross (YRC) -Coordinator, College Website Development -NAAC Member
Texas Crop Science LLC, Austin, Texas-78705, USA	Special Consultant	July 2022 - June 2023	Worked on biological data analysis and manuscript writing for publication in international journals
Institute of Life Sciences (ILS), Bhubaneswar-751023 Odisha, INDIA and Department of Plant Molecular Biology, University of Delhi (DU) South Campus New Delhi 110021, INDIA	CSIR-Senior Research Associate (Scientist's Pool Scheme)	July 2019-June 2022	Research and Development (Pant Biotechnology-CRISPR/cas Genome editing Transgenic Research)
Department of Biotechnology National Institute of Technology (NIT), Durgapur West Bengal-713209, INDIA	Research Associate	2018 - 2019	Research and Development (Pant Molecular Biology)
Department of Agronomy Iowa State University, Ames Iowa- 50011, USA	Postdoctoral Research Associate	2017	Research and Development (Pant Biotechnology-Pathology)
Department of Molecular Biosciences, The University of Texas at Austin, Austin Texas-78712, USA	Postdoctoral Fellow	2014- 2017	Research and Development (Pant Molecular Biology)
Department of Biosciences Indian Institute of Science Education and Research (IISER), Bhopal-462066 INDIA	Postdoctoral Fellow	2013- 2014	Research and Development (Molecular Biology-Chromatin Remodeling)
School of Life Sciences Jawaharlal Nehru University (JNU), New Delhi-110067 INDIA	Junior Research Fellow	2003-2006	Research and Development (Pant Molecular Biology)

Teaching Experience (Subjects/Courses Taught)

Teaching UG, PG courses (Analytical Techniques in Plant Sciences, Plant Physiology, Biochemistry, Molecular Biology, Biotechnology, Paleobotany, Applied Mycology, Horticulture, Ecology)

Honors & Awards

Awarded as **Best Poster Presentation** at P. Parija Memorial National Conference on Recent Advances in Plant Biotechnology at Department of Botany, Ravenshaw University, Odisha, INDIA in 2012

Publications

Published, peer-reviewed

*Corresponding author

12. **Tripathy MK**, Wang H, Slocum RD, Jiang H-W,Nam J-C, Sabharwal T, Veerappa R, Brown KA, Cai X, Faull PA, Clark G and Roux SJ (2025) Modified pea apyrase has altered nuclear functions and enhances the growth of yeast and Arabidopsis. **Front. Plant Sci.** 16:1584871.

    DOI: 10.3389/fpls.2025.1584871 I.F- 4.1

11. Chourdhary, S., Kumawat, G., Kher, K., Baroliya, P.K., Gupta, A.K., **Tripathy, M.K*** and Harish* (2024) Green synthesis of palladium nanoparticles using Asterarcys sp. and their applications. **Nano TransMed**, 100046

10. Jamra, G., Ghosh, S., Singh, N., **Tripathy, M.K**., Aggarwal, A., Rajan Singh, R.D., Srivastava A.K. Kumar A and Pandey, G.K (2024). Ectopic expression of Eleusine coracana CAX3 confers tolerance to metal and ion stress in yeast and Arabidopsis. **Plant Physiology and Biochemistry**. 108613.

    DOI: 10.1016/j.plaphy.2024.108613 I. F- 6.5

9. **Tripathy, M.K** and Roux, S.J. (2023). Role of calcium in regulating key steps in phytochrome-induced signaling pathways. **Physiology and Molecular Biology of Plants**. 29:1875-1879 DOI:10.1007/s12298-023-01403-8 I.F- 3.5

8. Clark, G., **Tripathy, M.K** and Roux, S.J. (2023). Growth regulation by apyrases: insights from altering their level of expression in yeast, Arabidopsis and soybeans. **Plant Physiology**. kiad590 DOI: 10.1093/plphys/kiad590 I.F- 6.5

7. Bansal, S#., Sundararajan, S#., Shekhawat, P.K., Singh S., Soni, P., **Tripathy M.K*** and Ram, H* (2023). Rice lipases: a conundrum in rice bran stabilization: A review on their impact and biotechnological interventions. **Physiology and Molecular Biology of Plants**. 29, 985-1003. DOI 10.1007/s12298-023-01343-3 I.F- 3.5

6. Clark, G., Brown, KA., **Tripathy, M.K** and Roux, S.J. (2021). Recent Advances Clarifying the Structure and Function of Plant Apyrases (Nucleoside triphosphate diphosphohydrolases). **International Journal of Molecular Sciences**, 22, 3283. DOI: 10.3390/ijms22063283 I.F- 4.9

5. **Tripathy, M.K***., Deswal, R and Sopory, S.K. (2021). Plant RABs: role in development and in abiotic and biotic stress responses. **Current Genomics**, 22:26-40. I.F- 2.6

4. **Tripathy, M.K**., Weeraratne, G., Clark, G and Roux, S.J. (2017). Apyrase inhibitors enhance the ability of diverse fungicides to inhibit the growth of different plant pathogenic fungi. **Molecular Plant Pathology**, 18:1012-1023. DOI: 10.1111/mpp.12458 I.F- 4.8

3. **Tripathy, M.K***., Tiwari, B.S., Reddy, M.K., Deswal, R and Sopory, S.K.* (2017). Ectopic expression of PgRab7 in rice plants (Oryza sativa L.) results in differential tolerance at the vegetative and seed setting stage during salinity and drought stress. **Protoplasma**, 254:109-124. DOI: 10.1007/s00709-015-0914-2 I.F- 3.186

2. Singh, B.N., Mudgil. Y., Jhon, R., Achary, V.M., **Tripathy, M.K**., Sopory, S.K., Reddy, M.K and Kaul, T. (2015). Cell cycle stage-specific differential expression of topoisomerase I in tobacco BY-2 cells and its ectopic overexpression and knockdown unravels its crucial role in plant morphogenesis and development. **Plant Science**, 240:182-192. DOI: 10.1007/s00709-015-0914-2 I.F- 5.2

1. **Tripathy, M.K**., Tyagi, W., Goswami, M., Kaul, T., Singla-Pareek, S.L., Deswal, R., Reddy, M.K and Sopory, S.K. (2012). Characterization and functional validation of tobacco PLC delta for abiotic stress tolerance. **Plant Molecular Biology Reporter**, 30:488-497. Doi.org/10.1007/s11105-011-0360-z

I.F- 2.1

Book Chapters

6. **Tripathy, M.K*** and Harish () Algal Alkaloids and Their Biosynthesis. Harish and Saheed Sabiu (eds.) Secondary Metabolites of Algae and Their Biosynthesis. Publisher: Springer Nature

5. Sethi, L. and **Tripathy, M.K*** (2024) Application of CRISPR for plant-mediated resistance. Ashwani Kumar, Sudipti Arora, Shinjiro Ogita, Yuan- Yeu Yau and Krishnendu Mukherjee (eds.), Gene editing in plants: CRISPR-Cas and its applications. Publisher: Springer Singapore, P309-332. ISBN 978-981-99-8528-9

4. **Tripathy, M.K*** and Sopory, S.K. (2023). Developing Stress-Tolerant Plants. Role of Small GTP Binding Proteins (RAB and RAN). Mohammad Wahid Ansari, Anil Kumar Singh, and Narendra Tuteja (eds.), Global Climate Change and Plant stress Management. Publisher: Wiley P229-240. ISBN: 978-1-119-85852-2

3. Sherpa, T., Kumari, K., Jha, D., **Tripathy, M.K** and Dey, N (2023). CRISPR/Cas based genome editing and its possible implication in bamboo research. Malay Das, Liuyin Ma, Amita Pal, Chittaranjan Kole (eds.), Genetics, Genomics and Breeding of Bamboos. CRC Press/Taylor & Francis Group. P338-353. ISBN: 9781003287605

2. Kaur, K[#]., **Tripathy, M.K**[#] and Pandey, G.K. (2020). Role of Dual Specificity Phosphatase in Stress and Starch Metabolism. G. K. Pandey (ed.), Protein Phosphatases and Stress Management in Plants,

Springer Nature Switzerland AG. P331-351, ISBN: 978-3-030-48733-1 # Authors contributed equally

1. **Tripathy, M.K**., Reddy, M.K., Deswal, R and Sopory, S.K. (2013). Towards developing transgenic rice for salinity and drought tolerance: role of Rab7. In: Muralidharan K and Siddiq EA, eds. 2013. International dialogue on perception and prospects of designer rice. Society for advancement of rice research, Directorate of rice research, Hyderabad 500030, India, P228-237. ISBN: 978-81-926809-0-3.

Public Service / University Service / College Service /Consulting Activity/College Committee members

- Member, Board of Studies, Department of Botany, Salepur Autonomous College, Salepur, Cuttack, Odisha
- External Examiner, Practical Papers in different degree colleges.
- Counsellor, Youth Red Cross (YRC), Government Science College, Chatrapur, Ganjam, Odisha, India
- Coordinator, College Website Development, Government Science College, Chatrapur, Ganjam, Odisha, India
- Member, NAAC Team, Government Science College, Chatrapur, Ganjam, Odisha, India
- Member, NAAC Team, Dhenkanal Autonomous College, Dhenkanal, Odisha, India

Professional Societies Memberships

- Member, American Society of Plant Biologists (ASPB)

Scientific Journal Reviewer

- Plant Physiology and Biochemistry (ISSN: 0981-9428), Elsevier
- Protoplasma (ISSN: 0033183X, 16156102), Springer
- Biodiversity and Conservation (ISSN 0960-3115, 1572-9710), Springer
- Frontiers in Plant Science (ISSN 1664-462X)
- Plant Physiology Reports (ISSN 2662-2548), Springer

INVITED TALK/CONFERENCE PRESENTATIONS

Oral presentations

- Invited speaker talk titled "**Engineered Pea Apyrase Enhances Growth via Nuclear Modulation**" presented at 6th International Conference on Plant Physiology (ICPP-2025)" held at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu in 2025
- Invited speaker talk titled "**Apyrase inhibitors improve the efficacy of fungicides against different plant-pathogenic fungi**" presented at National Conference on "Biotechnology, Bioinformatics and Biomedical Science-2025" held at Department of Biotechnology, Khallikote Unitary University, Berhampur, Odisha in 2025
- Invited speaker talk titled "**Ectopic expression of a modified pea apyrase leads to improved phosphate absorption and increased seed yields in Arabidopsis**" presented at National Conference on "Emerging Trends in Plant Science and Bio-diversity for Sustainable Development" held at Department of Botany, Khallikote Unitary University, Berhampur, Odisha in 2025
- Invited talk titled "**Techniques in Transgenic Plant Development**" presented at Department of Botany, SKCG Autonomos College, Paralakhemundi, Odisha, India in 2025
- Invited talk titled "**Transgenic Plant Development**" presented at Department of Botany, Choudwar College, Choudwar, Cuttack, Odisha, India in 2025
- Invited talk titled "**Role of small GTP-binding protein (RAB7) in abiotic stress tolerance**" presented at Department of Botany, Salepur Autonomous College, Cuttack, Odisha, India in 2024
- Invited talk titled "**Role of Apyrase enzyme inhibitors in modern fungicide development**" presented at Department of Botany, Salepur Autonomous College, Cuttack, Odisha, India in 2021

Poster presentations

- Poster titled "**Modified apyrase altered nuclear functions leads to changes in the gene expression and growth in Yeast and Arabidopsis**" was presented at the International Conference on Food and Nutritional Security, jointly organized by National Agri-Food Biotechnology Institute (NABI), Mohali; Center of Innovative and Applied Bioprocessing (CIAB), Mohali; Indian Society for Plant Physiology (ISPP), New Delhi; Plant Tissue Culture Association of India (PTCA-I), Lucknow; International Center for Genetic Engineering and Biotechnology (ICGEB), New Delhi and ICAR-National Institute of Plant Biotechnology (ICAR-NIPB), New Delhi, India in 2023.
- Poster titled "**Transcriptome analysis of *PgRab7* overexpressing transgenic rice plants in response to salinity and drought stress**" was presented at the 4th International Plant Physiology Congress (IPPC-2018), organized by CSIR-National Botanical Research Institute, Lucknow, India and Indian Society for Plant Physiology, New Delhi, India in 2018.
- Participated conference on "**Plant responses to light and stress: Emerging issues in climate change**" which took place at International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi, India in 2018.
- Poster titled "**Expression of an apyrase gene (*psNTP9*) with modified calmodulin binding enhances**

phosphate uptake in yeast, hairy roots of maize, soybean, and canola" was presented a International conference on plant developmental biology at National Institute of Science Education and Research, Odisha, India in 2017.

- ❖ Poster entitled "**Fungicide potency increased by apyrase inhibitors to inhibit the growth o different plant pathogenic fungi**" was presented at Plant Biology (ASPB) at Austin, Texas, USA i 2016.
- ❖ Poster entitled "**Functional validation of a small GTP-binding protein PgRab7 in rice for abiotic stress tolerance**" was presented at P. Parija Memorial National Conference on Recent Advances i Plant Biotechnology at Department of Botany, Ravenshaw University, Odisha, India in 2012. (**Awarded as Best Poster Presentation**)
- ❖ Poster entitled "**Physiological bioindicators of lake Chilika ecosystem**" was presented at International conference on Trends in cellular and molecular biology at Jawaharlal Nehru University, New Delhi, India in 2003.

WEBINAR ATTAINDED

- ➢ A Webinar entitled **"Our Environment Our Future"** was organised by Department of Botany, Dhenkanal Mahila Mahavidyalaya on World environment day on June, 5th 2024

WORKSHOP ATTAINED

- ➢ Course on "Advanced Microscopy and Imaging Techniques" held on December, 2013.
  Department of Biological Sciences, Indian Institute of Science Education and Research, Bhopal**,** India
- ➢ SERB School on "Introduction to Systems and Synthetic Biology for Scientists and Engineers" held on April, 2013.
  Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai, India
- ➢ Advance Course on Confocal Microscopy and Imaging 2009
  International Centre for Genetic Engineering and Biotechnology, New Delhi, India.

TRAINING PROGRAMME ATTAINED

- ➢ The National Education Policy of India 2020 (**NEP 2020**) Orientation & Sensitization Programme under Malaviya Mision Teacher Training Programme (MMTTP) of University Grants Commission (UGC), India Organized by Malaviya Mision Teacher Training Centre, Utkal University, Bhubaneswar, Odisha from May 6th to 18th, 2024.
- ➢ State Level Training Programme for Untrained YRC Counsellors held at Red Cross Bhavan, Bhubaneswar, Odisha from June 10th to 12th 202