

Khadiza khatun, PhD

Academic background

- Post-Doctoral Training program on Climate Smart Agriculture. Wageningen University, Netherlands (2022).
- Doctor of Philosophy (PhD.) in Agricultural Education, College of Education (Major in Biotechnology), Sunchon National University, South Korea (2017). Dissertation: Molecular characterization and expression profiling of abiotic stress responsive gene families in *Solanum lycopersicum L.* Supervisors: Prof. Dr. Chung, Mi-Young (PhD.).
- Master of Science (MS) in Biotechnology, Department of Biotechnology, Bangladesh Agricultural University, Mymensing, Bangladesh (2008). Dissertation: Effect of Growth Regulators on Plantlets Regeneration of Soybean (*Glycine max* L.). Supervisors: Prof. Shahidul Haque (PhD.).
- Bachelor of Science in Agriculture (Hons.), Faculty of Agriculture, Patuakhali Science and Technology University, Patuakhli, Bangladesh (2007).

Academic Awards

- UGC (University Grants Commission, Bangladesh) merit scholarship 2006, University Grants Commission, Government of Bangladesh.
- University Gold Medal 2011, University Grants Commission, Government of Bangladesh.
- NSICT fellowship 2008-2009, 2009-2010 for MS research work. NSICT (National Science and Information and Communication Technology) Fellowship was awarded by the Ministry of Science and Information and Communication Technology, Government of Bangladesh.
- Golden Seed Project (Center for Horticultural Seed Development, No. 213003-04-4-SBV10), Ministry of Agriculture, Food and Rural Affairs (MAFRA) Fellowship 2014-2017 was awarded as a Doctor of Philosophy (PhD.) researcher.

Research Background

Research Interest

- Areas of interest in research are plant molecular biology and biotechnology in relation to different plant diseases, and biotic and abiotic stresses.

Research Skills

- Skills in molecular biology (including DNA, RNA, cDNA and protein handling, PCR, qPCR, and quantification methods).
- Capable in cloning, sequencing, designing, and development of molecular markers (especially SCAR, In/Del, SSR, HRM, etc. markers).
- Able to analyze *in silico* analysis related to plant expression experiments.

Supervisorship

As a Principal Supervisor

- Research title: Effect of explants size, position and hormonal combination on callus induction for shooting of *Gerbera jamesonii*.
- Research title: Effect of *Moringa oleifera* leaf extract on *in vitro* regeneration of tomato.

As a Co-Supervisor

- Research title: Screening of some tomato germplasm in response to Tomato yellow leaf curl virus in Bangladesh.

Research projects

- Screening of some tomato germplasm in response to Tomato yellow leaf curl virus in Bangladesh
- Effect of *Moringa oleifera* leaf extract on *in vitro* regeneration of tomato
- Effect of seed priming on germination and seedling growth of bitter gourd (*Momordica charantia*) under salinity stress
- Production potential of solanaceous vegetable in hydroponic system using sawdust as growing media
- *In vitro* plant regeneration from Shoot tip and axillary shoot culture of *Capsicum annuum* (Bell pepper).
- Effect of seed priming on germination and seedling growth of bitter gourd (*Momordica charantia*) under salinity stress
- *In vitro* plant regeneration from shoot tip and axillary shoot culture of *Capsicum annuum* (Bell pepper)
- Genetic differentiation and diversity analysis of medicinal tree black plum (*Syzygium cumini*) from ecologically different regions of Bangladesh
- Performance screening of tomato cultivars under plastic roofing condition as influenced by number of side dresses
- Rapid multiplication of gerbera through in vitro propagation and test the genetic diversity of the propagated plants using RAPD markers

- Abiotic stress related gene family characterization in tomato
- Tissue culture of *Phalaenopsis* orchid
- Conducting Field and Laboratory Experiment related to Horticultural Crop
- Exploring and Exploiting of wheat genotype for heat tolerance

Professional Experience

▪ Professor

Department of Biotechnology, Faculty of Agriculture, Patuakhali Science and Technology University, Bangladesh. Duration: 01 November 2020 to till date.

▪ Associate Professor

Department of Biotechnology, Faculty of Agriculture, Patuakhali Science and Technology University, Bangladesh. Duration: November 2016 to October 2020

▪ Assistant Professor

Department of Biotechnology, Faculty of Agriculture, Patuakhali Science and Technology University, Bangladesh. Duration: November 2011 to October 2016

▪ Lecturer

Department of Biotechnology, Faculty of Agriculture, Patuakhali Science and Technology University, Bangladesh. Duration: 2009 to October 2011

Job Responsibilities

Designed and delivered lectures on both theory and practical in tissue culture, introductory Biotechnology, recombinant DNA technology, reproductive biotechnology, regulation of gene expression, group workshop, and provided student support.

Administrative Experience

▪ Head of the department

Department of Biotechnology, Faculty of Agriculture, Patuakhali Science and Technology University, Bangladesh. Duration: 2011-2014, 2018 to till date

▪ Provost

Kabi Begum Sufia Kamal Hall, Patuakhali Science and Technology University, Patuakhali-8602. Duration: August 2023 to till date.

▪ Assistant Provost

Kabi Begum Sufia Kamal Hall, Patuakhali Science and Technology University, Patuakhali-8602. Duration: 2010-2012, 2017-2018.

Publications

Thesis:

Khadiza khatun, 2017. Molecular characterization and expression profiling of abiotic stress responsive gene families in *Solanum lycopersicum* L. PhD Thesis. College of Agricultural Education, Major in Biotechnology, Sunchon National University, Sunchon, South Korea.

Khadiza khatun, 2008. Effect of Growth Regulators on Plantlets Regeneration of Soybean (*Glycine max* L.).MS thesis. Department of Biotechnology, Bangladesh Agricultural University, Mymensingh-2202.

Full-length Articles:

Khadiza Khatun, Arif Hasan Khan Robin, Md. Rafiqul Islam, Subroto Das Jyoti, Do-Jin Lee, Chang Kil Kim, Mi-Young Chung*. Genome-wide analysis of *Solanum lycopersicum* L. cyclophilins. *J. Plant Biotechnol.* 49:15-29.

Khadiza Khatun*, Ireen Nahar, Md. Rafiqul Islam, Md. Mainul Islam Rashad. Production Potential of Solanaceous Vegetables in Hydroponic System. *IJIR*. 7:33-36.

Khadiza Khatun*, Ireen Naher. Effect of seed priming on germination and seedling growth of bitter gourd (*Momordica charantia*) under salinity stress. *J. Patuakhali Sci. and Tech. Uni.* 12:1&2.

Khadiza Khatun , Sourav Debnath , Arif Hasan Khan Robin , Antt Htet Wai , Ujjal Kumar Nath , Do-Jin Lee , Chang-Kil Kim* and Mi-Young Chung*. Genome-wide identification, genomic organization, and expression profiling of the CONSTANS-like (COL) gene family in petunia under multiple stresses. *BMC Genomics*. 22:727.

Mokaram Hanifa Koly, Md. Ekramul Hoque, **Khadiza Khatun**, Kazi Meftahul Jannat and Md. Rafiqul Islam*.Role of phytohormone on *in vitro* regeneration of tea [*Camellia sinensis* (L.) O. Kuntze]. *Integrity. JBBD*. 8:92-99.

Khadiza Khatun*, Ujjal Kumar Nath, Md. Shafikur Rahman. Tissue culture of Phalaenopsis: present status and future prospects. *J. Adv. Biotechnol. Exp. Ther.* 3: 273-285.

Md. Kamrul Hassan Soha, Md. Shafikur Rahman*, Lutfur Rahman, S. M. Masiul Azam, **Khadiza Khatun**. Heterosis in Hybrids between Local and High Yielding Rice (*Oryza sativa* L.) Varieties of Bangladesh. *Int. J. Innov. Res. Dev.* 5:1–7.

Bulbul Ahmed, **Khadiza Khatun***, Md. Rafiqul Islam, Md. Shafikur Rahman, Md. Zahid Hassan, Md. Hasinur Jaman Biplob. Growth and Yield Performance of Grass pea (*Lathyrus sativus* L.) under Different Methods of Sowing and Pre-Emergence Irrigation. *Adv. Biol. Res.* 13: 89-94.

Khadiza Khatun, Ujjal Kumar Nath, Jong-In Park, Chang Kil Kim, Ill Sup Nou, Mi-Young Chung*. Expression Profiling of the CSDP Transcription Factor Gene Family Points to Roles in Organ Development and Abiotic Stress Response in Tomato (*Solanum lycopersicum* L.).

Plant Mol. Biol. Report. 36: 273–283.

Khadiza khatun, Ujjal Kumar Nath, Arif Hasan Khan Robin, Jong-In Park, Do-Jin Lee, Min Bae Kim, Chang Kil Kim, Ki-Byung Lim, Ill-Sup Nou, Chung Mi-Young *. Genome-wide analysis and expression profiling of zinc finger homeodomain (ZHD) family genes reveal likely roles in organ development and stress responses in tomato. *BMC Genomics*. 18:695.

Khadiza Khatun , Arif Hasan Khan Robin , Jong-In Park , Ujjal Kumar Nath , Chang Kil Kim , Ki-Byung Lim , Ill Sup Nou and Mi-Young Chung *. Molecular Characterization and Expression Profiling of Tomato GRF Transcription Factor Family Genes in Response to Abiotic Stresses and Phytohormones. *IJMS*.18:1056.

Khadiza Khatun, Arif Hasan Khan Robin, Jong-In Park, Chang Kil Kim, Ki-Byung Lim, Min Bae Kim, Do-Jin Lee, Ill Sup Nou, Mi-Young Chung *. Genome-wide identification, characterization and expression profiling of *ADF* family genes in *Solanum lycopersicum* L. *Genes*. 7:79.

Khatun K, Robin AH, Park JI, Ahmed NU, Kim CK, Lim KB, Kim MB, Lee DJ, Nou IS, Chung MY*. Genome-wide identification, characterization and expression profiling of *LIM* family genes in *Solanum lycopersicum* L. *Plant Physiol Biochem*. 108:177-190.

Mi Young Chung, Aung Htay Naing, **Khadiza Khatun**, Hyung Geun Ahn, Ki Byung Lim, Chang Kil Kim. In vitro propagation of Phaleonopsis hybrid 'Little gem' by culturing apical part and axillary bud of flower stalk. *J. Plant Biotechnol*. 43:438-443.

Ujjal Kumar Nath, Hoy-Taek Kim, **Khadiza Khatun**, Jong-In Park, Kwon Kyoo Kang, and Ill-Sup Nou*. Modification of Fatty Acid Profiles of Rapeseed (*Brassica napus* L.) Oil for Using as Food, Industrial Feed Stock and Biodiesel. *Plant Breed. Biotechnol*. 4:1232-134.

M. M. Hassan, A. K. M. Shamsuddin, M. M. Islam, **K. Khatun**, J. Halder. Analysis of Genetic Diversity and Population Structure of Some Bangladeshi Rice Landraces and HYV. *J. Sci. Res.* 4: 757-767.

M. M. Hassan, M. A. Latif, and **K. Khatun**. Yield Performance of Different Wheat Genotypes (*Triticum aestivum* L.) at Different Salinity Levels. *Bangladesh J. Environ. Sci.* 18: 37-40.

K. Kar, M.K. Islam, M. Maniruzzaman and **K. Khatun**. Effect of Growth Regulators (PGR) on growth and yield of two cabbage varieties. *J. Subtrop. Agric. Res. Dev.* 8:807-811.

K. Khatun, M.S Haque, M. A Karim and M. Hossain. Effect of Growth Regulators on Plantlets Regeneration of Soybean (*Glycine max* L.). *Bangladesh J. Seed Sci.technol*.13:47-50.

K.khatun, M.S Haque. Callus Culture & Plant Regeneration of Tomato from Leaf explant. *Bangladesh J. seed Sci.technol*.13:47-50.

M.E. Hossain, M.K. Islam, M. Maniruzzaman, **K. Khatun** and M.A. Ali. Response of Transplanted Aman Rice varieties, Seedling Rate and Water Regimes. *Bangladesh J.Sher-e-Bangla. Agric. Univ.* 4:58-63.