

Md. Roman Akon

Faculty (Faculty of Agriculture)
Department of Horticulture
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SKILLS AND EXPERTISE

- Postharvest Technology
- Hydroponic culture
- Aeroponics
- Vertical Farming
- Stress-tolerant seedlings production
- Aquaculture
- Production and storage of microgreens
- Application of plant biostimulants
- Machine learning
- Image processing
- Fruit quality detection
- Windows Subsystem for Linux
- RNA sequencing and DEGs analysis
- Statistical data analysis using Minitab
- Statistical data analysis using R and R Studio
- Statistical data analysis using Python programming
- Bonsai technology
- GEE and Arc GIS
- Structural equation modelling (SEM)

RESEARCH PROJECTS

Year	Title of The Research Project	Granting Agency	Responsibility
2025-2026	Mitigation of Salinity Stress Effects on Brinjal Seedling Growth Using Grafting Techniques	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2024-2025	Optimizing an Aeroponic System for Potato Cultivation under Varied Nutrient Conditions	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator

2023-2024	A Comparative Study on Different Vertical Hydroponic Strawberry Cultivation Techniques under Nutrient Specific Conditions	University Grants Commission of Bangladesh (UGC)	Principal Investigator
2023-2024	Effect of Storage Temperature and Packaging Material on Quality and Shelf Life of Microgreens	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2023-2024	Effects of biochar based substrate on growth, yield, and quality of rock melon under nutrient specific solutions in drip hydroponic system	MoST	Associate Investigator
2022-2023	Selection of vegetable seeds for the Production of Microgreens	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2020-2021	Effect of Different Substrate on Growth and Yield of Gimakalmi (<i>Ipomoea reptans</i> Poir) Cultivated in Aquaponic System	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2019-2020	Protocol Development for Hydroponic Brinjal (<i>Solanum melongena</i>) Cultivation	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2018-2019	A Comparative Assessment of Nutrient Recycling from Aquaculture Effluent through Biofilter, Activated Carbon-based Filter and Aquaponics in integrated Fish-Vegetable Culture System	MoST	Associate Investigator
2017-2018	Evaluation of Nutritional and Physico-Chemical Properties of Selected Minor Fruits in Bangladesh	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2016-2017	Influence of Nutrient Concentrations and Misting Time on Growth and Yield of Strawberry Cultivated in Aeroponic System	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2014-2016	Research Capacity Expansion to Promote Demand Driven Postgraduate Program in Horticulture	HEQEP, UGC	Member, Sub Project Management team
2013-2014	Seed Invigoration Techniques of Tomato	Patuakhali Science and Technology University, Dumki, Patuakhali.	Principal Investigator
2008-2009	Extending Vase Life of Orchid	MoST	MS Fellow

TRAINING, WORKSHOP AND SEMINAR ATTENDED

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| I. | Python for Data Analysis , Organized by the Department of Academic Affairs, A2Z EduLearningHub LLP, India | 13–15 February 2024 |
| II. | Opportunities for Protected Horticulture , Organized by the Embassy of the Netherlands in Bangladesh | 28 September 2023 |
| III. | Bonsai Techniques (Participated as a resource speaker), Organized by the Department of Horticulture, Patuakhali Science and Technology University | 12 – 13 October 2022 |
| IV. | Enabling a perfect research ecosystem with Science Direct , Organized by ELSEVIER | 10 October, 2022 |
| V. | Statistical Data Analysis Using R Program , Organized by PSTU Teachers' Association, 2021-2022 | 14 August 2022 to September 27, 2022 |
| VI. | Climate Smart Agriculture for a Resilient Coastal Bangladesh (RECSA) , Organized by Wageningen University of Research (WUR) and Patuakhali Science and Technology University (PSTU) | June 2020 to December 2020 |
| VII. | Research and Education on Climate Smart Agriculture , Organized by the project "Climate Smart Agriculture for a Resilient Coastal Bangladesh" | 23 September 2019 |
| VIII. | Teaching-Learning of Agricultural Science Education of PSTU , Organized by Higher Education Quality Enhancement Project, CP 6169, Faculty of Agriculture | 22-28 September 2018 |
| IX. | Administrative and Financial Management for University Teachers and Officers , Conducted by the Patuakhali Science and Technology University | 22-23 September and 13-14 October, 2017 |
| X. | Lab Orientation and Bio-safety , Conducted by the department of Horticulture, Patuakhali Science and Technology University with support from HEQEP, sub-project CPSF 466 | 14-15 July, 2017 |
| XI. | Curriculum Development for the Faculty of Agriculture , Conducted by the Graduate Training Institute (GTI) in collaboration with the Institutional Quality Assurance Cell (IQAC) of Patuakhali Science and Technology University (PSTU) and with support from HEQEP-UGC | 18-20 February, 2016 |
| XII. | Strengthening Pedagogical Skill of Young Teachers , Organized by Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali-8602, Bangladesh, Supported by USAID-Funded Asia Farmer-to-Farmer (F2F) Program, Winrock International | 20-23 January, 2015 |

PUBLICATIONS

1. **Akon, M. R. ***, Alam, M. T., Malek, M. A. (2024). Selection of Promising Indigenous Guava Germplasm from Bauphal Upazila of Patuakhali District of Bangladesh. *International Journal of Innovative Research*, 9(2), 52–61.
2. **Akon, M. R.*** (2023). Vegetative Behaviour of Brinjal (*Solanum melongena* L.) in Response to Different Nitrogen Supply in Hydroponics. *Journal of the Patuakhali Science and Technology University*, 13 (1&2), 27-38.
3. Jarin, S. A., Malek, M. A. & **Akon, M. R.*** (2023). Effect of Pre-storage Treatments on Quality and Shelf Life of Banana. *International Journal of Innovative Research*, 8(3), 54–62.
4. **Akon, M. R.*** & Tabassum, M. (2023). Effect of Nutrient Solution pH on Growth and Yield of Broccoli. *International Journal of Innovative Research*, 8(3), 48–53.
5. Rahman, M. M., **Akon, M. R.*** & Hasan, M. F.* (2023). Production and Evaluation of the Physico-chemical and Sensory Attributes of Watermelon Fruit Leather and Sauce. *Journal of Patuakhali Science and Technology University*, 13(1&2), 13–26.
6. Paul, D., Howlader, J., **Akon, M. R.** & Labib, L. A. (2023). Effect of Hydrocooling and Storage Condition on Postharvest Quality of Coriander Leaf. *International Journal of Innovative Research*, 8(3), 63–71.
7. Ahmed, M., **Akon, M. R.,*** Hasan, M. F. Howlader, J. & Nipa, M. (2023). Effect of Conventional Storage Techniques on Physico-chemical Properties of Dehydrated Cauliflower. *International Journal of Innovative Research*, 8(1), 12–19.
8. Tabassum, M., **Akon, M. R.,*** Howlader, J., & Malek, M. A. (2022). Effect of Electrical Conductivity on Growth, Yield and Quality of Broccoli Grown in Hydroponic System. *International Journal of Innovative Research*, 7(3), 43–49.
9. Ahmed, T., Sanjida, **M., Akon, M. R.**, Malek, M.A. & Howlader, J. (2021). Effects of Varieties and Zinc on Physico-Chemical Quality of Chilli. *International Journal of Innovative Research*, 6(2), 21–27.
10. Md. Rushna Alam¹ and Md. Roman Akon² Md. Tarequr Rahman¹, Kanij Rukshana Sumi^{1*} (2021). Assessment of the proximate composition of Tilapia produced in aquaponics system. *International Journal of Innovative Research*, 6(1), 8–12.
11. Sanjida, M., Howlader, J., **Akon, M. R.**, & Ahmed, T. (2020). Effects of varieties and boron on growth and yield of summer tomato. *Asian Journal of Crop, Soil Science and Plant Nutrition*, 4(1), 141-149.
12. **Akon. M. R.*** (2019). The influence of nutrient solution pH on growth and yield of strawberry plants grown in aeroponic system. *Journal of Bangladesh Society for Agricultural Science and Technology*, 16(1-4), 23-28.
13. **Akon, M. R.,*** Ahsan, S. M., Howlader, J., Hassan, M. N. & Mollah, M. M. I. (2018). Effect of Electrical Conductivity on Growth and Yield of Strawberry Cultivated In Aeroponic System. *Journal of the Patuakhali Science and Technology University*, 9(1 & 2), 239-250.

14. Mollah, M. M. I., Rahman, M. M., Khatun, S., Mala, M. & **Akon, M. R.** (2017). Toxicity of botanical and chemical insecticides on stink bug complex (Heteroptera: Pentatomidae) in lablab bean (*Lablab purpureus* Lin.) field. *Journal of Entomology and Zoology Studies*, 5(2), 537-541.
15. Ahsan, S. M., **Akon, M. R.**, Sathi, M. A., Papry, M., Mondal, D. & Ahmed, S. R. (2015). Effect of growth regulators on callus induction and shoot regeneration of lettuce (BARI Lettuce-1). *International Journal of Business, Social and Scientific Research*, 3(4), 247-252.
16. Papry, M., Ahsan, S. M., Biswas, M. J. H., Sathi, M. A., Howlader, P., Robbani, M., Akram, S. & **Akon, M. R.** (2015). Callus Induction and Plantlet Regeneration from Shoot Tip Explants in Tomato (*Solanum lycopersicum* L.). *International Journal of Business, Social and Scientific Research*, 4(1), 50-59.
17. Hasan, M. Z., Saha, G., Miah, M. A., **Akon, M. R.** & Mollah, M. M. I. (2014). Effect of Salt Stress on Growth and Yield Attributes of Mungbean. *Journal of Patuakhali Science and Technology University*, 5(2), 1-8.
18. Hasan, M. N., Haque, M. R., Hasan, M. Z., **Akon, M. R.** & Islam, M. S. (2013). Hydroponic culture and Micro propagation of Tomato. *Eco-friendly Agricultural Journal*, 6(3), 44-51.
19. **Akon, M. R.*** & Mondal, M. F. (2009). Extending Vase Life of Orchid. *Journal of the Bangladesh Society for Agricultural Science and Technology*, 6(1 & 2), 71-76.

* **Corresponding Author**

SCHOLARSHIPS AND AWARD RECEIVED

- National Science Information and Communication Technology (NSICT) Fellowship, 2009 awarded by the Ministry of Science, Information and Communication Technology, Bangladesh.
- Department of Horticulture Merit scholarship for good academic performance during M.Sc. study.
- Faculty of Agriculture Merit scholarship for good academic performance during B.Sc. study.

TEACHING EXPERIENCES

Professor	Department of Horticulture, Patuakhali Science and Technology University, Bangladesh	2023-till date
Associate Professor	Department of Horticulture, Patuakhali Science and Technology University, Bangladesh	2019-2023
Assistant Professor	Department of Horticulture, Patuakhali Science and Technology University, Bangladesh	2014-2019
Lecturer	Department of Horticulture, Patuakhali Science and Technology University, Bangladesh	2012-2014

EDUCATION

Master of Science (M.Sc.) in Horticulture

- Year of Passing: December 2009
- University: Bangladesh Agricultural University, Bangladesh
- Thesis Title: Extending Vase Life of Orchid
- Result: CGPA 3.867 out of 4.00
- Principles subject / Occupational skills covered: Advanced vegetable production, Physiology of horticultural crop yield, Postharvest technology of fruits and vegetables, Storage management of horticultural crops, Ornamental and landscape horticulture, Homestead agroforestry.

Bachelor of Science (B.Sc.) in Agriculture

- Year of Passing: June 2008
- University: Patuakhali Science and Technology University, Bangladesh
- Result: CGPA 3.85 out of 4.00
- Principles subject / Occupational skills covered: Vegetable production, Plant breeding, Genetics, Cytogenetics, Biotechnology, applied plant physiology, Ornamental horticulture, Fruit production, Spices medicinal plants and plantation crops, Soil physics and soil chemistry, Soil fertility and management, Introduction to soil fertility and soil microbiology, Physical and analytical chemistry, Organic chemistry, Chemistry of fertilizers and pesticides, Agro-analytical chemistry, Chemistry of biomolecules.

LANGUAGE SKILL

- Proficient in English and Bengali [English was the medium of Instruction in B.Sc.Ag (Hons.) and M.Sc. degree].

ADDITIONAL DUTIES PERFORMED

- Deputy Director (from 6 June 2015 to 31 January 2017), Department of Physical Education, Patuakhali Science and Technology University, Dumki, Patuakhali 8660.
- Assistant Director (from 25 August 2014 to 5 June 2015), Department of Physical Education, Patuakhali Science and Technology University, Dumki, Patuakhali 8660.
- Assistant Provost (from 6 June 2013 to 14 August 2014), M. Keramot Ali Hall, Patuakhali Science and Technology University, Dumki, Patuakhali 8660.

REFERENCES

1. Professor Dr. Mahbub Robbani

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