Curriculum Vitae of Jubayer-Al-Mahmud

Name: JUBAYER-AL-MAHMUD
Date of birth: 30 October, 1985
Nationality: Bangladeshi

PRESENT ADDRESS:
Department of Agroforestry and Environmental Science
Sher-e-Bangla Agricultural University
Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh
Mobile: +88 01771606735
E-mail: jamahmud_bd@yahoo.com; jamahmudafes@sau.edu.bd

CURRENT POSITION:
Associate professor, Department of Agroforestry and Environmental Science, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh.

FIELD OF SPECIALIZATION: Plant environmental stress physiology and remediation, crop science, agricultural botany, agroforestry and environmental science.

EDUCATIONAL QUALIFICATIONS:

2017:	**Post Graduation:** Doctor of Philosophy (PhD) from The United Graduate School of Agricultural Sciences-Ehime University, Japan. Affiliated at the Laboratory of Plant Stress Responses, Faculty of Agriculture, Kagawa University, Japan **Field of Study:** Environmental stress physiology and remediation **Title of Thesis:** Physiology and metabolism in heavy metal toxicity and tolerance of *Brassica* species: roles of different exogenous phytoprotectants
2010:	**Graduation:** Master of Science in Agricultural Botany, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh **Title of Thesis:** Tillering, dry matter accumulation and productivity of hybrid rice in aman season **Result:** 3.96 in a scale of 4.0 (1st merit position in the department)
2008:	**Undergraduate:** Bachelor of Science in Agriculture, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh **Result:** 3.83 in a scale of 4.0 (10th merit position in the faculty)

PROFESSIONAL EXPERIENCE:

Associate professor: Department of Agroforestry and Environmental Science, Sher-e-

	Bangla Agricultural University, Dhaka-1207, Bangladesh. Duration: December 04, 2018 - Present
Assistant professor:	Department of Agroforestry and Environmental Science, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh. Duration: December 04, 2013 - December 03, 2018
Lecturer:	Department of Agroforestry and Environmental Science, Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh. Duration: December 04, 2011 - December 03, 2013
Research assistant:	Sher-e-Bangla Agricultural University, Dhaka-1207, Bangladesh. Duration: July 2008 - December 2011

AWARD AND SCHOLARSHIP:

Japanese Government (Monbukagakusho) Scholarship for the Special Program for International Students in the Tropical and Subtropical Agriculture and Related Sciences (Three Year Doctoral Course) 2014/2017 in The United Graduate School of Agricultural Sciences, Ehime University (affiliated in Kagawa University), Japan.

National Science and Technology (NST) Fellowship (2010-11), Ministry of Science and Technology, Bangladesh.

RESEARCH EXPERIENCE:

About 12 years of research experience in the field of plant stress physiology, stress remediation, metal phytoremediation, crop science, agricultural botany, agroforestry and environmental science.

Student Supervisorship:

As supervisor: Total number of students - 11 (continuing their research)

As Co-supervisor: Total number of students – 10 (2 completed, 8 continuing their research)

Accomplished Research Project:

- Working as a **Principal Investigator** in the project "Investigation of morpho-physiology, growth and yield of some winter vegetables under different levels of light intensity" funded by SAURES, Sher-e-Bangla Agricultural University (allotted from University Grant Commission)
  Grant No.: SAU/SAURES/2019/1847(16)
  Duration: July 2019 to June 2020.

- Working as a **Principal Investigator** in the project "Exploring the relative tolerance and metal accumulation capacity of different *Brassica* species to heavy metal toxicity" funded by Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
  Grant No.: 39.00.0000.009.06.024.19-11(17-BS)
  Duration: July 2019 to June 2020

- Working as a **Principal Investigator** in the project "Roles of beta-aminobutyric ($C_4H_9NO_2$) acid in improving salt stress tolerance in mustard (*Brassica juncea* L.) funded by Ministry of Science and Technology (R& D), Government of the People's Republic of Bangladesh.
  Grant No.: SL. No.- 50; ID No.- 2590
  Duration: July 2018 to June 2019

- Worked as an **Associate Investigator** in the project "Morphological, anatomical and physiological responses of sesame to waterlogging stress" funded by Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
  Grant No.: 39.00.0000.09.02.90.18-09/BS-312
  Duration: July 2018 to June 2019

- Worked as a **Principal Investigator** in the project "Investigation of tolerance level of different *Brassica* species under lead (Pb) stress and identification of most effective phytoremediator of Pb from contaminated soil", funded by SAURES, Sher-e-Bangla Agricultural University (allotted from University Grant Commission)

  Grant No.: SAU/SAURES/2017/1281
  Duration: July 2017 to June 2018.

- Worked as **Associate Investigator** in the project of "Adaptation to sustainable agroforestry practice during the early establishment period of Moringa plantation", funded by Ministry of Science and technology, Government of the People's Republic of Bangladesh.
  Grant No.: 39.00.0000.09.02.018-18/10
  Duration: July 2017 to June 2018

- Conducted **Independent Research** in PhD level entitled " Physiology and metabolism in heavy metal toxicity and tolerance of *Brassica* species: Roles of different exogenous phytoprotectants" and completed thesis work in the United Graduate School of Agricultural Sciences, Ehime University, Japan
  Duration: October 2014 to September 2017

- Worked as **Research Assistant** in the Laboratory of Plant Stress Responses, Department of Applied Biological Science, Faculty of Agriculture, Kagawa University, Japan. Duration: June 2015 to February 2016 and June 2016 to February 2017.

- Worked as **Associate Investigator** in the project of "Biodiversity degradation measurement and its improvement through establishing sustainable integrated fruit-timber plant based Agroforestry system", funded by Ministry of Science and technology, Government of the People's Republic of Bangladesh.
  Duration: July 2013 to June 2014

- Conducted **Independent Research** in the project of "Effect of different levels of light intensity on morpho-physiology and yield of bottle gourd" funded by Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
  Duration: July 2010 to December 2011

- Conducted **Independent Research** in Masters level entitled "Tillering, dry matter accumulation and productivity of hybrid rice in aman season" and completed thesis work in the Department of Agricultural Botany, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh.
  Duration: January 2009 to December 2010

- Worked as **Research Assistan**t in a project "Effect of seasonal variation on different hybrid rice varieties", funded by Ministry of Science and Technology, Government of the People's Republic of Bangladesh.
  Duration: July 2008 to June 2009

PUBLICATIONS: RG score: **22.85**; Total citation: **667**; h-index: **13**-excluding self-citations (ResearchGate, July 24, 2020)

Total impact factor: 67.845

PhD Thesis:

1. **Jubayer Al Mahmud (2017)** Physiology and metabolism in heavy metal toxicity and tolerance of *Brassica* species: Roles of different exogenous phytoprotectants. United Graduate School of Agricultural Sciences, Ehime University, Japan.

MS Thesis:

1. **Jubayer-Al-Mahmud (2010)** Tillering, dry matter accumulation and productivity of hybrid rice in aman season. Master Thesis. Department of Agricultural Botany, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh.

Book Chapters:

1. **Jubayer Al Mahmud**, M. H. M. Borhannuddin Bhuyan, Kamrun Nahar, Khursheda Parvin, Mirza Hasanuzzaman **(2020)** Response and tolerance of fabaceae plants to metal/metalloid toxicity. In: Hasanuzzaman M., Araújo S., Gill S. (eds) *The Plant Family Fabaceae*. Springer, Singapore, pp 435-482, doi: 10.1007/978-981-15-4752-2_17

2. Mirza Hasanuzzaman, M. H. M. Borhannuddin Bhuyan, Kamrun Nahar, Sayed Mohammad Mohsin, **Jubayer Al Mahmud**, Khursheda Parvin, Masayuki Fujita **(2020)** Exogenous nitric oxide- and hydrogen sulfide-induced abiotic stress tolerance in plants. In: Roychoudhury A, Tripathi D.K. (eds.) *Protective chemical agents in the amelioration of plant abiotic stress: biochemical and molecular perspectives*. John Wiley & Sons Ltd. doi: 10.1002/9781119552154.ch8

3. **Jubayer Al Mahmud**, M. H. M. Borhannuddin Bhuyan, Taufika Islam Anee, Kamrun Nahar, Masayuki Fujita, Mirza Hasanuzzaman **(2019)** Reactive oxygen species metabolism and antioxidant defense in plants under metal/metalloid stress. In:

Hasanuz*zaman M., Hakeem K.R., Nahar K., Alharby H.F. (eds)* Plant abiotic stress tolerance. Springer, ISBN 978-3-030-06117-3, pp 221–257, doi: 10.1007/978-3-030-06118-0

4. M. H. M. Borhannuddin Bhuyan, Mirza Hasanuzzaman, Kamrun Nahar, **Jubayer Al Mahmud**, Khursheda Parvin, Tasnim Farha Bhuiyan, Masayuki Fujita **(2019)** Plants behavior under soil acidity stress:insight into morphophysiological, biochemical, and molecular responses. In: Hasanuzzaman M., Hakeem K.R., Nahar K., Alharby H.F. (eds) *Plant abiotic stress tolerance*. Springer, ISBN 978-3-030-06117-3, pp 221–257, doi: 10.1007/978-3-030-06118-0

5. Mirza Hasanuzzaman, Md. Shahadat Hossain, M. H. M. Borhannuddin Bhuyan, **Jubayer Al Mahmud**, Kamrun Nahar, Masayuki Fujita **(2018)** The role of sulfur in plant abiotic stress tolerance: Molecular interactions and defense mechanisms. In: Hasanuzzaman M., Fujita M., Oku H., Nahar K., Hawrylak-Nowak B. (eds) *Plant nutrients and abiotic stress tolerance*. Springer, Singapore, pp 221–252.

6. Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Taufika Islam Anee, Kamrun Nahar, and M. Tofazzal Islam **(2018)** Drought stress tolerance in wheat: Omics approaches in understanding and enhancing antioxidant defense. In: Zargar S., Zargar M. (eds) *Abiotic stress-mediated sensing and signaling in plants: An omics perspectiv*e. Springer, Singapore, pp 267–307.

7. Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Kamrun Nahar, Taufika Islam Anee, Masashi Inafuku, Hirosuke Oku, Masayuki Fujita **(2017)** Responses, adaptation, and ros metabolism in plants exposed to waterlogging stress. In: Khan M., Khan N. (eds) *Reactive oxygen species and antioxidant systems in plants: Role and regulation under abiotic stress*. Springer, Singapore, pp 257–281.

8. Anisur Rahman, Kamrun Nahar, **Jubayer-Al-Mahmud**, Mirza Hasanuzzaman, Md. Shahadat Hossain, Masayuki Fujita **(2017)** Salt stress tolerance in rice: emerging role of exogenous phytoprotectants. In: Li J (ed) Advances in international rice research. InTech, Rijeka, pp 139–174.

9. Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, **Jubayer Al Mahmud**, Shahadat Hossain, Khairul Alam, Hirosuke Oku, Masayuki Fujita **(2017)** Actions of biological trace elements in plant abiotic stress tolerance. In: Naeem M., Ansari A., Gill S. (eds) *Essential plant nutrients*. Springer, Cham., pp 213–274.

10. M. Hasanuzzaman, K. Nahar, A Rahman, **J.A. Mahmud**, M.S. Hossain, M. Fujita **(2016)** Soybean production and environmental stresses. In: M. Miransari (ed) *Environmental stresses in soybean production*. Academic, New York, pp 61–102.

11. Mirza Hasanuzzaman, Kamrun Nahar, **Jubayer-Al-Mahmud**, Parvaiz Ahmad, Masayuki Fujita **(2016)** Nitric oxide: A jack of all trades for drought stress tolerant in plant. In: Pavaiz Ahmad (ed) *Water Stress and Crop Plants: A Sustainable Approach*. First Edition. John Wiley & Sons, Ltd. ISBN: 978-1-119-05436-8.

Review Articles:

1. Mirza Hasanuzzaman, M.H.M. BorhannuddinBhuyan, Ali Raza, Barbara Hawrylak-Nowak, Renata Matraszek-Gawron, Jubayer Al Mahmud, Kamrun Nahar, Masayuki Fujita **(2020)** Selenium in Plants: Boon or Bane? *Environmental and Experimental Botan*y, 178: 104170 **(IF-4.027)**
2. Bhuyan, M.H.M.B., M. Hasanuzzaman, K. Parvin, S.M. Mohsin, **J.A. Mahmud**, K. Nahar and M. Fujita **(2020**) Nitric oxide and hydrogen sulfide: Two intimate collaborators regulating plant defense against abiotic stress. *Plant Growth Regulations*. 90: 409–424 **(IF- 2.388)**
3. Mirza Hasanuzzaman, M. H. M. Borhannuddin Bhuyan, Taufika Islam Anee, Khursheda Parvin, Kamrun Nahar, **Jubayer Al Mahmud**, Masayuki Fujita **(2019)** Regulation of ascorbate-glutathione pathway in mitigating oxidative damage in plants under abiotic stress. *Antioxidants (Basel)*, 8(9): 384. doi: 10.3390/antiox8090384 **(IF-5.014)**
4. Mirza Hasanuzzaman, Aditya Banerjee, M. H. M. Borhannuddin Bhuyan, Aryadeep Roychoudhury, **Jubayer Al Mahmud**, Masayuki Fujita **(2019)** Targeting glycinebetaine for abiotic stress tolerance in crop plants: physiological mechanism, molecular interaction and signaling. *Phyton* 88(3):185-221, doi:10.32604/phyton.2019.07559 **(IF- 0.329)**
5. Mirza Hasanuzzaman, Haifa Abdulaziz S. Alhaithloul, Khursheda Parvin, M.H.M. Borhannuddin Bhuyan, MohsinTanveer, Sayed Mohammad Mohsin, Kamrun Nahar, Mona H. Soliman, **Jubayer Al Mahmud**, Masayuki Fujita **(2019)** Polyamine action under metal/metalloid stress: regulation of biosynthesis, metabolism, and molecular interactions. *International Journal Molecular Science*, 20(13): 3215.doi: 10.3390/ijms20133215 **(IF- 4.556)**
6. M. Hasanuzzaman, M. H. M. B. Bhuyan, **J. A. Mahmud**, K. Nahar, S. M. Mohsin, K. Parvin, M. Fujita **(2018)**: Interaction of sulfur with phytohormones and signaling molecules in conferring abiotic stress tolerance to plants. *Plant Signaling & Behavior*. 13(5): e1477905. doi: 10.1080/15592324.2018.1477905 **(IF- 1.700)**
7. Mirza Hasanuzzaman, Hirosuke Oku, Kamrun Nahar, M. H. M. Borhannuddin Bhuyan, **Jubayer Al Mahmud**, Frantisek Baluska, Masayuki Fujita **(2018)** Nitric oxide-induced salt stress tolerance in plants: ROS metabolism, signaling, and molecular interactions. *Plant Biotechnology Reports*. 12 (2): 77–92. **(IF- 1.462)**
8. Mirza Hasanuzzaman, M. H. M. Borhannuddin Bhuyan, Kamrun Nahar, Md. Shahadat Hossain, **Jubayer Al Mahmud**, Md. Shahadat Hossen, Abdul Awal Chowdhury Masud, Moumita, Masayuki Fujita **(2018)** Potassium: A vital regulator of plant responses and tolerance to abiotic stresses. *Agronomy*. 8(3): 31. **(IF- 2.603)**
9. Mirza Hasanuzzaman, Kamrun Nahar, Md. Shahadat Hossain, **Jubayer Al Mahmud**, Anisur Rahman, Masashi Inafuku, Hirosuke Oku, Masayuki Fujita **(2017)**. Coordinated actions of glyoxalase and antioxidant defense systems in conferring abiotic stress tolerance in plants. *International Journal Molecular Science*. 18: 200. doi: 10.3390/ijms18010200. **(IF- 4.556)**

Research Articles:

1. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, M. Iqbal Raza Khan, Kamrun Nahar, Masayuki Fujita **(2020)** β-Aminobutyric acid pretreatment confers salt stress tolerance in Brassica napus L. by modulating reactive oxygen species metabolism and methylglyoxal detoxification. *Plants*, 9, 241; doi:10.3390/plants9020241 **(IF- 2.762)**
2. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Masayuki Fujita **(2019)** EDTA reduces cadmium toxicity in mustard (*Brassica juncea* L.) by enhancing metal chelation, antioxidant defense and glyoxalase systems. *Acta Agrobotanica*, doi:10.5586/aa.1772
3. M.H.M. Borhannuddin Bhuyan, Khursheda Parvin, Sayed Mohammad Mohsin, **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Masayuki Fujita **(2019**) Modulation of cadmium tolerance in rice: insight into vanillic acid-induced upregulation of antioxidant defense and glyoxalase systems. *Plants*, 9, 188; doi:10.3390/plants9020188 **(IF- 2.762)**
4. Taufika Islam Anee, Kamrun Nahar, Anisur Rahman, **Jubayer Al Mahmud**, Tasnim Farha Bhuiyan, Mazhar Ul Alam, Masayuki Fujita, Mirza Hasanuzzaman **(2019)** Oxidative damage and antioxidant defense in *Sesamum indicum* after different waterlogging durations. *Plants*, 8(7), 196; https://doi.org/10.3390/plants8070196 **(IF- 2.762)**
5. Moumita, **Jubayer Al Mahmud**, Parimal Kanti Biswas, Kamrun Nahar, Masayuki Fujita, Mirza Hasanuzzaman **(2019)** Exogenous application of gibberellic acid mitigates drought-induced damage in spring wheat. *Acta Agrobotanica*, doi:10.5586/aa.1776
6. Mirza Hasanuzzaman, Kamrun Nahar, M. Iqbal R. Khan, **Jubayer Al Mahmud**, M. Mahabub Alam, Masayuki Fujita **(2019)** Regulation of reactive oxygen species metabolism and glyoxalase systems by exogenous osmolytes confers thermotolerancein *Brassica napus*. *Gesunde Pflanzen*, 72: 3–16 **(IF- 0.738)**
7. M. H. M. Borhannuddin Bhuyan, Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Md. Shahadat Hossain, Mazhar Ul Alam, Masayuki Fujita **(2019)** Explicating physiological and biochemical responses of wheat cultivars under acidity stress: insight into the antioxidant defense and glyoxalase systems. *Physiology and Molecular Biology of Plants*. doi: 10.1007/s12298-019-00678-0 **(IF- 2.005)**
8. Tasnim Farha Bhuiyan, Kamal Uddin Ahamed, Kamrun Nahar, **Jubayer Al Mahmud**, MHM Borhannuddin Bhuyan, Taufika Islam Anee, Masayuki Fujita, Mirza Hasanuzzaman **(2019)** Mitigation of PEG-induced drought stress in rapeseed (*Brassica rapa* L.) by exogenous application of osmolytes. Biocatalysis *and Agricultural Biotechnology*. 20(2019):101197
9. M. H. M. Borhannuddin Bhuyan, Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Md. Shahadat Hossain, Tasnim Farha Bhuiyan, Masayuki Fujita **(2019)** Unraveling morphophysiological and biochemical responses of *Triticum aestivum* L. to extreme ph: coordinated actions of antioxidant defense and glyoxalase systems. *Plants* 8(1): 24. **(IF- 2.762)**
10. Md. Shahadat Hossain, Mirza Hasanuzzaman, Anisur Rahman, Kamrun Nahar, **Jubayer Al Mahmud**, Masayuki Fujita **(2018)** Heat shock-induced salt stress tolerance in lentil (*Lens culinaris* Medik.). *Russian Journal of Plant Physiology*, 66: 450-460. **(IF- 1.198)**

11. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, M. H. M. Borhannuddin Bhuyan, Masayuki Fujita **(2018)** Insights into citric acid-induced cadmium tolerance and phytoremediation in *Brassica juncea* L.: Coordinated functions of metal chelation, antioxidant defense and glyoxalase systems. *Ecotoxicology and Environmental Safety*. 147: 990–1001. **(IF- 4.872)**
12. Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, **Jubayer Al Mahmud**, Hesham F. Alharby, Masayuki Fujita **(2018)** Exogenous glutathione attenuates lead-induced oxidative stress in wheat by improving antioxidant defense and physiological mechanisms, *Journal of Plant Interactions*. 13(1): 203-212. **(IF- 2.992)**
13. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2017)**. Maleic acid assisted improvement of metal chelation and antioxidant metabolism confers chromium tolerance in *Brassica juncea* L. *Ecotoxicology and Environmental Safety*. 144: 216–226. **(IF- 4.872)**
14. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2017)** γ-Aminobutyric acid (GABA) confers chromium stress tolerance in *Brassica juncea* L. by modulating the antioxidant defense and glyoxalase systems. *Ecotoxicology*. 26: 675–690. **(IF- 2.535)**
15. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Masayuki Fujita **(2017)** Relative tolerance of different species of *Brassica* to cadmium toxicity: Coordinated role of antioxidant defense and glyoxalase systems. *Plant Omics*. 10: 107–117.
16. Kamrun Nahar, Mirza Hasanuzzaman, Md. Mahabub Alam, Anisur Rahman, **Jubayer-Al-Mahmud**, Toshisada Suzuki, Masayuki Fujita **(2017)** Insights into spermine-induced combined high temperature and drought tolerance in mung bean: osmoregulation and roles of antioxidant and glyoxalase system. *Protoplasma*. 254: 445-460. **(IF- 2.751)**
17. Md. Shahadat Hossain, Mazhar Ul Alam, Anisur Rahman, Mirza Hasanuzzaman, Kamrun Nahar, **Jubayer Al Mahmud**, Masayuki Fujita **(2017)** Use of iso-osmotic solution to understand salt stress responses in lentil (*Lens culinaris* Medik.). *South African Journal of Botany*. 113: 346-354. **(IF- 1.792)**
18. Kamrun Nahar, Mirza Hasanuzzaman, Anisur Rahman, Md. Mahabub Alam, **Jubayer-Al-Mahmud**, Toshisada Suzuki and Masayuki Fujita **(2016)** Polyamines confer salt tolerance in mung bean (*Vigna radiata* L.) by reducing sodium uptake, improving nutrient homeostasis, antioxidant defense, and methylglyoxal detoxification systems. *Frontiers in Plant Science*. 7: 1104. doi: 10.3389/fpls.2016.01104. **(IF- 4.402)**
19. Anisur Rahman, Md. Shahadat Hossain, **Jubayer-Al Mahmud**, Kamrun Nahar, Mirza Hasanuzzaman, Masayuki Fujita **(2016)** Manganese-induced salt stress tolerance in rice seedlings: regulation of ion homeostasis, antioxidant defense and glyoxalasesystems. *Physiology and Molecular Biology of Plants*. 22: 291-306. **(IF- 2.005)**
20. Mirza Hasanuzzaman, Md. Mahabub Alam, Kamrun Nahar, **Jubayer-Al-Mahmud**, Kamal Uddin Ahamed, Masayuki Fujita **(2014)** Exogenous salicylic acid alleviates salt stress-induced oxidative damage in *Brassica napus* by enhancing the antioxidant defense and glyoxalase systems. *Australian Journal of Crop Science*. 8(4): 631-639.

21. Jasmin Ara, **J.A. Mahmud**, M.S. Ryad, F. Nur, S. Sarkar, M.M. Islam **(2014)** Response of seed yield contributing characters and seed quality of rapeseed (*Brassica campestris* L.) to nitrogen and boron. *Applied Science Reports*. 1(1): 5-10.

22. A. Rahman, **J.A. Mahmud,** M. Islam **(2014)** Growth and yield of onion as affected by nitrogen and mulching. *Journal of Experimental Bioscience.* 5(1): 21-28

23. S.C. Shovon, Md. Shariful Islam, **Jubayer-Al-Mahmud**, Md. Shah Newaz Chowdhury, Md. Nazmul alam, Tania Sultana, Md. Meftaul Islam **(2014)** Diversity of avifauna in Sher-e-Bangla Agricultural University campus. *International journal of business, social and scientific research.* 2(1): 58-63.

24. M.T. Hosain, K.U. Ahamed, M.M. Haque, M.M. Islam, A.S.M. Fazle Bari, **J.A. Mahmud (2014)** Performance of hybrid rice (*Oryza sativa* L.) varieties at different transplanting dates in *Aus* season. *Applied Science Reports*. 1(1): 1-4.

25. **J**.**A**. **Mahmud**, M.M. Hoque, M. Hasanuzzaman **(2013)** Growth, dry matter production and yield performance of transplanted aman rice varieties influenced by seedling densities per hill. *International Journal of Sustainable Agriculture*. 5(1): 16-24.

26. M. Hasanuzzaman, M.H. Ali, M.F. Karim, S.M. Masum, **J.A. Mahamud (2013)** Influence of prilled urea and urea super granules on growth and yield of hybrid rice. *Journal of Experimental Bioscience.* 4(1): 1-8.

27. A. M. Z. H. Lipu, A. T. M. Shamsuddoha, R. Mondal, **J. A. Mahmud (2013)** Effect of nitrogen on morphological characters in five genotypes of mustard. *International Journal of Agriculture and Crop Sciences*. 6(12): 856-860.

28. M. A. Rahman, **J. A. Mahmud**, N. Akhtar, M.M. Islam **(2013)** Influence of nitrogen on the growth and yield of onion. *Journal of Experimental Bioscience.* 4(2): 43-48.

29. Chowdhury, M.T.I., M.A. Razzaque, N. Sultana, S.S.B. Mustafiz, S. Akter, A. Akter, **J.A. Mahmud (2013)** Chlorinated pesticide residue status in some winter vegetables. *International Journal of Agriculture and Crop Sciences*. 6(11): 667-675.

30. M.A. Rahman, **J.A. Mahmud**, M.M. Islam, M.T. Hosain **(2013)** Influence of mulching on the growth and yield of onion. *Technical Journal of Engineering and Applied Sciences*. 3(24): 3497-3501.

31. **J.A. Mahmud**, M.M. Hoque, A.M.M. Shamsuzzaman **(2012)** Performance of modern inbred and some selected hybrid rice varieties in aman season. *Journal of Experimental Bioscience.* 3(2): 45-50.

32. M. Hasanuzzaman, M.H. Ali, M.F. Karim, S.M. Masum, **J.A. Mahamud (2012)** Response of hybrid rice to different levels of nitrogen and phosphorous. *International Research Journal of Applied and Basic Sciences*. 3(12): 2522-2528.

33. N Sultana, **J.A. Mahmud** and A.H.M. Solaiman **(2012)** Study on plant diversity in Sher-e-Bangla Agricultural university campus. *Journal of Sher-e-Bangla Agricultural University*. 6(2): 7-19.

34. **J.A. Mahmud**, M.M. Hoque, A.M.M. Shamsuzzaman **(2011)** Growth and yield of T-aman rice as affected by combined effect of variety and seedling density. *Journal of Sher-e-Bangla Agricultural University.* 5(2): 23-29.

Proceedings:

1. **Jubayer-Al-Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Masayuki Fujita **(2016)** Amelioration of cadmium stress in mustard (*Brassica juncea*) seedlings by exogenous application of ethylenediaminetetraacetic acid (EDTA). ICCBES 2016, *The 6th International Congress on Chemical, Biological and Environmental Sciences*. May 10-12, 2016. Osaka, Japan.
2. Mohamed A. Adam, Kamrun Nahar, **Jubayer-Al-Mahmud**, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2016)** Roles of calcium to alleviate manganese toxicity in sesame seedlings (*Sesamum indicum* L.). *The 6th International Congress on Chemical, Biological and Environmental Sciences*. May 10-12, 2016. Osaka, Japan.

Abstract:

1. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Masayuki Fujita **(2018)** γ-Aminobutyric acid (GABA) induced salt stress tolerance in rapeseed (*Brassica napus* L.). 17th Conference Bangladesh Society of Agronomy, December 01, 2018, Gazipur, Bangladesh.
2. A.A.C. Masaud, F. Karim, M. Hasanuzzaman, P.K. Biswas, K. Nahar, J.A. Mahmud, M.H.M. Borhanuddin Bhuyan, M. Fujita (2018) potassium-induced antioxidant defense and regulation of physiological process towards drought stress tolerance in wheat. 17th Conference Bangladesh Society of Agronomy, December 01, 2018, Gazipur, Bangladesh.
3. MHM Borhannuddin Bhuyan, **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Khursheda Parvin, Sayed Mohammad Mohsin1, Md. Shahadat Hossain, Masayuki Fujita **(2018)** Physiological and biochemical mechanisms associated with vanillic acid-induced salt stress tolerance in rice (*Oryza sativa* L.). Phytogene Symposium X, November 19, 2018, Takamatsu, Kagawa, Japan.
4. MHM Borhannuddin Bhuyan, Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Md. Shahadat Hossain, Md. Shahadat Hossen, Abdul Awal Chowdhury Masud, Masayuki Fujita **(2018)** Seed priming with malic acid confers low pH stress tolerance to wheat (*Triticum aestivum* L.) seedlings by upregulating antioxidant defense and methylglyoxal detoxification system. ComBio2018, September 23-26, 2018, Sydney, Australia.
5. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, MHM Borhannuddin Bhuyan, Md. Shahadat Hossain, Masayuki Fujita (**2017**) Silicon-mediated lead stress tolerance in mustard (*Brassica juncea* L.): Function of antioxidant defense and glyoxalase systems. Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

6. MHM Borhannuddin Bhuyan, Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Md. Shahadat Hossain, Tasnim Farha Bhuiyan, Masayuki Fujita **(2017)** Understanding pH mediated oxidative stress and antioxidant defense in wheat. Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

7. Md. Shahadat Hossain, Mirza Hasanuzzaman, Md. Mahmodul Hasan Shohag, **Jubayer Al Mahmud**, MHM Borhannuddin Bhuyan, Masayuki Fujita **(2017)** Evaluating antioxidant defense response of lentil root using different iso-osmotic solutions. Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

8. Md. Shahadat Hossen, Mirza Hasanuzzaman, Md. Anisur Rahman, MHM Borhannuddin Bhuyan, **Jubayer Al Mahmud**, Md. Shahadat Hossain, Masayuki Fujita **(2017)** Comparative physiology of salinity and drought tolerance in japonica and indica cultivars of rice. Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

9. Md. Mahmodul Hasan Sohag, Md. Shahadat Hossain, Kamrun Nahar, **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Masayuki Fujita **(2017)** Antioxidant metabolism of lentil cultivars under arsenic stress. Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

10. Abdul Awal Chowdhury Masud, Mirza Hasanuzzaman, Kamrun Nahar, Jubayer Al Mahmud, MHM Borhannuddin Bhuyan, Md. Shahadat Hossain, Masayuki Fujita **(2017)** Potassium-induced antioxidant defense and regulation of physiological processes towards drought stress tolerance in wheat (*Triticum aestivum* L.). Phytogene Symposium IX, October 20, 2017, Takamatsu, Kagawa, Japan.

11. **Jubayer Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2017)** γ-Aminobutyric acid (GABA) confers chromium stress tolerance in mustard (*Brassica juncea* L.) seedlings by modulating the antioxidant defense and glyoxalase systems. 9th Asian Crop Science Association Conference, June 4-7, 2017, Jeju, South Korea.

12. MHM Borhannuddin Bhuyan, Mirza Hasanuzzaman, **Jubayer Al Mahmud**, Md. Shahdat Hossain, Mazhar Ul Alam, Masayuki Fujita **(2017)** Explicating morphophysiological and biochemical responses of wheat grown under acidic medium: Insight into to the antioxidant defense and glyoxalase systems. 9th Asian Crop Science Association Conference, June 4-7, 2017, Jeju, South Korea.

13. **Jubayer-Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2016)** β-aminobutyric acid (BABA) confers salt stress tolerance in rapeseed (*Brassica napus* L.) by improving antioxidant and glyoxalase systems. IBS 2016, *The 17th International Biotechnology Symposium and Exhibition*, October 24-27, 2016, Melbourne, Australia.

14. **Jubayer-Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Masayuki Fujita **(2016)** Roles of ethylenediaminetetraacetic acid (EDTA) in mustard (*Brassica juncea* L.) under cadmium stress: Coordinated action of antioxidant defense and glyoxalase systems. Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

15. Anisur Rahman, Iwasaki Takuya, Mirza Hasanuzzaman, Mazhar ul Alam, Md. Shahadat Hossain, **Jubayer-Al Mahmud**, Kamrun Nahar, Masayuki Fujita **(2016)** Physiological and biochemical mechanism of gallic acid-induced salt stress tolerance in rice seedlings. Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

16. Md. Shahadat Hossain, Anisur Rahman, **Jubayer-Al Mahmud**, Kamrun Nahar, Mazhar Ul Alam, Mirza Hasanuzzaman, Masayuki Fujita **(2016)** Heat shock-induced hydrogen peroxide signaling enhances salt stress tolerance in lentil (*Lens culinaris* L.). Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

17. Mohamed A. Adam, Kamrun Nahar, **Jubayer-Al Mahmud**, Masayuki Fujita **(2016)** The roles of oxidized glutathione to improve drought stress tolerance in sesame seedlings (*Sesamum indicum* L.). Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

18. Mazhar Ul Alam, Anisur Rahman, Mirza Hasanuzzaman, A. K. M. Ruhul amin, Kamrun Nahar, **Jubayer-Al Mahmud**, Md. Shahadat Hossain, Masayuki Fujita **(2016)** Seed priming with salicylic acid, ascorbic acid and sodium chloride improves drought stress tolerance in wheat (*Triticum aestivum* L.) seedlings by upregulating antioxidant defense and glyoxalase systems. Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

19. Taufika Islam Anee, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, **Jubayer-Al Mahmud**, Md. Shahadat Hossain, Tasnim Farha Bhuiyan, Mazhar Ul Alam, Masayuki Fujita **(2016)** Time-dependent variations in oxidative stress markers, proline and non-enzymatic antioxidants in sesame (*Sesamum indicum* L.) grown under waterlogging condition. Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

20. Tasnim Farha Bhuiyan, Mirza Hasanuzzaman, Jubayer-Al Mahmud, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Taufika Islam Anee, Mazhar Ul Alam, Masayuki Fujita **(2016)** Mitigation of drought stress in rapeseed (*Brassica campestris* L.) by exogenous application of proline, glycine betaine and trehalose. Phytogene Symposium VIII, October 17, 2016, Takamatsu, Kagawa, Japan.

21. **Jubayer-Al Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Md. Shahadat Hossain, Masayuki Fujita **(2016)** Role of exogenous β-aminobutyric acid (BABA) in conferring salt stress tolerance in rapeseed. *The 80th Annual Meeting of the Botanical Society of Japan*, September 16-19, 2016, Okinawa, Japan.

22. Anisur Rahman, Mazhar Ul Alam, Md. Shahadat Hossain, **Jubayer-Al-Mahmud**, Kamrun Nahar, Mirza Hasanuzzaman, Masayuki Fujita **(2016)** Exogenous gallic acid alleviates Chromium induced oxidative stress in rice seedlings. *The 80th Annual Meeting of the Botanical Society of Japan*, September 16-19, 2016, Okinawa, Japan.

23. **Jubayer-Al-Mahmud**, Mirza Hasanuzzaman, Kamrun Nahar, Anisur Rahman, Masayuki Fujita **(2015)** Relative tolerance of different varieties of mustard and

rapeseed to cadmium toxicity. Plant Biology 2015, *Annual Meeting of the American Society of Plant Biologists*, July 26-30, 2015. Minneapolis, Minnesota, USA.

OTHER EXPERIENCES:

- **Worked as teaching assistant** in the Graduate School of Agricultural Sciences, Department of Applied Biological Science, Faculty of Agriculture, Kagawa University, Japan.
- **Moderate question paper** for the written examination of technical subjects in Non-Governments teachers' Registration and Certification Authority (NTRCA), Government of the People's Republic of Bangladesh.
- **Examiner** of the written test of technical subjects in Non-Governments teachers' Registration and Certification Authority (NTRCA), Government of the People's Republic of Bangladesh.
- **Examiner** of the written test of Bangladesh Technical Education Board (BTEB), Government of the People's Republic of Bangladesh.

PARTICIPATION IN WORKSHOP, SEMINAR, CONFERENCES:

- 9th ACSAC 2017: 9th Asian Crop Science Association Conference, Jeju, South Korea Duration: June 4-7, 2017.
- IBS 2016: The 17th International Biotechnology Symposium and Exhibition, Melbourne, Australia. Duration: October 24-27, 2016.
- Phytogene 2016: Phytogene Symposium VIII, Takamatsu, Kagawa, Japan. Duration: 17 October 2016.
- BSJ 2016: The 80th Annual Meeting of the Botanical Society of Japan, Okinawa, Japan. Duration: 16-19 September, 2016.
- ICCBES 2016: The 6th International Congress on Chemical, Biological and Environmental Sciences, Osaka, Japan. Duration: May 10-12, 2016.
- Plant Biology 2015: Annual Meeting of the American Society of Plant Biologists, Minneapolis, Minnesota, USA. Duration: July 26-30, 2015.

SOCIETAL MEMBERSHIPS:

1. Member of International Society for Environmental Information Science
2. Member of the Sher-e Bangla Agricultural University Alumni Association (SAUAA), Dhaka, Bangladesh
3. Member of Agriculturists' Institution of Bangladesh
4. Life Member of Japanese Universities Alumni Association in Bangladesh (JUAAB), Dhaka, Bangladesh
5. Life Member of Karimganj Public Library, Kishoreganj, Bangladesh

COMPUTER AND ITS SKILL:

- Diploma course in Microsoft Office Program at NIIT**,** Panthopath centre, Bangladesh

LANGUAGE PROFICIENCY:

Bengali: Fluent in reading, writing and speaking (native language)
English: Fluent in reading, writing and speaking.

COUNTRY VISITED:

• South Korea	: 04 June, 2017 to 10 June, 2017
• Australia	: 22 October, 2016 to 30 October, 2016
• Japan	: 30 September, 2014 to 25 September, 2017
• USA	: 22 July, 2015 to 30 July, 2015
• India	: 30 December, 2009 to 15 January, 2010

REFEREES

Prof. Masayuki Fujita, Ph.D
Laboratory of Plant Stress Responses
Department of Applied Biological Sciences
Faculty of Agriculture, Kagawa University
Ikenobe-2393, Miki-cho, Kita-gun
Kagawa 761-0795, Japan
Tel: +81-087-891-3133
Fax: +81-087-891-3021
E-mail: fujita@ag.kagawa-u.ac.jp

Prof. Md. Kausar Hossain, Ph.D
Department of Agroforestry and Environmental Science
Sher-e-Bangla Agricultural University
Dhaka-1207, Bangladesh
Cell: +8801701777941
Fax: +88-02-8155800
E-mail: kausar@sau.edu.bd, kausarsau@gmail.com

Mirza Hasanuzzaman, Ph.D
Professor
Department of Agronomy
Faculty of Agriculture
Sher-e-Bangla Agricultural University,
Dhaka-1207, Bangladesh.
Tel: +8802 8157580, Cell: +8801716587711
Fax: +8802 8155800
E-mail: mhzsauag@yahoo.com