


### Staff Details

Title	<b>DR.</b>	First Name	<b>MANAS</b>	Last Name	<b>TRIPATHY</b>	Photograph
Designation	Assistant Professor (OES-I)					
Department	Botany					
Phone Number (Office)	07735163057					
Email	mktripathy@gmail.com					
Educational Qualifications						
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: 1. Padma Shri Prof. Sudhir K. Sopory (Ex-JNU VC, Ex-Director-ICGEB)  2. Prof. Renu Deswal (DU)		
<b>PG</b>	Berhampur University, Odisha, India		2002	Botany (Special Papers: Plant Physiology and Biochemistry) First Division: 72%		
<b>UG</b>	Utkal University, Odisha, India		1999	Botany (Hons.), Chemistry, Zoology, English, Odia, Polymer Science  First Division with Distinction: 62.3%		
<b>Certificate in Computing (CIC)</b>	Indira Gandhi National Open University (IGNOU), 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, Ganjam, 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 (Pant 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 (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, 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 (Pant 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
<p><b>Published, peer-reviewed</b></p> <p><b>Google Scholar:</b> <a href="https://scholar.google.com/citations?user=0JhelcQAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=0JhelcQAAAAJ&amp;hl=en</a></p> <p><b>Orcid:</b> <a href="https://orcid.org/0000-0002-8044-5696">https://orcid.org/0000-0002-8044-5696</a></p> <p><b>Researchgate:</b> <a href="https://www.researchgate.net/profile/Manas-Tripathy-2">https://www.researchgate.net/profile/Manas-Tripathy-2</a></p> <p>*Corresponding author</p> <p>10. Jamra, G., Ghosh, S., Singh, N., <b>Tripathy, M.K.</b>, 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. <b>Plant Physiology and Biochemistry</b>. 108613. DOI: 10.1016/j.plaphy.2024.108613 I. F- 6.5</p> <p>9. <b>Tripathy, M.K</b> and Roux, S.J. (2023). Role of calcium in regulating key steps in phytochrome-induced signaling pathways. <b>Physiology and Molecular Biology of Plants</b>. 29:1875-1879. DOI:10.1007/s12298-023-01403-8 I.F- 3.5</p> <p>8. Clark, G., <b>Tripathy, M.K</b> and Roux, S.J. (2023). Growth regulation by apyrases: insights from altering their level of expression in yeast, Arabidopsis and soybeans. <b>Plant Physiology</b>. kiad590. DOI: 10.1093/plphys/kiad590 I.F- 6.5</p> <p>7. Bansal, S<sup>#</sup>., Sundararajan, S<sup>#</sup>., Shekhawat, P.K., Singh S., Soni, P., <b>Tripathy M.K*</b> and Ram, H* (2023). Rice lipases: a conundrum in rice bran stabilization: A review on their impact and biotechnological interventions. <b>Physiology and Molecular Biology of Plants</b>. 29, 985-1003. DOI: 10.1007/s12298-023-01343-3 I.F- 3.5</p> <p>6. Clark, G., Brown, KA., <b>Tripathy, M.K</b> and Roux, S.J. (2021). Recent Advances Clarifying the Structure and Function of Plant Apyrases (Nucleoside triphosphate diphosphohydrolases). <b>International Journal of Molecular Sciences</b>, 22, 3283. DOI: 10.3390/ijms22063283 I.F- 4.9</p> <p>5. <b>Tripathy, M.K*</b>., Deswal, R and Sopory, S.K. (2021). Plant RABs: role in development and in abiotic and biotic stress responses. <b>Current Genomics</b>, 22:26-40. I.F- 2.6</p> <p>4. <b>Tripathy, M.K.</b>, Weeraratne, G., Clark, G and Roux, S.J. (2017). Apyrase inhibitors enhance the ability of</p>

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**

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
<ul style="list-style-type: none"> <li>❖ Member, Board of Studies, Dept. of Botany, Salepur Autonomous College, Salepur, Cuttack, Odisha</li> <li>❖ Counsellor, Youth Red Cross (YRC), Government Science College, Chatrapur, Ganjam, Odisha, India</li> <li>❖ Coordinator, College Website Development, Government Science College, Chatrapur, Ganjam, Odisha, India</li> <li>❖ Member, NAAC Team, Government Science College, Chatrapur, Ganjam, Odisha, India</li> </ul>
Professional Societies Memberships
❖ Member, American Society of Plant Biologists ( ASPB)
Projects (Major Grants/Collaborations)
NA
Other Details if any
<b>SCIENTIFIC JOURNAL REVIEWER</b>
<ul style="list-style-type: none"> <li>❖ Plant Physiology and Biochemistry (ISSN: 0981-9428), Elsevier</li> <li>❖ Protoplasma (ISSN: 0033183X, 16156102), Springer</li> <li>❖ Biodiversity and Conservation (ISSN 0960-3115, 1572-9710), Springer</li> <li>❖ Frontiers in Plant Science (ISSN 1664-462X)</li> </ul>
<b>INVITED TALK/CONFERENCE PRESENTATIONS</b>
<ul style="list-style-type: none"> <li>❖ Oral presentations <ul style="list-style-type: none"> <li>➤ Invited talk titled “<b>Role of small GTP-binding protein (RAB7) in abiotic stress tolerance</b>” presented at Department of Botany, Salepur Autonomous College, Cuttack, Odisha, India in 2024</li> <li>➤ Invited talk titled “<b>Role of Apyrase enzyme inhibitors in modern fungicide development</b>” presented at Department of Botany, Salepur Autonomous College, Cuttack, Odisha, India in 2021</li> </ul> </li> <li>❖ Poster presentations <ul style="list-style-type: none"> <li>➤ Poster titled “<b>Modified apyrase altered nuclear functions leads to changes in the gene expression and growth in Yeast and Arabidopsis</b>” 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</li> </ul> </li> </ul>

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.

#### **WEBINAR ATTAINED**

- A Webinar entitled “**Our Environment Our Future**” was organised by Department of Botany, Dhenkanal Mahila Mahavidyalaya on World environment day on June, 5<sup>th</sup> 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-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 Mission Teacher Training Programme (MMTTP) of University Grants Commission (UGC), India Organized by Malaviya Mission 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 June 10<sup>th</sup> to 12<sup>th</sup> 2024.
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