SANJIDA SULTANA KEYA
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Institute of Genomics for Crop Abiotic Stress Tolerance, Experimental Science Building II
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RESEARCH INTEREST

Elucidating the role of numerous plant growth promoting rhizobacteria (PGPRs), as well as signaling molecules in mitigating the adverse effects of abiotic stresses (drought, salinity, heavy metal, and heat stress) in several crops, including cotton.

RESEARCH

Google Scholar: https://scholar.google.com/citations?hl=en&user=Q9oUqJsAAAAJ
Research gate: https://www.researchgate.net/profile/Sanjida_Keya2
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EDUCATION

- Master of Science: Agroforestry and Environment, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur, Bangladesh
  - Passing year : 2018
  - CGPA : **3.97** (in scale of 4.00)
  - Class position : **1st** (among 4 students)
  - Thesis title : Incorporation of tree leaves and application of nitrogen in tomato production and soil properties change
- Bachelor of Science (Honors): Agriculture, BSMRAU, Gazipur, Bangladesh
  - Passing year : 2015
  - CGPA : **3.89** (in scale of 4.00)
  - Class position : **9th** (among 79 students)

JOB EXPERIENCE

- **Graduate Research Associate (September 2021– Present):** IGCAST, Texas Tech University, Lubbock, Texas, USA
- **Scientific Officer (February 2020 – August 2021):** Bangladesh Agricultural Research Council, Farmgate, Bangladesh

RESEARCH EXPERIENCE

- **Research Assistant (January 2018- ongoing)**
  - Alleviating salinity and drought stress by acetic acid (vinegar) application.
  - Improvement of salt and heat tolerance by ethanol application.
  - Positive regulatory roles of strigolactones (SLs) in salt tolerance.
  - Strigolactones (SLs) provide protection against biotic stress.
  - Nano-particle-induced drought tolerance of cotton.
  - Synergistic effect of plant growth promoting rhizobacteria (PGPRs) and signaling molecule in improving drought tolerance of cotton.
- **Key Researcher (January 2019- ongoing):** "Improving waterlogging tolerance of sesame by glutathione application".

PUBLISHED ARTICLES

1. Islam, M.R., Rahman, M.M., Akter, M., Zama, E., **Keya, S.S.,** and Hasan, M., 2021. Insights into the role of cytokinin and gibberellic acid in improving waterlogging tolerance of mung bean. Research Square10.21203/rs.3.rs-690868/v1.

2. Das, A.K., Rahman, M.A., Rahman, M.M., Saha, S.R., **Keya, S.S.,** Suvoni, S.S., Miah, M.G., Current, D., & Rizvi, J. 2020. Scaling up of jujube-based agroforestry practice and management innovations for improving efficiency and profitability of land uses in Bangladesh. **Agroforestry Systems (under review)** (**IF: 1.973**).
3. Younes, N.A., Rahman, M., Wardany, A.A., Dawood, M.F., Mostofa, M.G., **Keya, S.S.,** Abdel Latef, A.A.H. and Tran, L.S.P., 2021. Antioxidants and bioactive compounds in licorice root extract potentially contribute to improving growth, bulb quality and yield of onion (*Allium cepa*). **Molecules**. 26, 2633. https://doi.org/10.3390/molecules26092633. (**IF: 4.15).**
4. **Keya, S.S**., Miah, M.G., Rahman M.A., & Islam M.T. 2021. Incorporation of *Gliricidia sepium* tree leaves and nitrogen fertilizer in tomato production and soil properties. **Annals of Bangladesh Agriculture**. 24, 77-87. doi.org/10.3329/aba.v24i1.51937.
5. Mostofa, M.G., Rahman, M.M., Ansary, M.M.U., **Keya, S.S.,** Abdelrahman, M., Miah, M.G., & Tran, L.S.P. 2020. Silicon in mitigation of abiotic stress-induced oxidative damage in plants. **Critical Reviews in Biotechnology**.1-17. https://doi.org/10.1080/07388551.2021.1892582 (**IF: 8.108**).
6. Das, A.K., Rahman, M.A., **Keya, S.S.,** Saha, S.R., & Rahman, M.M. 2020. Malta-based agroforestry system: an emerging option to improving the productivity, profitability and land use efficiency. **Environmental Sustainability**. 3, 521-532. https://doi.org/10.1007/s42398-020-00139-5 (a new **Springer** journal).
7. Rahman, M.M., Mostofa, M.G., **Keya, S.S.,** Rahman, M.A., Das, A.K., Islam, M.R., Abdelrahmand, M., Bhuiyan, M.S.U., Naznin, T., Ansaryh, M.M.U., & Tran, L.S.P. 2020. Acetic acid improves drought acclimation in soybean: an integrative response of photosynthesis, osmoregulation, mineral uptake and antioxidant defense. **Physiologia Plantarum**. https://doi.org/10.1111/ppl.13191 (**IF: 4.148**).
8. Rahman, M.M., Mostofa, M.G., Rahman, M.A., Islam, M.R., **Keya, S.S.,** Das, A.K., Miah, M.G., Kawser, A.Q. M.R., Sowrav, A., & Tran, L.S.P. 2019. Acetic acid: a cost-effective agent for mitigation of seawater-induced salinity in mung bean. **Scientific Reports**. 9, 15186. https://doi.org/10.1038/s41598-019-51178-w (**IF: 3.998**).
9. Rahman, M.M., Mostofa, M.G., Rahman, M.A., Miah, M.G., Saha, S.R., Karim, M.A., **Keya, S.S.,** Akter, M., Islam, M., & Tran, L.S.P. 2019. Insight into salt tolerance mechanisms of the halophyte *Achras sapota*: an important fruit tree for agriculture in coastal areas. **Protoplasma**, 256, 181-191. https://doi.org/10.1007/s00709-018-1289-y (**IF: 2.800**).

PUBLICATIONS UNDER REVIEW

1. **Keya, S.S.,** Mostofa, M.G., Rahman, M.M., Das, A.K., Rahman, M.A., Anik, T.R., Sultana, S., Khan, M.A.R., & Tran, L.S.P 2021. Effects of glutathione on waterlogging-induced damage of sesame crop. **Industrial crops and products (under review)** (**IF: 5.62**).

SCHOLARSHIPS AND FELLOWSHIPS AWARDED

- Received the "**National Science and Technology (NST)**" fellowship offered by the Ministry of Science and Information and Communication Technology, Government of the People's Republic of Bangladesh for M.Sc. research work in 2017.
- Received merit scholarship during graduate tenure for outstanding academic results.
- Received merit scholarship in the 6th term of BSc (Winter'13) for obtaining GPA 4.00 out of 4.00.

TRAINING/WORKSHOP/CONFERENCE

- Rahman, M.M., Das, A.K., **Keya, S.S.,** Islam, M.R., Rahman, M.A., Islam, S.M.N., Hossain, M.M., Mostofa, M.G. Strigolactones Positively Regulate Defense Mechanisms to Enhance Resistance Against Sheath Blight of Rice (*Oryza sativa*). Poster presented at **South Asia Biosafety Conference (2019), Dhaka, Bangladesh** and won the **first** prize.

TECHNICAL SKILLS

- Adept in using Minitab (version 17.0), MeV (http://mev.tm4.org/), Origin PRO (https://originlab.com/Origin), Statistix 10, SPSS (version 23.0), and Adobe Illustrator (CS6) software packages.
- Adept in using spectrophotometer, atomic absorption spectrophotometer, LI-6400XT portable photosynthesis system, high-speed refrigerated centrifuge machine, compound microscope connected with computer and camera, and growth chamber.

LANGUAGE PROFICIENCY

- **IELTS** overall band score: **6.5** (Listening: 6.5, Reading: 7.5, Writing: 5.5, Speaking: 6.5) (**IELTS test date: 5 December 2020**).

REFERENCES

Professor Dr. Lam-son Phan Tran (PhD Supervisor)
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Texas Tech University, Lubbock, TX 79409, USA
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