SYMPOSIUM IN HONOUR AND MEMORY OF Dr DARSHAN SINGH BRAR

TRANSFORMING THE GREEN REVOLUTION HUB OF INDIA: INNOVATIONS IN CROP BREEDING, RESOURCE MANAGEMENT AND POLICY

AUGUST 17-18, 2022 AT PAU, LUDHIANA

FINAL CIRCULAR
Dear friends,

We are faced with unprecedented challenges with regard to our food systems and natural resources, which are the foundation of our existence on this planet. The challenge manifests globally in various ways, but if one is to demarcate a zone needing urgent attention and wide ranging measures, it is undoubtedly the green revolution hub of India. Many of us have laboured relentlessly against the scrouge of hunger and deprivation, and it was the wholesome response of farmers, scientists, policy makers in this compact, green revolution zone which more than anything else, took us out of the dire situation. Today we recognise that the green revolution paradigm after a successful run of more than half a century in imparting food security and stability has reached its limits. The answer to the emergent and dynamic nature of reality comes from fresh thinking and redrawing of challenge lines. In this redrawn map, sustainability of natural resource base and nutritional security take precedence over food security. Specific challenges in this territory include the exacerbating climate disturbances, depleting water resources and soil fertility, livelihood issues of rural communities and urbanization. Already on its way to become the most populous country, more than a quarter of century of continued human population growth is projected in case of India, before the numbers stabilize. Further, anticipated changes in the nutritional status of the people, including greater dependence on animal based diets would also call for enhanced crop production.

For members of the local and global communities, who are equipped with insights, tools and skills which they can bring to bear on these enormous challenges, it is time to join hands. We need to share, deliberate, consolidate and move with resolve to address the issues whose most acute test case is presented by the green revolution hub of India. We invite the members of scientific fraternity, policy experts, farmers’ representatives and other stakeholders to gather at Punjab Agricultural University, Ludhiana, the epicentre of this hub for discussions on ‘Transforming the Green Revolution Hub of India: Innovations in Crop Breeding, Resource Management & Policy’. The two day symposium is being organised by Punjab Agricultural University Ludhiana and Dr Gurdev Singh Khush Foundation for Advancement of Agricultural Sciences and is dedicated to the memory and honour of Dr. Darshan Singh Brar, a renowned rice researcher. In interest of livelier exchanges, presence-in-person would be the preferred mode of participation in the symposium.

We particularly seek to engage the youth, our future leaders, who would be the oarsmen of the envisaged and far reaching changes.

We cordially invite you to participate in this symposium as per themes listed in the following pages and look forward to welcome you at PAU Ludhiana on August 17-18, 2022.

Sh Sarvjit Singh, IAS
Vice Chancellor, PAU, Ludhiana

Dr Gurdev Singh Khush
Chairman, GS Khush Foundation
Theme areas

Theme I: Policy facilitated shift to a sustainable post Green Revolution paradigm
1. Transformation of agricultural economy in India: trajectories and challenges
2. Agricultural policy reset for a sustainable future
3. Youth in agriculture: roadmap for new modes of engagement
4. Listening to the stakeholder

Theme II: Innovations in crop breeding
1. Overhauling breeding goals in light of future needs: climate resilience, input use efficiency, resistance breeding, nutritional and processing quality, amenability to mechanization, etc.
2. Germplasm conservation and utilization for building resilient agricultural systems
3. Applying genomics-phenomics-informatics led accelerated and precise breeding methodologies as a response to changing varietal needs
4. Extending crop breeding frontiers utilizing gene editing technologies

Theme III: Innovations in resource management
1. Water conservation technologies in rice based cropping systems: pathways for immediate impact
2. Integrated approaches in crop production and protection
3. Digital agriculture as a resource conservation tool
4. Precision agriculture and farm machinery interventions for conservation agriculture and crop diversification
5. Soil health management and sustainability strategies
6. Crop residue management and industry based soil nutrient cycling
7. Circularization of agricultural economy
8. Creating new avenues for value addition, processing and marketing

Open Poster Session: 17th August from 9:00am to 7:00 pm and 18th August from 9:00am to 3:00 pm
Symposium Details

Day One (August 17th, 2022)
Venue: Dr Manmohan Singh Auditorium
8:00 – 9:00 A.M. – Registration and Interactive tea

Special Session I (9:00 to 10:15 AM)
Coordinator – Dr Gurdial S Sidhu, Member GS Khush Foundation
Chair – Dr GS Khush
- Welcome and honouring the memory of Dr Darshan Singh Brar by GS Khush
- Conferment of first Dr D S Brar Award in Agriculture
- Dr Darshan Singh Brar Memorial Lecture by Dr SS Banga, FNAAS, DAE, Raja Ramanna Fellow, Professor (Honorary Adjunct) PAU, Ludhiana and Former ICAR - National Professor - My journey with Brassicas

Inaugural lecture (10:15-11:00 AM)
Prof. Ramesh Chand, Member NITI Aayog
Re-imagining Punjab Agriculture for enhancing farmers’ income and sustainability of farming systems

Session 1: Towards a Post Green Revolution Scenario (11:30 AM to 1:00 PM)
Coordinator – Dr Rajinder Singh Sidhu, Former Registrar, PAU, Ludhiana
Chair – Dr Sardara S Johl, Former Chancellor, Central University of Punjab

Lead lecture
Prof. Pritam Singh, Emeritus Professor of Economics, Business School Oxford Brookes Business School, UK
Why ecological challenge for Punjab agriculture should shape economic, educational and socio-cultural policy in Punjab?

Panel presentations and discussion
Dr RS Ghuman, Centre for Research in Rural and Industrial Development (CRRID), Chandigarh
Mr Devinder Sharma, Food Policy Analyst, SAS Nagar, Punjab
Mr Harish Damodaran, Senior Fellow, Centre for Policy Research (CPR)
Sh Mohinder Singh Dosanjh (Innovative farmer and author)

Session 2: Innovations in Plant Breeding (2:00 to 5:00 PM)
Coordinator – Dr Navtej Singh Bains, Former Director of Research, PAU, Ludhiana
Chair – Prof. Deepak Pental, Former Vice Chancellor, Delhi University

Session Lectures
- Dr Arvind Kumar, DDG Research, International Crops Research Institute for the Semi-Arid Tropics, Hyderabad, India
Genomics assisted innovative breeding approaches for tailoring abiotic stress tolerant varieties to benefit small holding farmers
- Dr Ajay Kohli, Director Research, International Rice Research Institute, Philippines
East or West, innovation is the best: Stitching discovery to impact
- Dr Benildo G. de los Reyes, Texas Tech University, USA
Novel adaptive traits and the epigenome - Rice breeding paradigm in the 21st century
Day Two (August 18th, 2022)

Venue: Dr Manmohan Singh Auditorium

Session 3: Innovations in Resource Management (9:00 AM to 12:30 PM)
Coordinator - Dr Jaskaran Singh Mahal, PAU, Ludhiana
Chair - Dr JS Samra, Former CEO, National Rainfed Area Authority, India

Session Lecture

- Dr Suresh Kumar Chaudhari, Deputy Director General (NRM)
  *Natural Resource management for ecosystem sustainability in India*
- Dr Mangi Lal Jat, Global Research Programme Director for Resilient Farms and Food Systems, ICRISAT
  *Sustainable intensification and enhanced resilience of smallholder agriculture for secured future*
- Dr C R Mehta, Director, ICAR-Central Institute of Agriculture Engineering, Bhopal
  *Trends in farm mechanization in India and the way forward*
- Dr Kiran Bains, PAU, Ludhiana
  *National nutritional security: A new role for the green revolution hub*
- One student speaker (to be chosen based on abstracts)

Panel presentations and discussion

- Er Gurdial Singh Dhillon, State Irrigation Dept.
- Sh. Prabhat Srivastava, Vice President, Jain Irrigation Systems Limited
Mr Baldev Singh Sran, Chairman, Punjab State Power Corporation Limited, Punjab
Dr Rajbir Singh, Director ICAR-Agricultural Technology Application Research Institute, Ludhiana
Dr Nachiket Kotwalwale, Director ICAR-Central Institute of Post Harvest Engineering and Technology, Ludhiana
Dr Gurkanwal Singh, Former Director (Hort.), Punjab

Session 4: Transforming the Green Revolution Hub of India - Way Forward (1:30 to 5:00 PM)
Coordinator - Dr Ajmer Singh Dhatt, Director of Research, PAU, Ludhiana
Co-Chair - Sh. Sarvjit Singh, IAS, Vice Chancellor, PAU
Co-Chair - Dr Inderjeet Singh, Vice Chancellor, GADVASU

Special Lecture 1
Dr Rabi Narayan Sahoo, ICAR-IARI, New Delhi
Sensing and data analytics for smart agriculture

Special Lecture 2
Dr. Bhupendra Nath Tripathi, Deputy Director General (Animal Science), ICAR
Agricultural diversification through innovations and policy support in small-scale livestock farming

Panel presentations and discussion
- Dr KS Aulakh, Former Vice Chancellor, PAU
- Dr MS Kang, Former Vice Chancellor, PAU
- Dr BS Dhillon, Former Vice Chancellor, PAU
- Dr Gurbachan Singh, Former Chairman, Agricultural Scientists Recruitment Board, New Delhi
- Dr Jeet Singh Sandhu, Vice Chancellor, SKN Agriculture University, Jobner, Rajasthan
- Dr Ashok Kumar Singh, Director, Indian Agricultural Research Institute, New Delhi
- Dr B R Kamboj, Vice Chancellor, CCS HAU, Hisar
- Dr Prabhat Kumar, Commissioner of Horticulture, Government of India
- Dr A K Shukla, Vice Chancellor, GBPUA&T, Pantnagar
- Dr Wasakha Singh Dhillon, Former ADG (Hort) ICAR
- Dr Gurvinder Singh, Director, Department of Agriculture and Farmers’ Welfare, Punjab
- Ms Shailender Kaur, IFS, Director Horticulture, Punjab
- Sh Avtar Singh Dhindsa, Former Chairman, Punjab State Farmers’ and Farm Workers Commission
- Dr Partha R DasGupta, Advisor Emeritus, Syngenta Foundation for Sustainable Agriculture
- Dr Sanjay Kalia, Scientist E, Department of Biotechnology, New Delhi
- Ms Tripti Parule, Media and Communication Professional, New Delhi

Registration Fee: Students: Rs. 1000/-; Others: Rs. 2000/-
Registration and extended summary submission deadline: August 3, 2022
Extended summary can be submitted at symposiumpau2022@gmail.com
Visit web page for symposium registration https://forms.gle/4eiBqrC34VJ7KgwB7
Visit web link for extended summary and poster format https://www.pau.edu/index.php?_act=manageBanner&DO=viewBannerDetail&intID=4883
Registration fee should be deposited in SBI bank account number 10088205559, PAU Ludhiana branch with IFSC code SBIN0001482 in name of CROP IMP SOCIETY OF INDIA

Participants are required to pay for their travel and lodging
Dr. Darshan Singh Brar was an outstanding Geneticist and a Biotechnologist. He was a faculty member at Punjab Agricultural University (PAU) from 1973 to 1987. While at PAU, he started the biotechnology research and teaching program, and trained numerous students and young scientists. He motivated and supported hundreds of students to pursue Ph.D. degrees in advanced laboratories not only in India but also globally. He was a kind, humble and generous person.

Dr. Brar joined the International Rice Research Institute (IRRI) as a Plant Breeder in 1987 and served as Head, Division of Plant Breeding, Genetics and Biotechnology at IRRI from 2007-2012. He made untiring efforts for successfully broadening the gene pool of cultivated rice through interspecific hybridization. He identified many novel genes for tolerance to biotic and abiotic stresses, as well as yield-enhancing QTL in an array of wild relatives and transferred them to cultivated rice. His work on understanding the patterns of alien introgression, using molecular markers, led to a paradigm shift in the use of wild species in crop improvement. Dr. Brar was a fine blend of having an in-depth understanding of conventional plant breeding approaches and modern biotechnology. He developed several rice breeding lines with resistance to bacterial blight, blast, brown planthopper, tungro virus and iron toxicity. While some of his introgression lines were released as varieties, most others were used in various rice breeding programs for varietal development worldwide. At IRRI, he also served as an academic mentor for several MS and PhD students, and he was always a sought-after teacher. Throughout his career, Dr. Brar played a critical role in organizing several international conferences and symposia, all of which had one mission in common - to support and kindle the spirit of young researchers from developing countries.

After retiring from IRRI in 2012, Dr. Brar re-joined his alma mater PAU where he served as an Honorary Adjunct Professor and continued his zeal for teaching and mentoring students and young scientists. His sudden demise on March 11, 2020, came as a great loss to his family, friends, and the scientific community worldwide.
Organizers

Patron · Dr Gurdev Singh Khush
Co-Patron · Sh. Sarvjit Singh, IAS, Vice Chancellor, PAU, Ludhiana

Organizing Secretaries

• Dr Gurjit Singh Mangat, Additional Director Research (Crop Improvement), PAU, Ludhiana
• Dr Kuldeep Singh, Secretary, GS Khush Foundation

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• Dr SS Johl, Former Chancellor, CU, Punjab
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• Dr MS Kang, Former VC, PAU
• Dr BS Dhillon, Former VC, PAU
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• Dr AK Shukla VC, GBPUA&T Pantnagar
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• Mrs Sukhwinder K Brar, Member GS Khush Foundation
• Dr Gurdial Singh Sidhu, Member GS Khush Foundation
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• Dr Jaswinder Singh, Mc Gill University

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• Co-Chairs – Director of Extension Education, PAU
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• Scientific Societies' Representatives
  + Crop Improvement Society of India
  + Indian Society for the Advancement of Insect Science
  + Indian Society of Agricultural Development & Policy
  + Indian Society of Plant Pathologists
  + Society for the Advancement of Academics, Sports and Cultural Activities
  + Indian Society of Agricultural Engineers – Punjab Chapter
  + Indian Society of Soil Science – Ludhiana Chapter
  + Indian Society of Agronomy- Ludhiana Chapter

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