

9th International Plant Tissue Culture and Biotechnology Conference

INAUGURAL CEREMONY

February 8, 2020 (Saturday)

Venue: Nabab Nowab Ali Chowdhury Senate Bhaban, University of Dhaka

- 08:30 - 11:30 : Inaugural ceremony
- 08:30 - 09:30 : Registration
- 09:30 - 09:35 : Guests take their seats
- 09:35 - 09:40 : Recitation from the Holy Qur'an
- 09:40 - 09:50 : Address of welcome and introduction to foreign delegates **Professor Dr. Rakha Hari Sarker**
President, BAPTC&B
- 09:50 - 10:00 : Conference Inauguration **Professor Dr. Md. Akhtaruzzaman**
Honorable Vice Chancellor, University of Dhaka &
Chief Patron of the Conference
- 10:00 - 10:30 : Plenary Lecture on the theme Helicases in crop improvement under climate change for global food security and sustainable agriculture
Dr. Narendra Tuteja
Former Group Leader, International Center for Genetic Engineering and Biotechnology (ICGEB),
Aruna Asaf Ali Road, New Delhi - 110067, India
- 10:30 - 10:40 : Address by the Special Guest **Dr. Shaikh Mohammad Bokhtiar**
Honorable Chairman, Bangladesh Agricultural Research Council (BARC)
- 10:40 - 10:55 : Address by the Chief Guest **Dr. Muhammad Abdur Razzaque, MP**
Honorable Minister, Ministry of Agriculture,
Govt. of the People's Republic of Bangladesh
- 10:55 - 11:00 : Vote of Thanks **Professor Dr. Mihir Lal Saha**
Organizing Secretary & General Secretary, BAPTC&B
- 11:00 - 11:30 : Refreshment **Courtesy: University of Dhaka**
- 11:30 : Move to the Department of Botany by Bus

9th International Plant Tissue Culture and Biotechnology Conference

February 8, 2020 (Saturday)

Venue: Department of Botany, University of Dhaka

Scientific Session 1a: *In vitro* regeneration and micropropagation of economically important crops, ornamental and medicinal plants

Time: 12:00 - 13:00

Chairman : Professor Sreeramanan Subramaniam
School of Biological Sciences, Universiti Sains Malaysia,
Minden Heights, 11800 Penang, Malaysia

Co-Chairman : Professor Dr. Ekramul Hoque
Dept. of Biotechnology, SAU, Dhaka

Rapporteur : Dr. G.M. Al-Amin
Department of Botany, Jagannth University, Dhaka

Speakers :

Biswajit Ghosh - Seeds: From test tube to field (53)

S.C. Halder, M.M. Khatun, M.K. Hasan, D. Khanam and M.A.Y. Akhond - Micro propagation of dragon fruit (*Hylocereus costaricensis*) (13)

Tuhin Chatterjee and Biswajit Ghosh - Micropropagation and *in vitro* conservation of some important medicinal plants (56)

Md. Shahidul Islam Khan, Fahima Khatun, Sadia Afrin and M. E. Hoque - *In vitro* plantlet regeneration of chrysanthemum (*Chrysanthemum morifolium*) (20)

Zannatul Fardous and S. M. Shahinul Islam - An efficient *in vitro* protocol development for a ground orchid of *Phaius tankervillei* in Bangladesh (73)

13:00-14:00 : Lunch (Courtesy: Dr. Mohd. Athar Uddin, Chairman, Azmat Group)
Venue: Department of Botany (2nd floor Room No. 301)

Scientific Session 1b: *In vitro* regeneration and micropropagation of economically important crops, ornamental and medicinal plants

Time : 14:00 -16:00

Chairman : Professor Dr. Shahidul Haque
Department of Biotechnology, BAU

Co-Chairman : Professor Dr. Shamsul Haque Prodhan
Department of Genetic Engineering and Biotechnology, SUST, Sylhet

Rapporteur : Professor Dr. Abul Kalam Azad
Department of Biotechnology, Islamic University, Kustia

Speakers:

Nazmun Nahar, Abul Kashem Chowdhury and Nasar Uddin Ahmed - Effect of genotype, explant and growth regulators on *in vitro* organogenesis of chilli (*Capsicum annum L.*) (16)

- Md. Mahbubur Rahman, Nusrat Sultana, Saiful Alam Md. Tareq and Waheeda Parvin** - *In vitro* mass propagation of *Dendrocalamus asper*, a new bamboo species in Bangladesh (21)
- Shampa Das Joya, Shahanz Sultana, Jannatul Ferdous, Md. Abdul Qayum and M Enamul Hoque** - Varietal response to callus induction and regeneration of newly released BRRI rice varieties (26)
- Nushrat Zahan Munmun, Bivas Kumar Sarkar, Madhury Paul, Salim Khan, Ahashan Habib, Shahina Akter, Barna Goswami and Tanjina Akhtar Banu** - *In vitro* regeneration of Gerbera varieties from different explants (27)
- Tanjina Akhtar Banu, Salim Khan, Shahina Akter, Ahashan Habib and Barna Goswami** - Indirect organogenesis and somatic embryogenesis for regeneration of *Rauvolfia serpentina* L. from the root explants (58)
- M. F. Hasan, M. M. Jannat, R. Zaman and B. Sikdar** - Plant regeneration through shoot apical meristem of *Coccinia grandis* (L.) (4)
- Pronabananda Das, M.H. Kabir, Md. Monirul Islam, Md. Monirul Islam, S.A.M. Shariar Islam, M. R. Islam, M. T. Jahan and A.N.K. Mamun** - Improvement of agronomic traits of indigenous rice genotype lombur through somatic embryogenesis and *in vitro* mutagenesis (5)
- Md. Monirul Islam, M.H. Kabir, Pronabananda Das, Md. Monirul Islam, S.A.M. Shariar Islam, M. R. Islam, M. T. Jahan and A.N.K. Mamun** - Effect of gamma irradiation on the growth of double haploid banana (*Musa balbisiana*) through shoot tip culture (6)
- Md. Monirul Islam, M.H. Kabir, Pronabananda Das, Md. Monirul Islam, S.A.M. Shariar Islam, M. R. Islam, M. T. Jahan, Anisur Rahman and A.N.K. Mamun** - large scale plantlet production from embryogenic callus of sugarcane advanced line I-131-10 and *in vitro* mutagenesis through gamma irradiation (7)
- Barna Goswami, Salim Khan, Tanjina Akhtar Banu, Shahina Akter, Mousona Islam and Ahashan Habib** - *In vitro* mass propagation of *Withania somnifera* (L.) Dunal an important medicinal plant of Bangladesh (59)
- M. M. Hossain, M. A. K. Azad, M. Arifuzzaman, M. S. Arman and M. N. Amin** - Plant regeneration through axillary and adventitious shoot proliferation of an ornamental plant - *Petunia × atkinsiana* (Sweet) D. Don ex W. H. Baxter (62)

Tea break : 16:00-16:30

Scientific Session 2: Regional and global perspectives of commercialization of *in vitro* derived plants and products

Time : 16:30 - 17:45

Chairman : Dr. Md. Al-Amin
Supreme Seed Company Limited

Co-Chairman : Dr. Md. Enamul Haque, Biotechnology Division, BRRI

Rapporteur : Dr. Md. Ahasan Habib, Tissue Culture Section, BCSIR

Speakers:

Sreeramanan Subramaniam, Koe Wei Sheng Winson, Bee Lynn Chew, and Kathiresan Sathasivam - Production of betalain compounds from *Hylocereus costaricensis* *in vitro* plant cell culture system (15)

Md. Tareq Molla, Nur-E-Alam, Md. Rayhan Ali, Shahin Mahmud and A. K. M. Mohiuddin - Combined effect of *Achyranthes aspera* L. and Piper betle L. on bilirubin lowering potency in jaundice induced rat (17)

Krishna Chand, Laxmi Sen, Sabari Rajbahak, Pusparaj Joshi, Anil Kumar Shah, Mukti Ram Paudel and Bijaya Pant - Screening and cultivation of commercially important orchids of Nepal for integrated rural development (23)

J. N. Sah and V. K. Varshney - Chemical screening and identification of picrosides containing accessions of *Picrorhiza kurroa* Royle Ex Benth grown in different province Nepal (31)

Habibul Bari Shozib and Muhammad Ali Siddiquee - Nutraceutically enriched rice based bakery products for Bangladeshi population (33)

Avijit Chakraborty and Biswajit Ghosh - Green biotechnological approach for synthesis of silver nanoparticle from tissue cultured *Kaempferia angustifolia* used as killer of multidrug resistant pathogens (52)

Tarun Halder and Biswajit Ghosh - Hairy root culture on *Withania somnifera* for the production of withanolides (55)

Sium Ahmed and Abdullah Mohammad Shohael - *In vitro* cultivation of Panax ginseng adventitious roots through bioreactor technology and in silico Anti-Alzheimer's activity of ginseng's active pharmacological agents (71)

Kuasha Mahmud, N. Islam, A. K. Ghose, M. A. Azim, R. R. Rajib and M. A. Hossain - Biotechnological approaches on elite sweetening and medicinal herb stevia in Bangladesh (80)

Amika Ahmed Manzum and Md. Arafat Al Mamun - Submerged fermentation for the production of Xylanase by *Aspergillus niger* using agro-industrial residues (99)

Sushma Pandey, Sathish Sundararajan, Sathishkumar Ramalingam, Manju Kanu Baniya and Bijaya Pant - Rapid propagation, GC-MS analysis for bioactive compounds and assessment of genetic fidelity using RAPD and ISSR markers in *Valeriana jatamansi* Jones, a high-value medicinal plant (116)

February 9, 2020 (Sunday)

Venue: Department of Botany, University of Dhaka

Scientific Session 3: Application of modern biotechnology for the development of abiotic and biotic stress tolerant plants

Time : 9:00 - 11:00

Chairman : Dr. Narendra Tuteja
Former Group Leader, International Center for Genetic Engineering and Biotechnology (ICGEB), Aruna Asaf Ali Road, New Delhi - 110067, India.

Co-Chairman : Dr. Abdullah Yusuf Akhond, Biotechnology Division, BARI

Rapporteur : Professor Dr. Kazi Kamrul Huda
Department of Genetics and Plant Breeding, SAU

Speakers :

Varsha Rani, Brajendra, Narendra Tuteja and D.N Singh - Screening of rice (*Oryza sativa* L.) genotypes for submergence tolerance during germination and early growth stage (11)

Sang-Soo Kwak - Sweet potato biotechnology ensures global food and nutrition security in the face of climate change (2)

Sanjay Kumar Jha and Menuka Gotame - Growth and yield performance of oyster mushroom (*Pleurotus ostreatus*) on water hyacinth as a substrate (10)

S. Islam, M. K. Hasan, M. Z. H. Prodhon and M. A. Y. Akhond - Spatio temporal expression of cryIac protein in bt eggplant varieties and susceptibility of brinjal fruit and shoot borer to cryIac protein (35)

Amit Kumar Dutta, Takushi Hachiya and Tsuyoshi Nakagawa - Expression analysis of Arabidopsis thaliana RecQ genes during development and different abiotic stress conditions (36)

Rakib W. Nayon, Seemanta Deb, Sonia Rani Mazumder, Nurnabi Azad Jewel, Md. Nazmul Hasan and Shamsul H. Prodhon, Hammadul Hoque - Observation of the effects of exogenous proline to improve salt tolerance in rice (*Oryza sativa* L.) (47)

Jasim Uddain and Sreeramanan Subramaniam - Encapsulation-based novel antibiotic selection technique for *Agrobacterium*-mediated transformation of *Dendrobium broga* giant orchid (65)

M.M. Hassan, Adam William, Francis Tenezas, D.A. Russell and J. F. Golz - Design and test of an improved Bt gene stack in transgenic plants to control *Lepidopteran* insects (66)

Kuasha Mahmud, N. Islam, A. K. Ghose, M. A. Azim, R. R. Rajib and M. A. Hossain - Development of salt tolerant sugarcane somaclones using tissue culture tools (67)

- M. M. Khatun, B. Borphukan, Tanzena Tanny, I. Alam, Haseena Khan, M. Salimullah and M. K. Reddy** - Functional characterization of SmsHSP26.4, a novel mitochondrial small heat shock protein and engineering multi-stress resistance crop plants (70)
- Mohamamd Tofazzal Hossain Howlader and Hasan Mohammad Tarique** - Characterization of local entomopathogenic fungi (EPF) from Bangladesh for fungal biopesticide development (81)
- Laila Khaleda, Hee Jin Park, Dae-Jin Yun, Jong-Rok Jeon, Min Gab Kim, Joon-Yung Cha and Woe-Yeon Kim** - Humic acid confers high-affinity K⁺ transporter 1-mediated salinity stress tolerance in arabidopsis (87)
- Sanjida Rahman Mollika, Tahmina Islam, Rita Sarah Borna, R. H. Sarker and M. I. Hoque** - Development of Stress Tolerant Potato (*Solanum tuberosum* L.) through Genetic Transformation (93)
- Sabina Yesmin, Rita Sarah Borna, Tahmina Islam, M. I. Hoque and R. H. Sarker** - Development of abiotic stress tolerant eggplant (*Solanum melongena*L.) breeding lines through *Agrobacterium*- mediated genetic transformation (94)
- M. M. H. Molla, S. Islam, M. Begum, F. Akhter, SM Sharifuzzaman, K. Zarka, P.S. Wharton, K. Hokanson and D. Douches** - Development of 3R-Gene late blight resistant potato variety in Bangladesh: Prospect and progress (98)
- R. H. Sarker, M. Nurul Islam, Rita Sarah Borna, Tahmina Islam and M. I. Hoque** - Development of stress tolerance in crop plants through modern biotechnology (109)
- Bharti Garg, Sarvajeet S. Gill, Dipul K. Biswas, Ranjan K.Sahoo, Nandkumar S. Kunchge, Renu Tuteja and Narendra Tuteja** - Development and characterization of salinity tolerant and herbicide resistant plants (115)
- Md. Nazmul Hasan, Md. Fahmid Hossain Buiyan, Hammadul Hoque and Shamsul H. Prodhana** - Characterization and expression profiling of HMA gene family in tomato under heavy metal stress (118)

11:00 - 11:15 : Tea break

Scientific Session 4: Translational aspects and biosafety concerns of transgenic crops

- Time : 11:15 - 13:15**
- Chairman :** Dr. Ho-Min Jang
Korea BCH Focal Point, 111 Gwahangno, Yuseong-gu, Daejeon,305-806, Korea
- Co-Chairman :** Dr. Julieta Fe L. Estacio
Department of Science and Technology, The Philippines
- Rapporteur :** Professor Dr, Harun-Ur-Rashid
Department of Genetics and Plant Breeding, SAU

Speakers:

- Mohammed Solaiman Haider** - Status of Biosafety Regulatory Regimes of Bangladesh (114)
- Lorelie U. Agbagala and Julieta Fe L. Estacio** - Philippines Biosafety Regulatory System... Way Forward (90)
- Ho-Min Jang** - Regulation of Genome Editing in Plants in Korea and An initiative on the Regional Biosafety Project (91)
- Md. Jinnatur Rahman Bipul** - Overview and safe use of laboratory ventilation equipment (Biosafety and Laminar Air Flow Cabinets) - Biosafety awareness for all... (97)
- Monjurul Alam Mamun** - Xtra-Digital Gift Card Platform, an innovative approach towards personal and corporate gifting (100)

13:15 - 14:00 : Lunch and Prayer break (Courtesy: ACI Limited)
Venue: Department of Botany (2nd floor Room No. 301)

Scientific Session 5: Marker assisted breeding for crop improvement

Time: 14:00 -16:00

- Chairman** : Professor Dr. Zeba Islam Seraj
Department of Biochemistry and Molecular Biology, DU
- Co-Chairman** : Professor Dr. A.K.M. Mohiuddin
Department of Biotechnology and Genetic Engineering, MBST, Tangail
- Rapporteur** : Tanjina Tanny, Biotechnology, NIB

Speakers:

- Habibur Rahman** - Potential of the vegetable *Brassica oleracea* gene pool for use in knowledge-based breeding of spring oilseed *Brassica napus* (8)
- Habibur Rahman** - Mapping clubroot resistance in Brassica A and C genomes and investigation of the role of lncRNA in mediating resistance (9)
- Ismat Jahan Romi, Sumirta Saha, Md. Shahidul Haque** - Morpho-molecular diversity and screening of cowpea genotypes for resistance to bacterial blight (32)
- Sayma Farabi, Nihar Ranjan Saha, Md. Hasanuzzaman, Md. Shahidul Haque and Mirza Mofazzal Islam** - Genetic diversity analysis for salt tolerance of wheat genotypes based on morphological and microsatellite markers (49)
- Saneya Risa Somana, Nihar Ranjan Saha and Md. Shahidul Haque** - Molecular diversity of 24 local and modern varieties of potato (50)
- Faria Akbar, Madhury Paul and Kazi Nahida Begum** - Karyotype analysis and polyacrylamide gel electrophoresis (PAGE) study among three different species of *Brassica* (51)
- M. G. Rabbani and R. Khatun** - Genetic diversity analysis of twenty one brinjal accessions using SSR markers (69)
- Tanzena Tanny, Mst. Muslima Khatun, Md. Salimullah and Iftekhar Alam** - Diversity analysis of locally cultivated *Aloe vera* of Bangladesh with molecular marker (77)
- Rahima Khatun and Md. Shahidul Haque** - Morpho-molecular screening of Country bean genotypes for pod borer resistance (82)
- Md. Raihan Ali, Zakia Sultana and Salina Akter** - Assessment of genetic diversity in bottle gourd (*Lagenaria siceraria* (Mol.) Standl.) (90)
- Md. Raihan Ali, Zakia Sultana and Salina Akter** - Assessment of Genetic Diversity in Bottle Gourd (*Lagenaria siceraria* (Mol.) Standl.) (92)

Tea break : 16:00-16:15

Scientific Session 6: Environmental biotechnology

Time: 16:15 - 17:30

- Chairman** : Dr. M. Amzad Hossin
Director General, BSRI
- Co-Chairman** : Professor Dr. Sheikh Julfikar Hossain
Biotechnology and Genetic Engineering Discipline, Khulna University
- Rapporteur** : Dr. Subroto Kumar Das
Department of Botany, BU

Speakers:

- Farhana Islam Khan and Mihir Lal Saha** - Isolation and characterization of biopolymer producing bacteria from different waste materials (3)

Nur-E-Alam, Md. Rayhan Ali, Md. Tareq Molla, Shahin Mahmud and A. K. M. Mohiuddin - Microbiological quality and antibiotic susceptibility of isolates from feeds, drinking water, and feces of poultry (18)

Md. Rayhan Ali, Md. Tareq Molla, Nur-E-Alam, Shahin Mahmud and A. K. M. Mohiuddin - Municipal solid waste, liquid effluent and their significant role on environment and public health (28)

Azmerry Khanom, Md. Meraj Ali, Rehena Akter, Md. Abul Kalam Azad, Shamima Nasrin and M. Mizanur Rahman - Abundance of nitrifying archaea/bacteria and their effect on net nitrification rate and influencing factor of nitrification activity of some vegetable soil samples in Bangladesh (29)

Sheikh Julfikar Hossain - Isolation and characterization of phosphate solubilizing bacteria from the Sundarbans' soil (61)

Nafisa Anzum, Mahbubah Jannat, Md. Nurul Islam and Mihir Lal Saha - Isolation of biotechnologically important pigment producing bacteria from the Ratargul Swamp Forest soil (88)

Rahana Yeasmin and Mihir Lal Saha - Isolation of plant growth promoting hormone and enzyme producing bacteria from rhizospheric soil (89)

Mahbubah Jannat, Umma Homaira Eva, R. H. Sarker and Mohammad Nurul Islam - Molecular Identification of Some Tomato Germplasm Carrying Ty Genes Linked to Tomato Leaf Curl Virus Resistance (95)

Md. Qamrul Islam, Rakib W. Nayon, Hammadul Hoque and Shamsul H. Prodhan - High performance dual chambered compact bioelectrochemical solar cell using *Rhodospseudomonas palustris* (Molisch) van Niel (105)

18:30-19:30 : Cultural Events

19:30 : Conference Dinner Courtesy:  X-tra Digital Gift

Venue : Department of Botany Lawn

February 10, 2020 (Monday)

Venue: Department of Botany, University of Dhaka

Scientific Session 7: Genomics, proteomics and bioinformatics

Time : 10:00 - 12:30

Chairman : Professor Dr. Biswajit Ghosh, Post Graduate Department of Botany, Ramakrishna Mission Vivekananda Centenary College, Kolkata

Co-Chairman : Dr. Varsha Rani
Department of Crop Physiology, Birsa Agricultural University, Ranchi

Rapporteur : Dr. Jashim Uddin
Department of Horticulture, Sher-e-Bangla Agricultural University,

Speakers :

Md. Harun-Ur-Rashid, Shahanz Parveen, Masakazu Fukuta, Michael Chandra Roy and Hirotsuke Oku - Molecular characterization and docking dynamics simulation prediction of putative cytosolic oastl operate cysteine and mimosine metabolism in *Leucaena leucocephala* (63)

Tanjila Hasan, Ibne-Siam-Joy and Md. Belal Hossain - Molecular characterization, PCR-based cloning and sequencing of coat-protein gene of a Bangladeshi potato leaf roll virus (PLRV) isolate and its phylogenetic analysis (12)

Fariha Islam, Md. Nazmul Hasan, Shahrear Arefin, Md. Fahmid Hossain Bhuyian, Shamsul H. Prodhan and Md. Akkas Ali - In silico analysis of superoxide dismutase (SOD) gene family in Sweet orange (*Citrus sinensis*) (44)

Md. Salim Khan, Md. Ahashan Habib, Shahina Akter, Tanjina Akhtar Banu and Barna Goswami - Introduction of human whole genome sequenced-based research in Bangladesh (57)

Shahanaz Parveen, Md. Harun-Ur-Rashid and Hiroshige Oku - Molecular regulatory mechanism of VOC emission under drought stress in *Ficus septica* (64)

Jamilur Rahman, Niloy Gain, Fahmida Sultana and Shikha Chakraborty - Analysis of erucic acid content and its regulatory gene in mustard genotypes in Bangladesh (68)

11:00 - 11:15 : Tea break

Quazi Md. Mosaddeque Hossen, Md. Shahidul Islam, Emdadul Mannan Emdad1, Md. Samiul Haque, Md. Monjurul Alam and Maqsudul Alam - Whole-genome optical mapping: Improving assembly of *Macrophomina phaseolina* MS6 through spanning of twelve blunt end chromosomes by obviating all errors and misassemblies (78)

Md. Sabbir Hossain, Rasel Ahmed, Md. Samiul Haque, Md. Monjurul Alam and Md. Shahidul Islam - Identification and validation of reference genes for real-time quantitative RT-PCR analysis in jute (79)

Md Tofazzal Islam - Novel genomics and biotechnological approaches for diagnosis and mitigation of a fearsome wheat blast disease caused by *Magnaporthe oryzae* *Triticum* pathotype (84)

KMK Huda, J. Boch and T. Winkelmann - Efficient genome editing of biphenyl-4-hydroxylase gene (B4Ha) in apple using CRISPR/Cas9 system (86)

Rita S. Borna, Erik H. Murchie, Kevin A. Pyke, Jeremy A. Roberts and Zinnia H. Gonzalez-Carranza - Unravelling the function of the rice orthologues of the F-box gene *Hawaiian skirt* (*HWS*) in plant development (101)

12:30 - 14:00 : Lunch and Prayer break (Courtesy: ESCO Lifesciences(Bangladesh) Ltd.)
Venue: Department of Botany (2nd floor Room No. 301)

POSTER SESSION February 08, 2020

12:00 : Opening of Poster Session

Venue: Department of Botany, University of Dhaka

Anindita Chakraborty, Hua Li, Sadia Iqbal, Michael G K Jones and Stephen J Wylie - CRISPR/Cas9 as a Tool for Crop Improvement (14)

Sayedha Hafsa Happy, Abul Kashem Chowdhury and Nasar Uddin Ahmed - Assessing the effect of different genotypes, explants and concentration of plant growth hormones on in vitro regeneration capacity of mustard (*Brassica* spp.) (19)

Abdullah-Al-Rafi, Ziasmin, Fahima Khatun and M. E. Hoque - Micropropagation of *Nicotiana tabacum* (22)

Md. Sajjad Hossen, Arifur Rahman Munshi, Kazi Zahidur Rahman, Md. Rezaul Karim, Yoshinobu Kimura and Md. Anwar Hossain - Molecular characterization of okra yellow vein mosaic virus from Rajshahi region (24)

Mahbuba Fatema, Imran Ahmed and Jamilur Rahman - Evaluation of F1 hybrids lines for yield and qualitative traits in tomato (*Solanum lycopersicum* L.) (25)

Md. Meraj Ali, Azmerry Khanom, Rehena Akter, Md. Abul Kalam Azad and M. Mizanur Rahman - Abundance of nitrifying archaea/bacteria, heavy metal concentrations and their effect on net nitrification rates in cow and poultry manure soils (30)

Madhury Paul, Tahmina Islam, R. H. Sarker and M. I. Hoque - *In vitro* mass propagation of *Cymbidium aloifolium* (L.) Sw. (34)

- Kh. Nur E Sadid, Arifur Rahman Munshi, Md. Rezaul Karim and Md. Anowar Hossain** - Molecular identification and evolutionary analysis of *Nigrospora sphaerica* isolated from leaves of cavendish banana in Bangladesh (37)
- Md. Sorwer Alam Parvez, Saeed Anwar, Jarin Taslem Mourosi, Dolilur Rahman, Md. Kamrul Hasan, Mohammad Jakir Hosen and Kamrul Islam** - Identification of novel therapeutic targets for broad spectrum drug designing against bacterial urinary tract infections: An in silico approach (38)
- Md. Fahmid Hossain Bhuiyan, Shrabony Akter Eva, Kallol Barai, Md. Nazmul Hasan and Shamsul H. Proadhan** - Evaluation of in-vitro regeneration potential of some indica rice (*Oryza sativa*) (39)
- Beethi Sinha, Hammadul Hoque, Nurnabi Azad Jewel, Jhuton Chandra Sarker, Md. Nazmul Hasan and Shamsul H. Proadhan** - Genetic variation analysis of Citrus reticulate grown in Sylhet region through RAPD and SSR markers (40)
- Rafia Ferdous and Md. Golam Sadik** - Evaluation of *Drynaria quercifolia* extract for *in vitro* anticholinesterase and antioxidant activity relevant to treatment of Alzheimer's disease (41)
- Shamim Ara Sumi, Humayra Huq and M. E. Hoque** - Molecular diversity study in different turmeric (*Curcuma longa* L.) genotypes (42)
- Rubayat Sharmin, Akhlasur Rahman and Bivas Kumar Sarkar** - Phenotypic and molecular diversity analysis for salinity tolerance in rice (43)
- Iftekhhar Ahmad, Wasi-ur-Rahman and Rayhan Uddin** - Characterization and optimization of rice noodles with different rice cultivars: Perspective of food product development (46)
- Shahrear Arefin, Md. Fahmid Hossain Bhuiyan, Jebin Akther, Shamsul H. Proadhan and Hammadul Hoque** - The dynamics of Cis-regulatory elements in promoter regions of tomato (*Solanum lycopersicum*) sucrose transporter (SUT) genes in stress management (45)
- M.M. Islam, M.T.R. Taufiq, M. Hasanuzzaman, M.S. Islam and M. Imtiaz Uddin** - *In vitro* response and effect of gamma irradiation on four local Indica rice varieties (48)
- Md. Mabud Alam and Biswajit Ghosh** - A simple protocol for cytologically stable regeneration of *Momordica charantia* L from zygotic embryo culture (54)
- M. Arifuzzaman, M. A. K. Azad, M. M. Hossain, M. S. Arman and M. N. Amin** - Adventitious shoot regeneration and *ex vitro* establishment of greater burdock (*Arctium lappa* L.) (60)
- Md. Serajur Rahman and S. M. Shahinul Islam** - *In vitro* micropropagation through nodal segment and shoot tip of mulberry (*Morus* spp.) (72)
- M. A. Salam, M. I. Uddin, M. M. Islam, M. S. Haque and M. H. Rashid** - Factors affecting in vitro regeneration of tomato for genetic transformation (74)
- Borhan Ahmed, Md. Shahidul Islam and Md. Nazibur Rahman** - Elucidation of salt tolerance mechanisms in jute (75)
- Md. Wali Ullah, Md. Samiul Haque and Md. Shahidul Islam** - First report of *Fusarium oxysporum* causing fusarium wilt on Jute (*Corchorus olitorius* L.) in Bangladesh (76)
- Md. Moinuzzaman, Mohammad Abu Hena Mostofa Jamal, Md. Rezuhanul Islam, Md. Helal Uddin and Md. Abdullah-Al-Mashud** - Synthesis of Silver nanoparticles using *Azadirachta indica* (Neem) leaf extract and its biomedical application (83)
- Laila Khaleda, Fahmida Binta Wali, Md. Jibran Alam, Amit Datta, Rahee Hasan Chowdhury, Inzamamul Ismail Shawon, N.K.M. Mirajul Hasan, Md. Nazmul Hosain, Md. Zillur Rahman and Mohammad Al-Forkan** - Effect of arsenic exposure on human telomerase reverse transcriptase (HTERT) gene expression and the risk of cardiovascular disease (85)
- Shusanto Roy, Mahbubah Jannat, Rita Sarah Borna and Mohammad Nurul Islam** - Genotypic variability and conservation of Lotus (*Nelumbo nucifera* Gaertn.) in Bangladesh (96)
- Armin Anwar, Mahbubah Jannat, Rita Sarah Borna and Mohammad Nurul Islam** - Development of heat tolerant tomato lines using molecular techniques (102)
- Abu Jar Al Gifary, Mohammad Nurul Islam, M. I. Hoque, R. H. Sarker and Rita Sarah Borna** - Development of salt and drought tolerant rice varieties through *Agrobacterium*-mediated genetic transformation (103)

Rabbi Hoque, Rita Sarah Borna, M. I Hoque and R H Sarker - *In vitro* regeneration, seed germination and expression analysis of *Strictosidine synthase (STR1)* gene in *Rauvolfia tetraphylla* L. (104)

Tamanna Islam Toma, Bivas Kumar Sarker and Rakha Hari Sarker - Development of stress tolerance in *Brassica campestris* var. Tori-7 through *Agrobacterium*-mediated genetic transformation (106)

Laboni Sarker, Tahmina Islam, Rita Sarah Borna, M. I. Haque and R. H. Sarker - *In vitro* regeneration and *Agrobacterium*-mediated genetic transformation in *Brassica carinata* (107)

Fateh Ali Mahmud, Tahmina Islam and R. H. Sarker - Genome-wide analysis of Trehalose gene family in tomato (*Solanum lycopersicum* L.) (108)

Shamima Nasrin, Rita Sarah Borna, R. H. Sarker and M. I. Hoque - Development of drought and salinity tolerant peanut (*Arachis hypogaea* L.) lines through *Agrobacterium*-mediated genetic transformation (110)

Bini Sen, Sabina Yesmin, Rita Sarah Borna, R. H. Sarker and M. I. Hoque - Development and Characterization of Abiotic Stress Tolerant Brinjal (*Solanum melongena* L.) (111)

Jebunnesa Chowdhury, R. H. Sarker and M. I. Hoque - An efficient regeneration protocol for Chrysanthemum (*Chrysanthemum morifolium* Ramat) and induction of variation through gamma radiation (112)

Farin Ahmed Mim, Rita Sarah Borna, R. H. Sarker and M. I. Hoque - Development and Characterization of Biotic Stress Tolerant Peanut (*Arachis hypogaea* L.) (113)

Md. Tanvir Abedin, Md. Niamotullah Sujon, Sharika Hayder, Md. Nazrul Islam and Md. Abu Sayed - Formulation of organic and environment friendly safe poultry feed for the production of quality meat (117)

Sonia Rani Mazumder, Md. Nazmul Hasan, Hammadul Hoque, Nurnabi Azad Jewel, Md. Fahmid Hossain Bhuiyan, Shahrear Arefin and Shamsul H. Prodhan - Screening of rice (*Oryza sativa* L.) for salinity tolerance through morpho-physicochemical evaluation (119)

Aniqua Tasnim Chowdhury, Nazmul Hasan, Hammadul Hoque and Shamsul H. Prodhan - Effect of EMS (ethyl methane sulfonate) induced mutation on some partially salt tolerant indica rice (*Oryza sativa* L.) (120)

Md. Mashiur Rahaman, Md. Nazmul Hasan, Hammadul Hoque and Shamsul H. Prodhan - Effects of ethyl methane sulfonate (EMS) induced mutations on some partially submerge tolerant rice (*Oryza sativa* L.) (121)

Business Session: Annual General Meeting

14:00 - 15:30 : Annual General Meeting & Election of new Executive Committee for the session 2020-2022
(Members only)

11:00 - 11:15 : Tea break

