


## Staff Details

Title	<b>DR.</b>	First Name	<b>MANAS</b>	Last Name	<b>TRIPATHY</b>	Photograph
Designation	Assistant Professor (OES-1)					
Department	Botany					
Phone Number (Office)	07735163057					
Email	mktripathy@gmail.com					
<b>Educational Qualifications</b>						
Subject	Institution		Year	Details		
<b>Ph.D.</b>	International Centre for Genetic Engineering and Biotechnology (I.C.G.E.B) New Delhi, 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: Padma Shri Prof. Sudhir K. Sopory (Ex-JNU VC, Ex-Director-ICGEB) Prof. Renu Deswal (DU)		
<b>PG</b>	Berhampur University, Odisha, India		2002	Botany (Special Papers: Plant Physiology and Biochemistry)		
<b>UG</b>	Utkal University, Odisha, India		1999	Botany (Hons.), Chemistry, Zoology, English, Odia, Polymer Science		
<b>Certificate in Computing (CIC)</b>	Indira Gandhi National Open University, New Delhi, India		2003 (January - June)	Subjects: The Context, The Technology, The Applications, Microsoft office		
<b>Professional Experiences</b>						
Organisation/ Institution	Designation		Duration	Role		
Government Science College, Chatrapur-761020, Odisha, INDIA	Assistant Professor-Botany (Odisha Educational Service)		January 2024 - Continuing	Teaching UG, PG courses. Youth Red Cross (YRC) Counsellors		

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 South Campus, New Delhi 110021, INDIA	CSIR-Senior Research Associate (Scientist's Pool Scheme)	July 2019 - June 2022	Research and Development  (Plant Biotechnology- CRISPR/cas Genome editing, Transgenic Research)
Department of Biotechnology, National Institute of Technology, Durgapur , West Bengal- 713209, INDIA	Research Associate	2018 -2019	Research and Development  (Plant Molecular Biology)
Department of Agronomy, Iowa State University, Ames, Iowa- 50011, USA	Postdoctoral Research Associate	2017	Research and Development  (Plant Biotechnology-Pathology)
Department of Molecular Biosciences, The University of Texas at Austin, Austin, Texas- 78712, USA	Postdoctoral Fellow	2014- 2017	Research and Development  (Plant Molecular Biology)
Department of Biosciences, Indian Institute of Science Education and Research, Bhopal-462066, INDIA	Postdoctoral Fellow	2013- 2014	Research and Development  (Molecular Biology- Chromatin remodeling)
School of Life Sciences, Jawaharlal Nehru University, New Delhi-110067, INDIA	Junior Research Fellow	2003-2006	Research and Development  (Plant Molecular Biology)
Teaching Experience (Subjects/Courses Taught)			
Teaching UG, PG courses (Plant Physiology, Biochemistry, Molecular Biology and Biotechnology, Paleobotany, Applied Mycology)			
Honors & Awards			
Awarded as <b>Best Poster Presentation</b> 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

**Google Scholar:** <https://scholar.google.com/citations?user=0JhelcQAAAAJ&hl=en>

**Orcid:** <https://orcid.org/0000-0002-8044-5696>

**Researchgate:** <https://www.researchgate.net/profile/Manas-Tripathy-2>

\*Corresponding author

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.
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.
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
7. Bansal, S<sup>#</sup>., Sundararajan, S<sup>#</sup>., 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.
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.
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.
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.
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.
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.
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.

## Book Chapters

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<sup>#</sup>, **Tripathy, M.K<sup>#</sup>** 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 <sup>#</sup> 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, Dept. of Botany, Salepur Autonomous College, Salepur, Cuttack, Odisha
- ❖ 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

Professional Societies Memberships

- ❖ Member, American Society of Plant Biologists ( ASPB)

Projects (Major Grants/Collaborations)

NA

Other Details if any

### 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)

### INVITED TALK/CONFERENCE PRESENTATIONS

- ❖ Oral presentations
  - 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 4<sup>th</sup> 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 at 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 of**

**different plant pathogenic fungi**” was presented at Plant Biology (ASPB) at Austin, Texas, USA in 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 in 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.

#### **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-462023, 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 Commision (UGC), India Organized by Malaviya Mision Teacher Training Centre, Utkal University, Bhubaneswar, Odisha from May 6<sup>th</sup> to 18<sup>th</sup>, 2024.
- State Level Training Programme for Untrained YRC Counsellors held at Red Cross Bhavan, Bhubaneswar, Odisha from 10<sup>th</sup> to 12<sup>th</sup> June 2024.