



**42nd ANNUAL MEETING OF PLANT TISSUE CULTURE ASSOCIATION (INDIA)
&
INTERNATIONAL SYMPOSIUM ON ADVANCES IN PLANT BIOTECHNOLOGY AND
GENOME EDITING-2021 (APBGE-2021)
(April 8-10, 2021)**

Technical Program

Day 1: April 8, 2021 (Thursday)			
WELCOME & INAUGURATION			
10:00-10:05	Welcome address by Dr. Arunava Pattanayak , Director, ICAR-IIAB & Symposium Chair		
10:05-10:15	Address by Prof. Pramod Tandon , Secretary PTCA(I)		
10:15-10:20	About the Symposium by Dr. Anil Kumar Singh , Symposium Convener		
10:20-10:30	Address by the Guest of Honour Prof. Sudhir K. Sopory , Former Vice-Chancellor, JNU, New Delhi		
10:30-11:00	Inaugural Plenary Lecture Dr T.R. Sharma DDG (CS), ICAR, New Delhi Title: Biotechnological applications for the Food and Nutritional Security of India		
11:00-11:15	Address by the Chief Guest Dr. Trilochan Mohapatra , DG ICAR & Secretary DARE		
11:15-11:20	Vote of Thanks by Dr. Soumen Naskar , Organizing Secretary		
KEYNOTE LECTURES			
Chair: Prof. Sudhir K. Sopory Co-chair: Prof. Shailendra Goel			
11:20-11:50	Prof. Paramjit Khurana , University of Delhi, India Title: Functional genomics for thermal adaptation and tolerance in Indian wheat		
11:50-12:20	Prof. Ashwani Pareek , NABI, Mohali, India Title: Induced mutations unleash the avenues to enhance crop resilience to individual and combined abiotic stresses		
12:20-12:50	Prof. M.V. Rajam , University of Delhi, India Title: Artificial microRNA mediated silencing of the ecdysone receptor gene of <i>Helicoverpa armigera</i> for insect resistance in tomato		
LUNCH BREAK (12:50 – 13:30)			
CONCURRENT SESSIONS			
SESSION 1: Plant Abiotic Stress Tolerance Chair: Dr. Sneha L. Singla-Pareek Co-Chair: Dr. Tapan K. Mondal		SESSION 2: Plant Biotic Stress Tolerance Chair: Dr. Chirantan Chattopadhyay Co-Chair: Dr. Pradeep K. Agarwal	
Time	Speaker	Time	Speaker
13:30-13:50	Dr. Tapan K. Mondal , ICAR-NIPB, New Delhi, India Title: <i>Oryza coarctata</i> : a potential source of coastal salinity tolerance genes	13:30-13:50	Prof. Lingaraj Sahoo , IIT-Guwahati, India Title: Field trial of RNAi-transgenic cowpea exhibiting resistance to MYMIV
13:50-14:10	Dr. Anil Kumar , TIET, Patiala, India Title: In vitro nano-TiO ₂ mediated growth stimulation and stress protection activity of an agroforestry tree <i>Eucalyptus tereticornis</i> Sm. with reduced environmental risk	13:50-14:10	Dr. Pradeep K. Agarwal , CSIR-CSMCRI, Bhavnagar, India Title: Artificial miRNA against Jatropha leaf curl Gujarat virus imparted resistance by targeting RNA silencing suppressors in tobacco
14:10-14:30	Dr. Ananda Mustafiz , South Asian Univ., New Delhi, India Title: Exploring the role of phytoalexin receptor kinase in response to abiotic stress in plants	14:10-14:30	Dr. Muthappa Senthil Kumar , NIPGR, New Delhi, India Title: Stopping fuel for the fire: a role for SWEETs in plant defense
14:30-14:45	Dr. Chandrama P. Upadhyaya , Dr. HSG Central Univ., Sagar, India	14:30-14:45	Dr. Salej Sood , ICAR-CPRI, Shimla, India Title: Development of KASP markers for late blight, PCN and PVY resistance and their validation in parental lines of potato (<i>Solanum tuberosum</i> L.)

	Title: Genetic engineering of potato (<i>Solanum tuberosum</i> L.) for enhanced α -tocopherols and abiotic stress tolerance		
14:45-15:00	Dr. Mangal S Rathore , CSIR-CSMCRI, Bhavnagar, India Title: Molecular characterization and functional validation of a novel gene SbCPN10L from an extreme halophyte <i>Salicornia brachiata</i> Roxb. for development of heat stress tolerance	14:45-15:00	Dr. Arun Kumar , CSIR-IHBT, Palampur, India Title: Transcriptome landscaping for understanding the molecular mechanisms of tolerance/susceptibility during rice- <i>Rhizoctonia solani</i> AG1-IA interaction
15:00-15:15	Dr. N.P. Mandal , CRURRS, ICAR-NRRI, Hazaribag, India Title: Marker-assisted introgression of DTY QTLs enhances reproductive stage drought tolerance of the submergence tolerant rice variety IR64-Sub1	15:00-15:15	Dr. Era Vaidya Malhotra , ICAR-NBPGR, New Delhi, India Title: Genome-wide identification and functional characterization of herbivory induced microRNAs in <i>Cajanus cajan</i> and <i>Cajanus scarabaeoides</i>
15:15-15:30	Dr. Vivek Dogra , CSIR-IHBT, Palampur, India Title: How two paralogs coordinate to mediate the ROS-triggered retrograde signaling	15:15-15:30	Dr. Tushar Ranjan , BAU, Sabour, India Title: Suppression of potato leafroll virus multiplication by siRNA constructs against classical ASCE type ATPase fold of movement protein
PCTA(I) MEMORIAL LECTURE			
Chair: Prof. M.V. Rajam			
15:30-16:00	Prof. F.C. Steward Memorial Lecture by Prof. Rakhi Chaturvedi , IIT Guwahati, India Title: Applications of cellular totipotency in understanding the frontiers of plant sciences and for sustainable production of bio-active metabolites.		
PTCA(I) MEMBERSHIP PRESENTATIONS			
Chair: Prof. Pramod Tandon Co-Chair: Prof. Rakhi Chaturvedi			
Time	Speaker		
16:00-16:15	Dr. Alok Das , ICAR-IIPR, Kanpur, India Title: Plant tissue culture innovations in pulses: discovery to translation		
16:15-16:30	Dr. C. Rajasekaran , VIT, Vellore, India Title: <i>In vitro</i> propagation – a potential tool on conservation and bioprospecting of endangered medicinal and aromatic plants		
16:30-16:45	Dr. Deepak Kumar , BHU, Varanasi, India Title: Genetic manipulation for stress alleviation and value addition in plants for a sustainable agriculture		
16:45-17:00	Dr. Ghanshyam B Patil , Anand Agricultural University, Gujrat, India Title: Approaches for large scale propagation of Indian date palm through Somatic embryogenesis		
17:00-17:15	Dr. Kundan Kumar , BITS, Pilani Goa Campus, India Title: Mediation of biotechnological approaches for abiotic stress tolerance in rice		
17:15-17:30	Dr. N. Arumugam , Pondichery University, Pondichery, India Title: Application of plant tissue culture technology in crop improvement and plant multiplication		
17:30-17:45	Dr. Promila Pathak , Panjab University, Chandigarh, India Title: In vitro propagation of Indian orchids and induction of mycorrhizal associations: possibilities and achievements		
17:45-18:00	Dr. Sushmita Shukla , Amity University, NOIDA, India Title: Development of robust micropropagation protocol – a move towards scalability		
18:00-19:00	Annual General Body Meeting of PTCA(I)		
18:00-19:40	Workshop on CRISPR/Cas based Genome Editing Technology Coordinator: Dr. J.C. Rana Workshop partners Alliance of Bioversity International and CIAT & Merck Life Sciences		
Time	Speaker		
18:00-18:10	Dr. J.C. Rana , Alliance of Bioversity International and CIAT, India Office, New Delhi, India Title: Alliance of Bioversity International and the International Center for Tropical Agriculture		
18:10-18:40	Dr. Rahul M. Shelake , Gyeongsang National University, Republic of Korea Title: CRISPR-based genome editing tools for crop improvement		
18:40-19:10	Dr. Siddharth Tiwari , NABI, Mohali, India Title: Experimental design and characterization of genome edited plants: A practical application in banana		
19:10-19:40	Dr. Parul Tomar , Merck Life Sciences Title: Genome Editing in Plants with CRISPR/Cas9: Design to Validation		
END OF THE DAY			

Day 2: April 9, 2021 (Friday)

KEYNOTE LECTURES

Chair: Prof. Akhilesh Tyagi
Co-chair: Dr. D.K. Yadava

9:00-9:30	Prof. Om Parkash Dhankher , University of Massachusetts, USA Title: Developing strategies for phytoremediation and limiting arsenic accumulation in rice
9:30-10:00	Prof. Fredy Altpeter , University of Florida, USA Title: Rapid identification of targeted genome edits in highly polyploid sugarcane

CONCURRENT SESSIONS

SESSION 3: Plant Genetics, Genomics and Epigenetics Chair: Dr. Manoj Prasad Co-Chair: Dr. Rakesh K. Chahota		SESSION 4: Gene/ Genome Editing for Plant Improvement Chair: Prof. K.C. Bansal Co-Chair: Dr. Ajay Pandey	
Time	Speaker	Time	Speaker
10:00-10:20	Dr. Manoj Prasad , NIPGR, India Title: Millet genomics for food and nutritional security	10:00-10:20	Dr. V. Chinnusamy , ICAR-IARI, India Title: Genome editing for improving abiotic stress tolerance in rice
10:20- 10:40	Dr. C. Bhardwaj , ICAR-IARI, New Delhi, India Title: Improvement of Chickpea using genomic tools	10:20- 10:40	Dr. Madhusudhana Janga , University of Missouri, USA Title: Genome editing for characterization of genes regulating gland development in cotton.
10:40- 11:00	Dr. Rakesh K. Chahota , CSKHPKV, Palampur, India Title: Horsegram (<i>Macrotyloma uniflorum</i>): A journey from an orphan legume to genomic resource rich crop	10:40- 11:00	Dr. Ritesh Kumar , University of Missouri, USA Title: Storage protein rebalancing an unresolved mystery in soybean seeds
11:00- 11:15	Dr. Debjani Saha , Premas Life Sciences Title: Advancing AgriGenomics breakthroughs with Advanced Technologies	11:00- 11:15	Dr. Anjanabha Bhattacharya , Mahyco, India Title: Vegetable crop improvement using CRISPR/Cas9 technology
11:15- 11:30	Dr. Charu Lata , CSIR-NISCAIR, New Delhi, India Title: Comparative transcriptome analysis and functional characterization of a stress responsive gene unravel the drought tolerance mechanism in pearl millet	11:15- 11:30	Dr. Dibyajyoti Pramanik , GNU, Jinju, Republic of Korea Title: Generation of tomato yellow leaf curl virus and powdery mildew resistant elite tomato using CRISPR/Cas9
11:30-11:45	Dr. Shweta Jha , JNVU, Jodhpur, India Title: Comparative Proteomics of contrasting genotypes of pearl millet [<i>Pennisetum glaucum</i> (L.) R. BR.]: Insight into salt tolerance factors	11:30-11:45	Dr. Vinay Yadav , Central University of Punjab Title: Importance of Designing and Selection of sgRNAs for Precise Genome Editing by the CRISPR-Cas9 System in Plants
11:45-12:00	Dr. Ritu Gill , MDU, Rohtak, India Title: Unrevealing mini-chromosome maintenance (MCM) gene family	11:45-12:00	Mr. Jutan Das , ICAR-IASRI, New Delhi, India Title: Computational Intelligence in the estimation of CRISPR-Cas9 cleavage sites

KEYNOTE LECTURES

Chair: Dr. O.N. Singh
Co-chair: Dr. C. Bhardwaj

12:00-12:30	Prof. Rajeev Varshney , ICRISAT, India Title: Genomics for accelerating genetic gains in crop improvement
12:30-13:00	Prof. Surinder Singh , CSIRO, Australia Title: Designer plant oils through metabolic engineering

LUNCH BREAK (13:00 – 13:30)

KEYNOTE LECTURES

Chair: Prof. Ashwani Pareek
Co-chair: Dr. Avinash Mishra

13:30-14:00	Prof. Christine Foyer , University of Birmingham, UK Title: The roles of reactive oxygen species and antioxidants in plant growth and defence
14:00-14:30	Prof. Catherine Bellini , INRAE, France & Umea University, Sweden Title: Red light controls adventitious root regeneration by modulating hormone homeostasis in <i>Picea abies</i> seedlings

CONCURRENT SESSIONS

SESSION 5: Advances in Plant Tissue Culture, Bioprocessing and Commercial Applications Chair: Dr. S.K. Nandi Co-chair: Dr. Anil Kumar		SESSION 6: Biotechnology for Plant Yield and Quality Traits Chair: Prof. S.P.S. Khanuja Co-Chair: Dr. Debasis Chakrabarty	
Time	Speaker	Time	Speaker
15:00-15:20	Dr. Vincent Braganza , Xavier Res. Foundation, Ahmedabad, India Title: <i>Curculigo orchoides</i> : Lab to Land; lessons learned	15:00-15:20	Prof. Shailendra Goel , University of Delhi, New Delhi, India Title: Understanding the role of conserved and novel miRNA in regulation of apomixis in <i>Pennisetum glaucum</i> (L.) R. Br.

15:20-15:40	Dr. Avinash Mishra , CSIR-CSMCRI, Bhavnagar, India Title: Genetic transformation of groundnut for enhanced salt stress tolerance	15:20-15:40	Dr. Ajay Pandey , NABI, Mohali, India Title: Wiring the iron deficiency response in hexaploid wheat roots by interlinking the early and late molecular events
15:40-16:00	Dr. Dharam Singh , CSIR-IHBT, Palampur, India Title: Bioprocess for the co-production of biomolecules from Himalayan bioresource: An industrial perspective	15:40-16:00	Dr. Naveen C. Bisht , NIPGR, India Title: Expanding the metabolic engineering toolbox for nutritional improvement of Indian oilseed mustard
16:00-16:15	Dr. Sudha Sahay , Xavier Res. Foundation, Ahmedabad, India Title: Bioprocessing of Agriculture Residue for the Production of Mycophenolic Acid for Commercial Purpose	16:00-16:20	Dr. Debasis Chakrabarty , CSIR-NBRI, Lucknow, India Title: Arsenic in rice: Approaches to reduce the arsenic level in grains
16:15-16:30	Mr. Sagar S. Arya , TERI, Gurugram, India Title: Methyl-jasmonate loaded chitosan nanoparticles: A sustained release strategy to improve the yield of secondary metabolites in plant cell culture system	16:20-16:35	Dr. B. Kalyan Babu , ICAR-IIOPR, W. Godavari, India Title: Identification and validation of major QTLs by genome-wide association study for bunch and oil yield related traits in <i>Elaeis guineensis</i> L.
16:30-16:45	Dr. Sangita Bansal , ICAR-NBPGR, New Delhi, India Title: <i>In vitro</i> conservation and cryopreservation of tuber crops germplasm at ICAR-NBPGR	16:35-16:50	Dr. Pragya Tiwari , Yeungnam Univ., Republic of Korea Title: Microbial seed coating with endophytes: a promising tool to boost crop productivity and sustainable agriculture
16:45-17:00	Dr. Awadhesh K. Pal , BAU, Sabour Title: Low-cost strategies for disease free planting materials production and entrepreneurship development from a tissue culture laboratory	16:50-17:05	Dr. Pinky Agarwal , NIPGR, New Delhi, India Title: SUPER STARCHY1 regulates rice grain development

Parallel Poster Sessions

Coordinator: Dr. Soumen Naskar

Time	Session	Chairperson
17:00-18:30	Session 1	Dr. Ananda Mustafiz
	Session 2	Prof. Shailendra Goel
	Session 3	Prof. Mukesh Jain
	Session 4	Dr. Dharam Singh
	Session 5	Dr. Awadhesh K. Pal
	Session 6	Dr. Ajay Pandey
	Session 7	Dr. Sandip Das
	Session 8	Dr. Manisha Thakur
	Session 9	Dr. Rohit Joshi

END OF THE DAY

Day 3: April 10, 2021 (Saturday)

KEYNOTE LECTURES

Chair: Prof. T.R. Sharma, IAB, Ranchi
Co-chair: Dr. Ram K. Sharma

9:00-9:30	Prof. P.V. Vara Prasad , Kansas State University, USA Title: Response of food grain crops to climate change factors
9:30-10:00	Dr. Sanjay Kumar , CSIR-IHBT, Palampur Title: Canonical MBW transcriptional module underlines the epidermal cell differentiation for prickle morphogenesis and secondary metabolite accumulation in Rose
10:00-10:30	Dr. Prabodh K. Trivedi , CSIR-CIMAP, India Title: Cross-talk between miPEP858/miR858 and phyto-sulfokine, PSK4, regulates growth and development in Arabidopsis

CONCURRENT SESSIONS

SESSION 7: Plant Systems Biology and Functional Genomics Chair: Dr. Prabodh K. Trivedi Co-Chair: Prof. Mukesh Jain		SESSION 8: Biotechnology of Trees, Medicinal and Aromatic Plants Chair: Dr. Sanjay Kumar Co-Chair: Dr. Kashmir Singh	
Time	Speaker	Time	Speaker
10:30- 10:50	Prof. Junpei Takano , Osaka Prefecture Univ., Japan Title: Molecular Mechanisms of Boron Transport in Plants.	10:30- 10:50	Dr. Ram K Sharma , CSIR-IHBT, Palampur, India Title: Next Generation Sequencing: A paradigm shifts in genomics of medicinal plants
10:50- 11:10	Prof. Mukesh Jain , JNU, New Delhi, India Title: A novel tool for prediction of long non-coding RNAs and their regulatory aspects in plants	10:50- 11:10	Dr. Hisayo Yamane , University of Kyoto, Japan Title: The MADS-box gene family involved in the regulatory mechanism of dormancy in Rosaceae fruit trees
11:10- 11:30	Dr. Sandip Das , University of Delhi, Delhi, India	11:10- 11:30	Dr. Kashmir Singh , Panjab University, Chandigarh, India Title: Elucidating candidate genes and transcription factors of costunolide biosynthetic pathway in <i>Saussurea</i>

	Title: Organisation of MICRORNA gene cluster, transcriptional regulation, and functional genomics of microRNAs in polyploid Brassica species		<i>lappa</i> by comparative transcriptomics
11:30- 11:45	Dr. Meenal Rathore , ICAR-IIPR, Kanpur, India Title: Understanding the origin of Indian Weedy Rice	11:30- 11:45	Dr. Manisha Thakur , Dr YSPUHF, Solan, India Title: Assessment of genetic fidelity in long term in vitro shoot cultures and regenerated plants of Japanese plum cvs Santa Rosa and Frontier through RAPD, ISSR and ScoT markers
11:45- 12:00	Dr. Lalit Agarwal , Doon Business School, Dehradun, India Title: Ca 14-3-3 gene modulates ABA-dependent physiological and defense response to drought tolerance in <i>Arabidopsis thaliana</i>	11:45- 12:00	Dr. Tarun Kant , AFRI, Jodhpur, India Title: Gene-mining from trees using gene co-expression networks and comparative genomics for abiotic stress-tolerance
12:00-12:15	Dr. Ragini Sinha , ICAR-IIAB, Ranchi, India Title: Proteomics based evaluation of drought tolerance potential of <i>Lens culinaris</i> genotypes	12:00-12:15	Dr. Soumendra K Naik , Ravenshaw Univ., Cuttack, India Title: Improved micropropagation protocol of <i>Hedychium coronarium</i> and regeneration of biochemically and genetically clonal plants with potential for sustainable industrial use
12:15-12:30	Dr. Shashi Kiran Nivas , St Aloysius College, Mangalore, India Title: A look into proteomic landscape of plant-hormone interactions in birds eye chilli (<i>Capsicum frutescens</i>)	12:15-12:30	Mrs. Sushma Pandey , Tribhuvan University, Kathmandu, Nepal Title: Adventitious root cultures for enhanced valepotriates accumulation in commercially important medicinal plant <i>Valeriana jatamansi</i> Jones

LUNCH BREAK (12:50 – 13:30)

SESSION 9: Regulatory and Ethical Issues of Genetically Engineered and Gene Edited Crops

Chair: Prof. R. Srinivasan

Co-Chair: Dr. Ananda Mustafiz

Time	Speaker
13:30-13:50	Dr. V.S. Reddy , Formerly at RCB, Faridabad, & ICGEB, New Delhi, India Title: Genome editing technologies and biosafety regulatory challenges
13:50-14:10	Dr. Gurinderjit Randhawa , ICAR-NBPGR, New Delhi Title: Regulatory aspects of Genetically Engineered and Gene-edited crops
14:10-14:30	Dr. Shivendra Bajaj , Federation of Seed Industry of India, New Delhi Title: Industry perspective of transgenic and gene edited crops
14:30-14:50	Dr. Vibha Ahuja , BCIL, New Delhi Title: Regulation of genome editing in plants: Key considerations for an enabling environment
14:50-15:05	Dr. Monika Singh , ICAR-NBPGR, New Delhi Title: Loop-mediated isothermal amplification: An efficient diagnostics for genetically modified (GM) crops
15:05-15:20	Dr. Paramita Palit , ICAR-NBPGR, New Delhi, India Title: An overview on perceptions and prospects of GE research
15:30-16:00	Valedictory and Award Distribution Chair: Prof. Sudhir K. Sopory