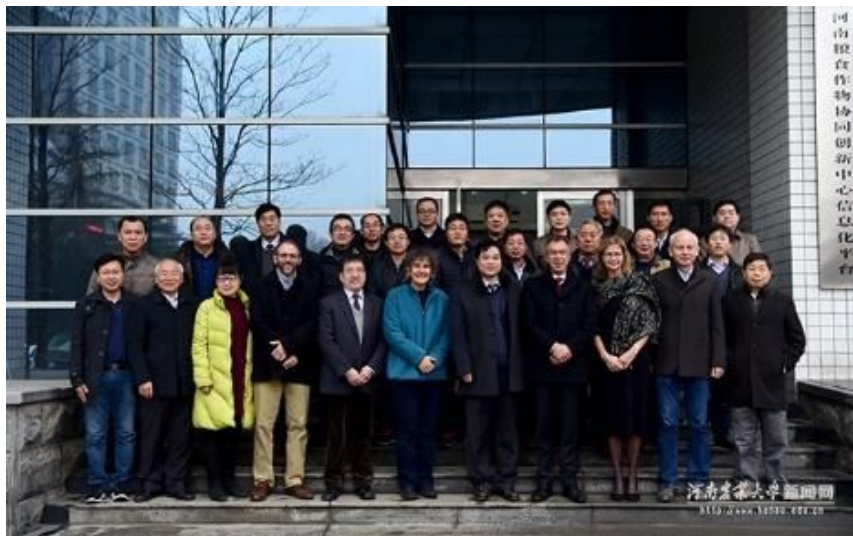


CIMMYT receives the International Science and Technology Cooperation Award from Chinese



government for its excellent collaborative work to improve China's maize and wheat research and training of national scientist. On behalf of CIMMYT, the Director General Martin Kropff received the award at the Great Hall of the People.

CIMMYT and Henan Agricultural University has started new Joint Maize and Wheat Research Center (JMWRC) in China.



The research center aims to play a greater role in improving the livelihood of wheat and maize growers globally. The JMWRC will hire four international senior scientist in the areas of genomics, bioinformatics, crop physiology and crop management. The research activities will be integrated into existing collaboration between CIMMYT and the Chinese Agricultural Academy of Sciences (CAAS).

CIMMYT has recently released a set of 16 new maize lines adopted to the tropical and subtropical maize production environments. These lines will be publicly available to both public and private sector breeding programs. These lines are released after intensive evaluation for combining ability, stress tolerance and suitability either seed or pollen parents. The details on this news is available from CIMMYT [website](#).

In August, 2016, CIMMYT celebrated its 50th birthday.



Beside CIMMYT50 celebration, other annual meetings, field days were organized at CIMMYT headquarters. CIMMYT Global Maize Program (GMP) had its 2016 Annual Meeting in Mexico September 25-26, 2016.

The Global Wheat Program (GWP) had its annual meeting September 22-25, 2016 in Texcoco, Mexico.

The GOBii CIMMYT team organizes stand-up meeting every week - to update and discuss



progress made the previous week and plans for the next week. The meetings are very useful as they help to share the progress, challenges and new ideas among the team members.

Dr. Umesh Rosyara recently joined the global wheat program and will be part of the GOBii team. Dr. Rosyara already participated in a one-to-one meeting with more than 30 CIMMYT breeders and allied scientists.

CIMMYT's harvest plus project in association with national research programs has released high zinc wheat variety. The variety "Zn-Sakti" and "Zincol-2016" has been released in India and Pakistan



respectively. The high Zinc and Iron varieties are developed by combining genes from Mexican and Iranian landraces. Beside high zinc, these varieties are known for higher yield. The seeds of these varieties will be available next year. The biofortification project is led by Dr. Velu Govindan is also mapping genes controlling high zinc and iron.

Winter wheat data curation workshop at CIMMYT-Turkey. Dr. Rosemary Shrestha (CIMMYT-HQ), Dr. Alex Morgunov (CIMMYT-Turkey) and Dr. Beyhan Akin (CIMMYT-Turkey) met at CIMMYT-Turkey offices in Ankara and Izmir for curation of winter wheat genealogy datasets December 8-20, 2016. The curated data will go first into the International Wheat Information System version 2 (IWIS2) and then to an Enterprise Breeding System (EBS) that CIMMYT will adopt. The entries with genotypic data will go into GOBII database when it's ready to upload.

Genomic regions contributing yield stability identified.

CIMMYT wheat molecular biology team has identified genomic regions contributing grain yield and stability using CIMMYT's large collection of elite wheat lines evaluated under multiple environments. The study also looked at epistatic interaction between these genes. The manuscript was accepted in Nature Scientific Reports, with Dr. Deepmala Sehgal as first author.

<http://www.nature.com/articles/srep23092>

and

<http://www.cimmyt.org/breaking-ground-scientist-deepmala-sehgal-on-the-trail-of-novel-wheat-diversity/>

Rothamsted-CIMMYT scientist meet for research partnership. January 19-20 a team of Rothamsted scientists met the group CIMMYT-El Batán scientists to strengthen a research partnership. The teams were led by research directors from both institutions. [Rothamsted Research](#) is an independent science institute from the UK founded in 1843 and is the world's longest running agricultural research station.

ICRISAT hosted "HTPG Workshop on Forward Breeding for Accelerated Crop Improvement" 28 Nov. - 1 Dec. 2016. 112 participants from 30 institutes, including eight CGIAR centers, from a total of 19 countries attended. Dr. David Bergvinson, Director General, ICRISAT delivered the inaugural address and Dr. Gary Atlin from the Gates foundation, U.S.A. presented 'Strategy for genetic gains and BMGF perspective'. Dr. Rajeev Varshney gave an overview on 'HTPG project in context of genetic gains'. In addition, the four day workshop constituted more than 20 presentations from different research centers as well as breakout sessions to discuss breeding strategies, diagnostic marker availability and logistics needs etc., in different crops. Dr. Atlin, in his closing remarks, expressed appreciation for the joint efforts from the partners of participating institutes, including eight CG centers.



**HTPG Workshop
on
Forward Breeding for Accelerated Crop Improvement**

**November 28–30, 2016
ICRISAT, Patancheru 502 324, Telangana, India**

ISAS 70 Statistics & Big Data Bioinformatics in Agricultural Research was held at ICRISAT headquarters from 21–23 November, 2016. The conference was organized in association with the Indian Society of Agricultural Statistics (ISAS) on the occasion of its 70th year of operation.

Kelly Robbins and Lukas Mueller from Cornell University were invited to speak at this conference. Scientists, researchers, members from the industry and administrators from the public sector came together at ICRISAT in an international conference to ask the big question: How to ensure modern innovation and digital agriculture increases farm productivity and profitability of resource-poor farmers? Dr. Robbins pointed to the opportunity and complexity in statistical approaches to relate phenotype to genotype with substantial accuracy. In this background, he introduced the Genomic Open-source Breeding Informatics Initiative (GOBII) which specifically focuses on enhancing the capacity of public-sector breeding programs. See link below.

<http://www.icrisat.org/exploring-the-potential-of-data-driven-agriculture-in-increasing-farm-productivity-and-profitability/>



Star Gao and Kelly Robbins met with ICRISAT GOBII application team and held requirement meeting and training during this trip. Star also visited with breeders' field.

Photo: Star, Eng (2nd to the right) visit pigeonpea Cytoplasmic male sterility (CMS) breeding nursery with pigeon breeder, Anupama Hingane (ICRISAT) (3rd right) and her staff.

Symposium on Genomics and Translational Research in Crop Improvement December 14-16, Meerut, India.



Liz (2nd right) with Rajeev Varshney (4th left), Andreas Graner, Scott Jackson, and the employees and students from ICRISAT and the Department of Genetics & Plant Breeding Ch. Charan Singh University, Meerut

Open Source Breeding Tool Release As a joint collaboration, GOBII and the James Hutton Institute built upon the existing data visualization application, Flapjack and released marker-assisted back crossing (MABC) and F1 pedigree verification modules. Details follow the news link:

<http://bti.cornell.edu/explore-bti/news/post/gobii-releases-open-source-tools-faster-plant-breeding/>

BrAPI Hackathon in Montpellier, Dec 12-16, 2016.

From December 12th through the 16th, two GOBII developers, Phil Glaser (core GOBII) and Angel Manica Raquel (IRRI) attended the Breeding API (BrAPI) workshop in Montpellier, France. BrAPI specifies a standard interface for plant phenotype/genotype systems to exchange data with each other. The GOBII project has made it a high priority to collaborate with the BrAPI team and to implement the parts of the API that pertain to genotypic data: the GOBII system can best serve the needs of plant breeders by making it easy to integrate GOBII with breeding data management applications, laboratory information management systems (LIMS), and sample tracking systems. Organized by collaborators at Bioversity, the workshop was attended by over twenty participants representing a number of organizations, including Bioversity, The Boyce Thompson institute, The integrated Breeding Platform (IBP), the Institute for Agricultural Research (INRA), The James Hutton Institute (JHI), and Wageningen University.



BrAPI Hackathon group photo in Montpellier, Dec 12-16, 2016. GOBII team: Angel Manica Raquel (IRRI) and Phil Glaser with (PI) Lukas Mueller attended.

IRRI celebrated the 50th year of release of IR8

In November 2016, IRRI celebrated the 50th anniversary of the release of the rice variety IR8. Dubbed as the “miracle rice”, IR8 is a high-yielding variety released by the International Rice Research Institute (IRRI) in the 1960s. It started the Green Revolution and helped save Asia from famine at the time. The event started in India and culminated at the IRRI Headquarters in the Philippines with guests from the international and diplomatic communities, a Farmer’s Day event with farmers from nearby provinces, and a keynote presentation given by Dr. Peter Jennings, the scientist who led the team that developed IR8.

Read more about IR8: <http://irri.org/IR8>.

Additional sources:

<http://irri.org/news/media-releases/ir8-world-s-first-high-yielding-rice-turns-50>

<http://irri.org/news/media-releases/ir8-the-rice-that-saved-asia-from-famine-celebrated>

Publication: Rice SNP-seek database update: new SNPs, indels, and queries

The SNP-Seek team published an update to the Rice SNP-Seek Database after its first release. The SNP-Seek database features SNPs and indels from Nipponbare and the update includes SNPs coming from new reference genome assemblies such as IR64, 93-11, DJ 123, and Kasalath.

With the new version of SNP-Seek, users can query and display SNPs and indels from five reference genomes, visualize BAM and VCF files, and experience faster processing of queries for genotypes, varieties, and genes. Web services were also deployed to facilitate sharing of data with collaborators.

New features include query and display for SNP and indel data from the new references genome, JBrowse display of BAM and VCF files and tracks, performance improvement and web services such as query for genotypes, varieties and genes, list manager and SNP Annotator.

Visit the website: <http://snp-seek.irri.org>

The journal link is below:

<http://nar.oxfordjournals.org/content/early/2016/11/29/nar.gkw1135.full>.

2016 GOBii Annual Meeting (August 9-11, 2016 in Mexico) group photo



Volume 1 **GOBII Newsletter** *January 2017*

Reserve the dates: **2017 GOBII Annual Meeting, August 8-10, 2017 in ICRISAT, India.* Please let Monica know if you will attend and forward your itinerary.*

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