



# NARAJOLE RAJ COLLEGE

(NAAC Accredited B grade)

NARAJOLE: PASCHIM MEDINIPUR: PIN-721211

Contact No.9933881131 E-Mail Id. narajolerajcollege@rediffmail.com



## FACULTY PROFILE

### BASIC PROFILE

Name: Dr. Prithwi Ghosh

Designation: Assistant Professor

Department: Botany

Unique ID:

E-mail: [prithwi@narajolerajcollege.ac.in](mailto:prithwi@narajolerajcollege.ac.in)

Contact No: +91 8101334791

Academic Qualification: Ph. D

Gender: Male

Blood Group: AB+

Permanent Address: Surjanagar, Mirchoba, PO-Sripally, Bardhaman, WB 713103.



### SERVICE HISTORY

Year of Joining	2019
Previous Employment, if any	N/A
Experience in Teaching	N/A
Area of Teaching:	Molecular Biology, Biotechnology, Plant Physiology.
Area of Specialization:	Plant Molecular Biology and Biotechnology
Participation in Administrative activities:	N/A

### RESEARCH PROFILE

Area of Research Interest:	Plant Microbe Symbiosis
Research Experience (if any)	<p><b>Postdoctoral research brief (2016-2019)</b></p> <ul style="list-style-type: none"> <li>Studied the peptide-based dialogue controlling symbiotic compatibility between <i>Sinorhizobiummeliloti</i>1021 and <i>Medicago truncatula</i>.</li> <li>Investigated the role of <i>Sinorhizobiummedicae</i> WSM419 genes in improving symbiosis between <i>Sinorhizobiummeliloti</i> Rm1021 and <i>Medicago truncatula</i> Jemalong A17 and with other legumes.</li> </ul> <p><b>PhD research brief (2009-2016)</b></p> <ul style="list-style-type: none"> <li>Investigated the role of WRKY transcription factors in abiotic and biotic stress (Fusarium stress) tolerance in Chickpea.</li> <li>Studied the mechanism of action of the antifungal protein through proteomic and cell biological approaches.</li> <li>Biological safety assessment of insecticidal and antifungal proteins.</li> </ul>



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- Developed transgenic plants expressing insecticidal (*Colocasia esculenta* tuber agglutinin, cry1Ac) and antifungal protein (modified *Allium sativum* Leaf Agglutinin) to control insect pests and fungal pathogens, respectively.

Conference/Seminar/ Workshop Organized: Title	Year	Role	Organizer
Golden Jubilee Symposium on Recent Trends in Contemporary Plant and Microbial Science	2010	Oral Presentation of the paper entitled 'Mutant form of insecticidal dimeric <i>Allium sativum</i> leaf agglutinin (ASAL) turned out to be a stable monomeric protein with antifungal activity'.	Department of Botany, The University of Burdwan, Bardhaman.
ISCB Annual Pulse/Cassava Network Meeting	2010	Poster presentation on 'Monomeric Mutant Form of <i>Allium sativum</i> Leaf Agglutinin (ASAL) exhibits strong Antifungal Activity.'	Bose Institute, Kolkata.
National Symposium on Evolving Plant Biology: From Chromosomes to genomics	2014	Poster presentation on 'Exploring and exploiting plants innate stratagem in developing resistance against fungal pathogen <i>Fusarium oxysporum</i> f.sp. <i>ciceri</i> Race1 (Foc1) of chickpea and <i>Rhizoctonia solani</i> of rice'.	West Bengal Academy of Science & Technology, Kolkata.
ASM Intermountain Branch Meeting	2017	Poster presentation on 'Deciphering the role of proteases during <i>Sinorhizobium meliloti</i> '.	Weber State University, Utah, USA.
Molecular Plant Sciences Hatch Umbrella Retreat	2019	Presented highlighted talk on ' <i>Sinorhizobium medicae</i> WSM419 genes can improve symbiosis between <i>Sinorhizobium meliloti</i> Rm1021 and <i>Medicago truncatula</i> Jemalong A17 and with other legumes' symbiosis'.	Washington State University, Pullman, USA.

### Projects ongoing/ completed:

Title	Funding Agency	Year	Amount (Rs.)
N/A			



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Involvement in Academic/ Professional Organizations: N/A

SUPERVISOR: N/A

ADJUDICATOR: N/A

REVIEWER: N/A

Involvement in Academic/ Professional Organizations: NA

Editorial Board Member: N/A

Books:

N/A

Chapters in Books:

N/A

Journals:

1. Joydeep Chakraborty, **Prithwi Ghosh**, Senjuti Sen, Asish Kumar Nandi, Sampa Das. CaMPK9 increases the stability of CaWRKY40 transcription factor which triggers defense response in chickpea upon *Fusariumoxysporum f. sp. ciceri* Race1 infection. **Plant Molecular Biology**. 2019, 100(4-5), 411-431.
2. Diplai Sadhukhan, **Prithwi Ghosh**, J. Gomez-Garcia, Mathieu Rouzieres. A Co (II)-Hydrazone Schiff Base Single Ion Magnet Exhibiting Field Induced Slow Relaxation Dynamics. **Magnetochemistry**. 2018, 4(4), 56.
3. Joydeep Chakraborty, **Prithwi Ghosh**, Senjuti Sen, Sampa Das. Epigenetic and transcriptional control of chickpea WRKY40 promoter activity under *Fusarium* stress and its heterologous expression in *Arabidopsis* leads to enhanced resistance against bacterial pathogen. **Plant Science**. 2018, 276:250-267.
4. Joydeep Chakraborty, **Prithwi Ghosh**, Sampa Das. Autoimmunity in plants. **Planta**. 2018, 248(4):751-767.
5. Ayan Das, **Prithwi Ghosh**, Sampa Das. Expression of *Colocasiaesculenta* tuber agglutinin in Indian mustard provides resistance against *Lipaphiserysimi* and the expressed protein is non-allergenic, **Plant Cell Reports**. 2018, 37(6), 849-863.
6. Senjuti Sen, Joydeep Chakraborty, **Prithwi Ghosh**, DebabrataBasu, Sampa Das. Chickpea WRKY70 regulates the expression of a Homeodomain-Leucine Zipper (HD-Zip) I transcription factor CaHDZ12, which confers abiotic stress tolerance in transgenic tobacco and chickpea. **Plant Cell Physiol**. 2017, 58(11),1934-1952.
7. Joydeep Chakraborty#, Senjuti Sen#, **Prithwi Ghosh**, Anindita Sengupta, Sampa Das. Homologous promoter derived constitutive and Chloroplast targeted expression of synthetic cry1Ac in transgenic chickpea confers resistance against *Helicoverpaarmigera*, **Plant Cell Tiss Organ Cult**. 2016, 125(3), 521-535. # Equal contribution.
8. **Prithwi Ghosh**, Senjuti Sen, Joydeep Chakraborty, Sampa Das. Monitoring the efficacy of mutated *Allium sativum* leaf lectin in transgenic rice against *Rhizoctoniasolani*, **BMC Biotechnology**. 2016, 16:24.



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9. **Prithwi Ghosh**, Amit Roy, Daniel Hess, Anupama Ghosh, Sampa Das. Deciphering the Mode of Action of a Modified *Allium sativum* Leaf Agglutinin (mASAL), a Potent Antifungal Protein on *Rhizoctoniasolani*, **BMC Microbiology. 2015, 15:237.**
10. **Prithwi Ghosh**, Amit Roy, Joydeep Chakraborty, Sampa Das. Biological Safety Assessment of Mutant Variant of *Allium sativum* Leaf Agglutinin (mASAL), a Novel Antifungal Protein for Future Transgenic Application, **J. Agric. Food Chem. 2013, 61, 11858–11864.**
11. Nilanjana Banerjee, Subhadipa Sengupta#, Amit Roy#, **Prithwi Ghosh**, Kalipada Das, Sampa Das. Functional alteration of a dimeric insecticidal lectin to a monomeric antifungal protein correlated to its oligomeric status, **PLoS One. 2011, 6 (4), e18593.** # Equal contribution.

Conf. Proceedings:

N/A

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