

Rozalynne Samira, PhD

Research Assistant Professor
Department of Plant and Soil Sciences
Lubbock, Tx 79409
rsamira@ttu.edu

EDUCATION

Ph.D. - Plant Biology , North Carolina State University (NCSU), Raleigh, USA	2012-2017
M.Phil. - Biochemistry and Molecular Biology , University of Dhaka, Bangladesh	2008-2011
M.Sc - Biotechnology , Bangalore University, India	2003-2005
B.Sc - Biotechnology (Minor in Botany and Chemistry) , Bangalore University, India	2000-2003

RESEARCH AND TRAINING POSITIONS

POST DOCTORAL SCHOLAR, Texas Tech University **2019- 2021**

Project Title: Molecular mechanism of FKF1 mediated copper homeostasis

- Develop and utilize molecular biology assays to investigate biochemical, molecular and genetic interaction between blue light responsive FKF1 protein and copper deficiency responsive SPL7 protein and the impact of this interaction in plant development under copper deficiency.

POST DOCTORAL SCHOLAR, North Carolina State University **2017-2019**

Project Title: Physiological and Molecular-Genetic Characterization of Basal Resistance in Sorghum.

- Develop robust assays to measure MAMP and disease responses.
- Screen diverse germplasm for variation in the MAMP and disease responses.
- Identify loci associated with variation in disease resistance and the MAMP response.
- Identify genes differentially regulated during the MAMP response.
- Assess the effect of MTI on disease progression.

Additional project: Positive and negative signaling components involved in hypersensitive response in maize.

- Virus induced gene silencing in maize to study signal components in hypersensitive response pathway.
- Physiological and molecular biology study to elucidate the impact of gene silencing.

RESEARCH TECHNICIAN, North Carolina State University **2017-2017**

Project Title: Bilateral BBSRC NSF/ Bio - Modelling Cellular Differentiation in Plants.

- Conducted the confocal microscopy imaging using light sheet confocal microscope of phloem marker lines to record live development of root.
- Analyzed the mutants of Fe network hubs under -Fe condition.

GRADUATE RESEARCH ASSISTANT, North Carolina State University **2012-2016**

Dissertation Title: BTS and Interacting Target, ILR3, Modulate Biotic and Abiotic Stress Responses.

- Characterized the role of E3 ligase protein BRUTUS (BTS) in modulating iron deficiency response, plant development and in photosynthesis.
- Characterized the role of BTS target ILR3 in regulating iron deficiency response and biotic (cis-nematode) stress response.

GRADUATE RESEARCH ASSOCIATE, University of Dhaka**2008-2011****Thesis title: Identification of transcriptional factor that contributes in stress tolerance of jute.**

- Isolated, cloned, sequenced and conducted southern blot analysis of Jute (*Corchorus olitorius*) *CBF1* gene to facilitate the development of cold and draught stress tolerant Jute variety.
- Analyzed *CBF1* transcriptional response to cold and drought treatment in time course basis by RT-PCR.
- Utilized NCBI-blast and CPH-model-3.0.to generate *In-silico* protein sequence and 3D protein model.

TEACHING POSITIONS**GRADUATE TEACHING ASSISTANT, North Carolina State University****Fall 2016**

- Teaching assistant for two laboratory sections of Plant Biology (PB-250) course. The responsibilities included presenting lectures, demonstrating, and conducting laboratory experiments, conducting tests, grading.

GRADUATE TEACHING ASSISTANT, North Carolina State University**Spring 2015**

- Teaching assistant for one lecture section of Whole Plant Physiology (PB-321) course. The responsibilities included lecturing on selected topic and grading.

GRADUATE TEACHING ASSISTANT, North Carolina State University**Fall 2014**

- Teaching assistant for one laboratory section of Plant Life (PB-200) course and the responsibilities included lecture on subject topic, demonstrating and conducting laboratory experiments, conducting tests, grading.

LECTURER, University of Science and Technology Chittagong (USTC), Bangladesh**2005-2007**

Taught as a lecturer to undergraduate students on several courses including Introductory Biotechnology, Immunology, Plant Biotechnology, Environmental Biotechnology and Biochemistry. The responsibilities included course material preparation, class lecture, laboratory lecture and demonstration, test set up and grading.

PUBLICATIONS

- Shailesh Karre, Saet-Byul Kim, **Rozalynne Samira**, Peter Balint-Kurti, The maize ZmMIEL1 E3 ligase and ZmMYB83 transcription factor proteins interact and regulate the hypersensitive defence response, *Molecular Plant Pathology*, 2021.
(<https://doi.org/10.1111/mpp.13057>)
- **Rozalynne Samira**, Jennifer A. Kimball, Luis Fernando Samayoa, James B. Holland, Tiffany M. Jamann, Patrick J. Brown, Gary Stacey, Peter J. Balint-Kurti, Genome-wide association analysis of the strength of the MAMP-elicited defense response and resistance to target leaf spot in sorghum, *Scientific Reports*, 2020, Volume 10
(<https://www.nature.com/articles/s41598-020-77684-w>)
- **Rozalynne Samira**, Colin Murphree, Saet-Byul Kim, Shailesh Karre, Balint-Kurti Peter, Use of virus-induced gene silencing to characterize genes involved in modulating hypersensitive cell death in maize, *Molecular Plant Pathology*, Volume 21, Issue 12, Pages 1662-1676
(<https://bsppjournals.onlinelibrary.wiley.com/doi/full/10.1111/mpp.12999>)
- **Rozalynne Samira**, Xinye Zhang, Jennifer Kimball, Yaya Cui, Gary Stacey, Peter J Balint-Kurti Quantifying MAMP-induced production of reactive oxygen species in sorghum and maize, *Bioprotocol*, 2019.
(<https://bio-protocol.org/bio101/e3304>)

- **Rozalynne Samira**, Baohua Li, Daniel Kleibenstien, Chunying Li, Eric Davis, Jeffrey W. Gillikin, Terri A. Long. bHLH transcription factor ILR3 modulates multiple stress responses in Arabidopsis, *Plant Molecular Biology*, 2018, Volume 97, Issue 4-5, Pages 297-309.
(<https://link.springer.com/article/10.1007/s11103-018-0735-8>)
- Devarshi Selote, **Rozalynne Samira**, Anna Matthiadis, Jeffrey W. Gillikin, Terri A. Long, Iron binding E3 ligase mediates iron response in plants by targeting bHLH transcription factors, *Plant Physiology*, 2015, Volume 167, Issue 1, Pages: 273-286.
(<http://www.plantphysiol.org/content/167/1/273.short>)
- **Rozalynne Samira**, Anna Stallmann, Lynnica N. Massenburg, Terri A. Long, Ironing out the issues: Integrated approaches to understanding iron homeostasis in plants, Review Article, *Plant Science*, Volume 210, September 2013, Pages 250-259.
(<https://www.sciencedirect.com/science/article/abs/pii/S0168945213001416>)
- **Rozalynne Samira**, Mahdi Muhammad Moosa, Md. Maksudul Alam, Shamima Islam Keka, Haseena Khan, In silico analysis of jute SSR library and experimental verification of assembly. *Plant Omics*, Volume 3, Issue 2, 2010.
(<http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.623.9279>)
- Salim Ahmed, Md. Zinnatun Nabi, Md. Maksudul Alam, Md. Sazzadul Islam, **Rozalynne Samira**, Mahdi M Moosa, Haseena Khan, A computational and experimental approach for developing jute ESTs from genomic clones. *Australian Journal of Crop Science*, 2009.
(<https://search.informit.com.au/documentSummary;dn=037919078124457;res=ielhss>)

PRESENTATIONS

Invited Speaker-

- **Characterization of the role of an iron-binding protein in seed development**, 30th Annual Plant Molecular Biology Retreat, 2016, Wrightsville, North Carolina, USA.
- **Characterization of the role of an iron-binding protein in seed development**, ASPB Plant Biology 2016, Austin, Texas, USA.
- **Bioinformatic Analysis of Genomic DNA of Jute**, Plant Tissue Culture and Biotechnology Conference 2008, Dhaka, Bangladesh.
- **Identification of a bacterial stress response regulating gene like sequence in the chloroplast genome of low-temperature tolerant variety of jute**, BAS-IAP-TWAS-NASIC International Conference on Gender Participation in the Development of Science, 2009 Dhaka, Bangladesh.

Poster Presentation-

- **Characterization of the role of an iron-binding protein in seed development**, 11th Graduate Student Research Symposium, 2016, NCSU, Raleigh, North Carolina, USA.
- **Elucidation of an Iron deficiency response mechanism in *Arabidopsis thaliana***, Poster presentation, 9th International Bio-metals Symposium, 2014, Durham, NC, USA.
- **Identification of a bacterial stress response-regulating gene like sequence in the chloroplast genome of low-temperature tolerant variety of jute**. Poster presentation, 21st IUBMB and 12th FAOBMB International Conference, 2009, Shanghai, China.

AWARDS AND GRANTS

- Poster Award in 11th **Graduate Student Research Symposium**, 2016, NCSU, Raleigh, North Carolina, USA in Life Sciences category.
- Travel Grant for participating **ASPB 2016** Symposium, Texas, USA.

- Plant Biology Graduate Student Association NCSU travel grant for 2016 for participating symposium.
- “Metallobiochemistry of Plant” Poster award at the 9th **International Biometals Symposium**, 2014, Durham, NC, USA.
- **Prime Minister Higher Education and Research Scholarship**, Bangladesh, 2009 for pursuing M. Phil research.
- **National Science and Information & Communication Technology (NSICT) Fellowship 2009-10**, Bangladesh for pursuing M.Phil research.
- FAOBMB travel fellowship 2009, for participating **21st IUBMB and 12th FAOBMB International Conference**, Shanghai, China.

VOLUNTEER/LEADERSHIP ACTIVITIES

- **President**, Plant Biology Graduate Student Association, NCSU, 2015-16.
- **International Student Ambassador**, Dept. of Plant Biology, NCSU, August 2014 to 2016.
- **Graduate Student Representative**, Department of Plant and Microbial Biology, NCSU, 2013-14.
- **Graduate student Volunteer**, CAALS-3D program to train underrepresented minority student in plant biology (3+ years’ experience).
- **Volunteer researcher**, STEM learning for pre-school age, Natural Learning Initiative (NLI), NCSU
- **Member**, American Society of Plant Biologists (ASPB).
- **Member**, American Phytopathological Society (APS).