SEJUTI MONDAL

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**EDUCATIONAL BACKGROUND**

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| Degree | Year | University | Major | Thesis/Dissertation |
| PhD | 2020 | Texas A&M University, College Station, USA | Plant Breeding | Investigating salinity tolerance in rice through mapping QTLs for reproductive-stage tolerance and guide RNA validation for gene editing of the HKT family |
| MS | 2014 | University of the Philippines Los Banos, Philippines | Plant Breeding | Mapping QTLs for reproductive stage salinity tolerance in rice using F2 population of the cross NSIC Rc222 x BRRI dhan47” |
| BS | 2012 | Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh | Agriculture |  |

**PROFESSIONAL EXPERIENCE**

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| **Position** | **University** | **Date** |
| Lecturer, Dept of Agricultural Sciences | Texas State University, USA | 2021- to date |
| Graduate Research Assistant, Dept of Soil & Crop Sciences | Texas A&M University, USA | 2016- 2020 |
| PhD Research Scholar, Rice Breeding Platform | International Rice Research Institute, Philippines | 2018 |
| Lecturer, Dept of Genetics and Plant Breeding | Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh | 2015- 2021 |
| Affiliated Research Scholar, Plant Breeding, Genetics and Biotechnology Division | International Rice Research Institute | 2012-2014 |

**RESEARCH EXPERIENCE**

Conducted phenotyping studies for salinity tolerance at the reproductive stage of rice plants using the mapping population derived from a salt-tolerant and a salt-sensitive variety in the field and greenhouse to screen the population under salinity stress for establishing the relative importance of different traits associated with the reproductive stage salinity tolerance in rice

Experienced in molecular breeding, especially performed DNA extraction of rice leaves by using CTAB method and SYNERGY™ Plant DNA Extraction Kit for SNP genotyping through SkimGBS platform and molecular marker development (KASP) using high-throughput PCR to identify QTLs responsible for salinity tolerance and identified candidate diagnostic markers and genes linked to the QTLs conferring salinity tolerance at the reproductive stage of rice plant from the tolerant parents.

Designed an approach for multiplex CRISPR/Cas9 based gene editing targeting HKT gene families of sodium transporters.

Performed sequence analysis of the HKT gene families in rice and designing appropriate guide-RNAs for a particular gene sequence of each HKT member or conserved regions across multiple genes and validating the gRNA designs using *in vitro* ribonucleoprotein (RNP) assays by cleaving PCR amplicons

**ONGOING RESEARCH:**

Working as a co-superviser of graduate students and conducting research on Genome-Wide Association Mapping (GWAS) and molecular marker identification for agronomic traits and yield contribution traits in rice.

**COURSES TAUGHT**

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| Course Code | Course Title | University |
| AG 2379 | General Horticulture | Texas State University |
| AG 2313 | Agronomic Crops | Texas State University |
| AG 2390 | Computer Application in Agriculture | Texas State University |
| AG 3304 | Propagation of Horticultural Crops | Texas State University |
| AG 3301 | Principles of Livestock Genetics | Texas State University |
| AG 4401 | Genetics and Breeding for Crop Selection | Texas State University |
| AG 5370 | Special Topic: Agricultural Genetics | Texas State University |
| GPB 310 | Cytogenetics | Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh |

**SCHOLARLY/ CREATIVE WORK**

**Submitted (not funded)**: Dey, Madan Mohan (Principal), Omana Sudhakaran, Pratheesh O (Co-Principal), Percent Contribution: 25%, Mondal, Sejuti (Co-Principal), Engle-Stone, Reina (Co-Principal), Khan, Akhtaruzzman (Co-Principal). Enhance Resilience through Agro-diversity and Access to Market in Saline Areas of Bangladesh, United States Agency for International Development, Federal, $750,000.00. (Submitted: March 2021). Grant.

**PUBLICATIONS**

**Mondal, S.,** E. Septiningsih, R. K. Singh and M. J. Thomson 2022. Mapping QTLs for reproductive stage salinity tolerance in rice using a cross between Hasawi and BRRI dhan28. Internation Journal of Molecular Sciences, 23(19), 11376; <https://doi.org/10.3390/ijms231911376>

**Mondal, S.,** T. H. Borromeo, M. G. Q. Diaz, J. Amas, M. A. Rahman, M. J. Thomson and G. B. Gregorio 2019. Dissecting QTLs for reproductive stage salinity tolerance in rice from BRRI dhan47. Plant Breeding and Biotechnology, 7(4):302-312. <https://doi.org/10.9787/PBB.2019.7.4.302>

**Mondal, S**., G.B. Gregorio, T. H. Borromeo, M. G. Q. Diaz and J. Amas 2016. Modified Standard Evaluation System: Is it Appropriate for Evaluation of Salinity Tolerance at Reproductive Stage of Rice? J. Indian Soc. Coastal Agric. Res. 34(2): 1-6.

**Mondal, S**. and T. H. Borromeo 2016. Screening of salinity tolerance of rice at early seedling stage. J. Biosci. Agric. Res. 10(01): 843-847.

**PAPERS PRESENTED AT PROFESSIONAL MEETINGS:**

Talukder, S., P. Uppalanchi., R. Chepuri., C. Harper., S. Omar., P. B. Samonte., D. Sanchez., **S. Mondal** and G. Singh 2023. Molecular marker identification for panicle traits in rice through GWAS. 39th Rice Technical Working Group (RTWG), Hotsprings, Arkansas from 20 – 23 February 2023.

**Mondal, S**., R. K. Singh, S. Wang, E. Septiningsih and M. J. Thomson 2020. Investigating Molecular Mechanisms of Reproductive Stage Salinity Tolerance from the Rice variety Hasawi. Presented in ASA-CSSA-SSSA International Annual Meeting (Virtual) on 9-13 November 2020.

**Mondal, S**., R. K. Singh, R. Vaughn, S. Wang, E. Septiningsih and M. J. Thomson 2020. Hasawi: A potential donor for salinity tolerance at reproductive stage in rice. Poster presented in Plant Biology 2020 Worldwide Summit (Virtual) on 27-31 July, 2020.

**Mondal, S**., R. K. Singh, R. Vaughn, S. Wang, E. Septiningsih and M. J. Thomson 2020. Investigating Molecular Mechanisms of Reproductive Stage Salinity Tolerance in Rice. Poster presented in Plant Breeding Symposium, in Texas A&M University, College Station, Texas on February 20, 2020.

**Mondal, S**., R. K. Singh, E. Septiningsih and M. J. Thomson 2019. Mapping QTLs and Dissecting the Molecular Mechanisms of Reproductive Stage Salinity Tolerance in Rice. 5 minutes rapid oral and poster presented in ASA-CSSA-SSSA International Annual Meeting, San Antonio, Texas from 10 to 13 November 2019.

**Mondal, S**., T. H. Borromeo, and G. B. Gregorio 2018. Dissecting QTLs for Reproductive Stage Salinity Tolerance in Rice. Paper presented in the International Rice Congress 2018 (IRC2018) held in Singapore from 15 to 17 October 2018.

**Mondal, S**., T. H. Borromeo, and, G. B. Gregorio 2018. Mapping QTLs for Reproductive Stage Salinity Tolerance in Rice Using F2 Population of the Cross NSIC Rc222 and BRRI dhan47. Poster presented in the 16th International Symposium on Rice Functional Genomics (ISRFG, 2018) held in Tokyo, Japan from 5 to 7 September 2018.

**Mondal, S**., T. H. Borromeo, G. Q. Diaz, J. Amas and, G. B. Gregorio 2015. Mapping QTLs for Reproductive Stage Salinity Tolerance in Rice. Abstract published in the proceedings of the the23rd Bangladesh Science Conference held at the Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh on 17-18 October, 2015.

**PROFESSIONAL AWARDS**

Received first prize in the poster competition of Plant Breeding Symposium, Texas A&M University, College Station, TX on 20 February 2020.

Monsanto’s Beachell-Borlaug International Scholarship in 2016 to pursue Ph. D. in the Texas A&M University, USA.

Received IRC2018 Grants from the International Rice Research Institute (IRRI) to present a paper in the International Rice Congress 2018 (IRC2018) in Singapore during 15-17 October 2018.

Affiliated research scholar of the International Rice Research Institute from 2012 to 2014 to pursue Master of Science in the University of the Philippines Los Baños (UPLB), Philippines

**PROFESSIONAL TRAINING**

Genome Editing Techniques in Plants at the National Agriculture Research Organization (NARO), Tsukuba, Japan from 12 December to 28 December 2018.

Monsanto’s Beachell-Borlaug International Scholars Leadership Development Program from 14 to 16 October 2017, Des Moines, Iowa, USA.

Strengthening Pedagogical Skills of Young Teachers at Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh from 30 December 2014 to 2 January 2015.

**ORGANIZATION MEMBERSHIP**

Member of the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America.