



NGGIBCI-V

**5th International Conference
on**

**Next Generation Genomics and Integrated
Breeding for Crop Improvement**

February 18-20, 2015



**ICRISAT, Patancheru, India
(Ralph W Cummings Auditorium)**

Technical Programme

Wednesday, February 18, 2015

08:30 onwards	Registration	
08:45 – 10:00	Inaugural Session	
08:45 – 09:00	Welcome	Rajeev Varshney <i>Chair, NGGIBCI-V, ICRISAT, India</i>
09:00 – 09:10	Opening remarks	Peter Carberry <i>Deputy Director General (Research), ICRISAT, India</i>
09:10 – 09:20	Inaugural address	Asis Datta <i>Founder & Former Director, National Institute of Plant Genome Research, New Delhi, India</i>
09:20 – 09:30	Inspirational message	Surinder Vasal <i>World Food Prize Laureate</i>
09:30 – 10:00	Inaugural lecture: Genomics interventions to ensure food and nutritional security in developing countries	Howard Yana-Shapiro <i>MARS Inc, USA</i>
10:00 – 10:30	Group Photo/High Tea	
10:30 – 12:30	Session I: Next Generation Genomics Co-Chairs: PK Gupta and HS Gupta	
10:30 – 11:00	Next generation barley genomics	Nils Stein <i>IPK- Gatersleben, Germany</i>
11:00 – 11:30	Chromosome sequencing and assembling: Close encounters in wheat	Andrew Sharpe <i>National Research Council of Canada, Canada</i>
11:30 – 12:00	From the genome to the field: The role of the French Plant Genomic Center	Helene Berges <i>INRA-CNRCV, France</i>
12:00 – 12:30	Next generation genomics and integrated breeding in legumes	Rajeev Varshney <i>ICRISAT, India</i>
12:30 – 13:30	Lunch	
13:30 – 15:30	Session II: Genome Sequencing and Germplasm Re-sequencing Co-Chairs: Jeff Ehlers and Hari Upadhyaya	
13:30 – 14:00	From genebank to field- leveraging genomics to identify and bring novel native variation to breeding pools	Sarah Hearne <i>CIMMYT, Mexico</i>
14:00 – 14:30	Comparative genome sequence between <i>Vigna radiata</i> and <i>Vigna angularis</i>	Suk-Ha Lee <i>Seoul National Uni, South Korea</i>
14:30 – 15:00	High-throughput SNP genotyping for rice improvement	Michael Thomson <i>IRRI, The Philippines</i>
15:00 – 15:30	NGS and plant variant discovery and exploitation in plants: some lessons	David Marshall <i>The James Hutton Inst, Scotland</i>
15:30 – 16:00	Tea & Coffee	
16:00 – 17:40	Session III: Genomics Platforms Co-Chairs: Eric Danquah and Shoba Sivasankar	

Programme

16:00 – 16:20	The BecA-ILRI Hub and its contribution to African agricultural biotechnology and crop improvement	Appolinaire Djikeng <i>BecA-ILRI Hub, Kenya</i>
16:20 – 16:40	Sequencing and arrays with Illumina	Cindy Lawley <i>Illumina Inc., USA</i>
16:40 – 17:00	Douglas Scientific Array Tape™ platform and its application in genomics assisted breeding	Venkatramana Pegadaraju <i>Douglas Scientific, USA</i>
17:00 – 17:20	To in-source or outsource: Challenges and considerations for developing a genetic marker program in 2015 and beyond.....	Steve Asquith <i>LGC Genomics, USA</i>
17:20 – 17:40	New era for molecular breeding with cost effective SNP genotyping solutions	Bhaswar Maity <i>Affymetrix ILS, India</i>
17:40 – 18:30	Poster Session	
18:30 onwards	Welcome Dinner @ IMOD Plaza, ICRISAT	
Thursday, February 19, 2015		
08:30 – 10:00	Session IV: Trait Mapping Co-Chairs: Ramesh Aggarwal and Baozhu Guo	
08:30 – 09:00	Development and use of a sorghum backcross nested association mapping population for trait dissection	David Jordan <i>Uni Queensland, Australia</i>
09:00 – 09:30	Challenges and advantages of MAGIC genetic map construction	Emma Huang <i>CSIRO, Australia</i>
09:30 – 10:00	Applying high-throughput genomics to crops for the developing world	Jason Wallace <i>Cornell University, USA</i>
10:00 – 10:30	Tea & Coffee	
10:30 – 12:30	Session V: Genome Dynamics and Systems Biology Co-Chairs: Noel Ellis and Naveen Puppala	
10:30 – 11:00	Advances and prospects in forage systems biology and molecular breeding	German Spangenberg <i>DEPI, La Trobe Uni, Australia</i>
11:00 – 11:30	Improving genome assemblies and capturing genome variation data for applied crop improvement	Dave Edwards <i>Uni Western Australia, Australia</i>
11:30 – 12:00	Prospecting for gene function in complex natural and agricultural systems	Douglas Cook <i>University of California-Davis USA</i>
12:00 – 12:30	Genome sequencing to support germplasm analysis and utilization	Robert Henry <i>Uni Queensland, Australia</i>
12:30 – 13:30	Lunch	
13:30 – 15:30	Session VI: Genomics-Assisted Breeding - I Co-Chairs: HS Dhaliwal and Chittranjan Bhatia	
13:30 – 14:00	Trait-associated SNPs provide insights into heterosis in maize	Patrik Schnable <i>Iowa state University, USA</i>
14:00 – 14:30	Practice of whole genome molecular marker assisted breeding in BGI	Gengyun Zhang <i>BGI-Shenzhen, China</i>
14:30 – 15:00	Genomics based breeding research for improving resistance to biotic and abiotic stress in cereals	Frank Ordon <i>JKI- Federal Research Centre for Cultivated Plants, Germany</i>
15:00 – 15:30	DART PL's support for agricultural research and practice: delivery model and technology package	Andrzej Kilian <i>DART Pty Ltd, Australia</i>
15:30 – 16:00	Tea & Coffee	
16:00-17.30	Session VII: Genomics-Assisted Breeding - II Co-Chairs: Tim Sutton and Bharat Chattoo	
16:00 – 16:30	Accomplishments in soybean molecular breeding and future perspectives	Henry Nguyen <i>University of Missouri, USA</i>
16:30 – 17:00	Genome-wide association of SNPs in stress responsive genes with salinity tolerance in rice	Trilochan Mohapatra <i>Central Rice Res Inst, India</i>
17:00 – 17:30	Establishment of wild pea <i>Pisum fulvum</i> chromosome segment substitution lines in cultivated <i>P. sativum</i> genetic background, as a tool to study domestication and to broaden genetic diversity	Petr Smykal <i>Palacký Uni Olomouc, Czech Republic</i>

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17:30 – 19:00	Poster Session	
19:00 onwards	Gala Dinner @ Anniversary Lawns (205 Bldg), ICRISAT	
Friday, February 20, 2015		
08:30 – 10:00	Session VIII: Climate Resilience Genomics and Breeding Co-Chairs: Kadambot Siddique and Ajay Parida	
08:30 – 09:00	Climate-resilient maize development and delivery in the tropics through public-private partnerships: CIMMYT's experiences and perspective	BM Prasanna <i>CIMMYT, Kenya</i>
09:00 – 09:30	Advent of climate smart rice varieties through genomics-assisted breeding	Jauhar Ali <i>IRRI, The Philippines</i>
09:30 – 10:00	Adaptation to water limitation and climate change: From trait dissection to yield	Vincent Vadez <i>ICRISAT, India</i>
10:00 – 10:30	Tea & Coffee	
10:30 – 12:30	Session IX: Novel Breeding Approaches Co-Chairs: EA Siddiq and Pooran Gaur	
10:30 – 11:00	Genomic selection in plants: a new tool for crop improvement	Mark Sorrells <i>Cornell University</i> USA
11:00 – 11:30	New developments in genomic-enabled prediction models	Jose Crossa <i>CIMMYT, Mexico</i>
11:30 – 12:00	Potential of promotion of alleles by genome editing for improving quantitative traits in livestock breeding programs	John Hickey <i>University of Edinburgh, UK</i>
12:00 – 12:30	Integration of physiological breeding and genomic selection for wheat improvement	Jesse Poland <i>Kansas State University, USA</i>
12:30 – 13:30	Lunch	
13:30 – 15:00	Session X: New Horizons for Crop Improvement Co-Chairs: Swapan Datta and KC Bansal	
13:30 – 14:00	Bringing genomic data into routine use in cultivar development: reducing costs and improving the tools for breeders	Gary Atlin <i>Bill & Melinda Gates Foundation,</i> USA
14:00 – 14:30	Cassava genomics - applying genomic technologies to benefit smallholder farmers in Africa	Steve Rounsley <i>Dow Agrosciences, USA</i>
14:30 – 15:00	Diversity Seek (DivSeek): A community-driven effort to harness the genetic potential of the world's genebanks	Peter Wenzl <i>Global Crop Diversity Trust,</i> Germany
15:00 – 15:30	Trends in agricultural genomics and Nature journal standards	Myles Axton <i>Nature Genetics, USA</i>
15:30 – 16:00	Tea & Coffee	
16:00 – 17.45	Concluding Session	
16:00 – 16:30	Next generation genomics and the zero hunger challenge	MS Swaminathan <i>Emeritus Chairman and Chief</i> <i>Mentor, M S Swaminathan</i> <i>Research Foundation, India</i>
16:30 – 17:00	Concluding lecture: Translating biology: The Generation Challenge Programme- a successful case study	Jean-Marcel Ribaut <i>Director, Generation Challenge</i> <i>Programme, Mexico</i>
17:00 – 17:15	Inspirational message	JS Sandhu <i>Deputy Director General (Crop</i> <i>Science), ICAR, India</i>
17:15 – 17:30	Concluding remarks	David Bergvinson <i>Director General, ICRISAT, India</i>
17:30 onwards	Wrap-up	Rajeev Varshney <i>Chair, NGGIBCI-V, ICRISAT</i>
18:00 onwards	Closing Dinner @ Mary Cummings Park, ICRISAT	