

EU-Coordination Action (Breeding to Optimise Chinese Agriculture)



The OPTICHINA International Conference
Breeding to Optimize Agriculture in a Changing World

May 26th - 29th, 2014, Beijing, China

Organizers: Chinese Academy of Agricultural Sciences (CAAS), University of Barcelona, and the OPTICHINA Project
Local Organizer: Institute of Crop Science, Chinese Academy of Agricultural Sciences (CAAS)

Final Announcement



Program

(Last-minute minor changes may be possible)

26 May 2014 (Monday)

8:10-9:00am

Registrations at the 2nd Floor Conference Hall, National Key Facility for Crop Gene Resources and Genetic Improvement, Institute of Crop Science, CAAS

9:00am-9:15pm

Opening Ceremony

9:15am-12:40pm

Session 1. Defining and Protecting Yield Potential – Traits and Genes. Chairs: John Foulkes (University of Nottingham, UK) and Jiansheng Li (CAU, China).

- 9:15-9:40 Dr. Richard Richards (CSIRO, Australia; Email: Richard.Richards@csiro.au) **Yield improvement in dryland wheat in Australia – what are the lessons we can learn?**
- 9:40-10:05 Dr. Gemma Molero (CIMMYT, Mexico; Email: G.Molero@cgiar.org) **Wheat Yield Consortium (WYC): Precursor to the International Wheat Yield Partnership (IWYP)**
- 10:05-10:30 Dr. Zichao Li (CAU, China; Email: lizichao@cau.edu.cn) **Why is upland rice more drought resistant than lowland rice in genomics and gene functions?**
- 10:30-11:00 Group Photo and Break
- 11:00-11:25 Dr. Martin Parry (Rothamsted Research, UK; Email: martin.parry@rothamsted.ac.uk) **Phenotyping photosynthetic characteristics in diverse germplasm**
- 11:25-12:50 Dr. Guoying Wang (CAAS, China; Email: wangguoying@caas.cn) **Molecular technologies for maize improvement**
- 11:50-12:15 Dr. Ignacio Romagosa (Universitat de Lleida; Email: iromagosa@pvcf.udl.cat) **Understanding adaptation in a multiline barley variety: differences in genotypic sensitivities to environmental variables**
- 12:15-12:40 Dr. Cesar Arrese-Igor (Universidad Pública de Navarra, Spain; Email: cesarai@unavarra.es) **Carbon, nitrogen and sulphur in nodulated legumes**

12:40pm-14:00pm **Lunch at CAAS**

14:00pm-17:40pm

Session 2. High Throughput Precision Phenotyping in the Field. Chairs: Richard Richards (CSIRO, Australia) and Yin-Gang Hu (NWA&F, China)

- 14:00-14:25 Dr. José Luis Araus (Universitat de Barcelona, Spain; Email: jaraus@ub.edu)
High Throughput Phenotyping: low cost approaches
- 14:25-14:50 Dr. Wanneng Yang (Huazhong Agricultural University, China; Email: ywn@mail.hzau.edu.cn) **Plant phenomics and high-throughput phenotyping techniques to relieve the bottleneck of rice functional genomics**
- 14:50-15:15 Dr. Mainassara Zaman-Allah (CIMMYT-Zimbabwe; Email: Z.MainassaraAbdou@cgiar.org) **Field crop phenotyping using unmanned aerial vehicle (UAV) platform**
- 15:15-15:40 Dr. Alejandro del Pozo (Universidad de Talca, Chile; Email: adelpozo@utalca.cl) **Phenotyping for stem water-soluble carbohydrates in spring wheat genotypes growing in Mediterranean climate conditions**
- 15:40-16:00 Break
- 16:00-16:25 Joao Pennacchi (Rothamsted Research, UK; Email: joao.pennacchi@rothamsted.ac.uk) **Linking phenotypic and genotypic data to inform wheat yield improvement**
- 16:25-16:50 Dr. Ruilian Jing (CAAS, China; Email: jingruilian@caas.cn) **Discovering favourable gene resources for crop improvement through High Throughput phenotyping under drought conditions**
- 16:50-17:15 Dr. Julio Salinas (Centro de Investigaciones Biológicas, CSIC, Spain; Email: salinas@cib.csic.es) **Plant tolerance to freezing temperatures: from molecular mechanisms to phenotype**
- 17:15-17:40 **Panel Discussions on Sessions 1 and 2** (led by session chairs)

18:00pm-20:00pm **Dinner at CAAS**

27 May 2014 (Tuesday)

9:00am-12:40pm

Session 3. Molecular Technologies in Modern Breeding. Chairs: Julio Salinas (CSIC, Spain) and Guoying Wang (CAAS, China)

- 9:00-9:25 Dr. Roberto Tuberosa (Bologna University, Italy; Email: roberto.tuberosa@unibo.it) **Genomics-assisted approaches to enhance yield potential in cereals**
- 9:25-9:50 Dr. Jiansheng LI (CAU, China; Email: ljjiansheng@cau.edu.cn) **Progress on genetic improvement of maize oil with high throughput phenotyping and genotyping**

- 9:50-10:15 Dr. Luzie U. Wingen (JIC, UK; Email: Luzie.Wingen@jic.ac.uk) **Gene discovery to support UK wheat breeding**
- 10:15-10:40 Dr. Lanqin Xia (CAAS, China; Email: xialanqin@caas.cn) **Engineering of a novel generation of aphid-resistant plants: current status and future perspectives**
- 10:40-11:00 Break
- 11:00-11:25 Dr. Wing-Sham Lee (Rothamsted Research, UK; Email: wing-sham.lee@rothamsted.ac.uk) **Virus-induced gene silencing as a useful tool for functional genomics in wheat**
- 11:25-11:50 Dr Hai-Chun Jing (Chinese Academy of Sciences (CAS), China; Email: hcjing@ibcas.ac.cn) **Genomics for dissecting biofuel-associated traits in sweet sorghum**
- 11:50-12:15 Dr. Ernesto Igartua Arregui (Estación Experimental de Aula Dei, CSIC, Spain; Email: igartua@eead.csic.es) **Genotyping-by-sequencing applications supported by the use of the physical map in barley**
- 12:15-12:40 Igor Delfin Florez Sarasa (Max Planck, Germany; Email: Florez@mpimp-golm.mpg.de) **Metabolite profiling of field grown crops under drought, heat and combined drought and heat stress**

12:40pm-14:00pm **Lunch at CAAS**

14:00pm-17:40pm

Session 4. Models of Ideal Ideotype Designs. Chairs: Gustavo Slafer (UdL, Spain) and Ruilian Jing (CAAS, China)

- 14:00-14:25 Dr. Gustavo Slafer (Universitat de Lleida, Spain; Email: slafer@pvcf.udl.cat) **Physiological attributes useful for improving crop performance under abiotic-stressful conditions**
- 14:25-14:50 Dr. Tony Condon (CSIRO, Australia; Email: Tony.Condon@csiro.au) **Triticale: A functional ideotype for improving the yield potential of wheat**
- 14:50-15:15 Dr. Yingang Hu (North West Agriculture and Forestry University, China; Email: huyingang@nwsuaf.edu.cn) **The effects of GAR dwarfing genes in wheat**
- 15:15-15:40 Dr. Hipolito Medrano (Universitat de les Illes Balears, Spain; Email: hipolito.medrano@uib.es) **From leaf to whole plant water use efficiency (WUE) in complex canopies: Limitations of leaf WUE as selection target**
- 15:40-16:00 Break
- 16:00-16:25 Dr. John Foulkes (University of Nottingham, UK; Email: John.Foulkes@nottingham.ac.uk) **Optimization of DM partitioning for raising harvest index and yield potential in CIMMYT spring wheat genotypes**

- 16:25-16:50 Dr. Xingming Fan (Yunnan Academy of Agricultural Sciences, China; Email: xingmingfan@163.com) **Reciprocal Diallel Crosses Impact Combining Ability, Variance Estimation, and Heterotic Group Classification**
- 16:50-17:15 Dr. Iker Aranjuelo (Universidad Pública de Navarra, Spain; Email: iker.aranjuelo@gmail.com) **Pre- and postanthesis contribution to N and C accumulation in wheat grains**
- 17:15-17:40 Dr. Jiankang Wang (CAAS/CIMMYT, China; Email: wangjiankang@caas.cn or jkwang@cgiar.org) **Computing tools for genomic data analysis and molecular breeding design**
- 17:40-18:00 **Panel Discussions on Sessions 3 and 4** (led by session chairs)

18:00pm-20:00pm **Dinner at CAAS**

28 May 2014 (Wednesday)

9:00am-10:20am

Session 5. Data Analysis, Management and Bioinformatics. Chairs: Ignacio Romagosa (UdL, Spain) and Jianbing Yan (HZAU, China)

- 9:00-9:25 Dr. Yunbi Xu (CAAS/CIMMYT, China; Email: y.xu@CGIAR.ORG) **Genetic gain: concept development from quantitative genetics to molecular breeding**
- 9:25-9:50 Dr. Jill Cairns (Global Maize Program, CIMMYT; Email: J.Cairns@cgiar.org) **Increasing genetic gains in maize breeding with Eastern and Southern Africa**
- 9:50-10:15 Dr. Huihui Li (CAAS/CIMMYT, China; Email: lihuihui@caas.cn or H.Li@cgiar.org) **Statistical analysis based on Genotyping-by-Sequencing**
- 10:15-10:40 Dr. Gustavo Lobos (Universidad de Talca, Chile; Email: globosp@utalca.cl) **Spectral Knowledge UTAL (SK-UTAL): Software for exploratory analysis of spectral reflectance data**
- 10:40-11:00 Break

11:00am-12:40pm

Session 6. National Challenges and Opportunities: the Case of China. Chairs: Jose Luis Araus (UB, Spain) and Lanqin Xia (CAAS, China)

- 11:00-11:25 Prof. Hanmin Yuan (Ningxia Academy of Agricultural Sciences, China; Email: hanminyuan886@aliyun.com) **Challenges and Opportunities for Agriculture in Ningxia, China**
- 11:25-11:50 Dr. Dan Jeffers (CIMMYT China, c/o Yunnan Academy of Agricultural Sciences, China; Email: D.Jeffers@cgiar.org) **Selection Strategies for Developing Subtropical Maize Inbred Lines, and Special Trait Donor Germplasm for Use in China**

11:50-12:15 Dr. McHugh, Allen (CIMMYT China, c/o Ningxia Academy of Agricultural Sciences, China; Email: A.McHugh@cgiar.org) **The challenges in adopting Conservation Agriculture in China**

12:15-12:40 Dr. Jianbing Yan (Huazhong Agricultural University, China; Email: yjianbing@mail.hzau.edu.cn) **Genome wide association study in maize**

12:20pm-14:00pm **Lunch at CAAS**

14:00pm-17:30pm

Session 7. OPTICHINA Fellowship and Young Scientist Forum. Chairs: Martin Parry (Rothamsted, UK) and Jiankang Wang (CAAS, China)

14:00-14:10 Bangwei Zhou (Universitat de Barcelona, Spain; Email: 9-973@163.com) **Agronomic and physiological responses of winter wheats from Henan to high-productive Mediterranean conditions**

14:10-14:20 Ariel Ferrante (Universitat de Lleida, Spain; Email: ariel.ferrante@pvcf.udl.cat) **Floret development in a traditional and a higher-yielding wheat across a range of environments**

14:20-14:30 Weiwei Wen (Huazhong Agricultural University, China; Email: wwwen588@163.com) **Application of metabolites in maize improvement**

14:30-14:40 Rut Sanchez (Universitat de Barcelona, Spain; Email: rutsanbr@gmail.com) **Photosynthetic contribution of the ear to grain filling inferred from carbon isotope signature**

14:40-14:50 Tingting Guo (CAU/CAAS, China; Email: gwt277@126.com) **Study and research on the QTL mapping, breeding simulation and genomic prediction**

14:50-15:00 Abdelhalim Khaled (Universitat de Barcelona, Spain; Email: abdelhalim_elazab@yahoo.es) **The combined use of plant-growth and water regime phenotyping traits to elucidate the physiological mechanisms related to wheat performance under Mediterranean conditions**

15:00-15:10 Yan Zhang (CAAS, China; Email: zhangyan03@caas.cn) **Molecular analyses of genes encoding farnesyl pyrophosphate synthase (FPS) in common wheat and evidences for their involvement in elicited defenses against aphid infestation**

15:10-15:20 Raziel Antonio Ordóñez (Universitat de Lleida, Spain; Email: r.antonio@pvcf.udl.cat) **Can SLN be used to phenotype maize maximizing yield and NUE?**

15:20-15:30 Juan Ma (CAAS, China; Email: majuanjuan85@126.com or Juan.Ma@jic.ac.uk) **Application of modelling and simulation in pre-breeding**

15:30-16:00 Break

- 16:10-16:20 Jordi Martí Marsal (Universitat de Lleida, Spain; Email: jordi.marsal@pvcf.udl.es) **Physiological bases for differences in yield potential and yield stability between bread and durum wheat**
- 16:20-16:30 Zhiyuan Yang (North West Agriculture and Forestry University, China; Email: yangzhiyuan0626@aliyun.com) **The effect of different Rht dwarfing genes on yield in wheat**
- 16:30-16:40 Susan Medina Canzio (Universitat de Barcelona, Spain; Email: smedinacanzio@gmail.com) **Does maternal inheritance in maize expressed against osmotic stress? or Physiological and molecular mechanisms associated with heterosis in maize**
- 16:40-16:50 Yichen Chen (CAAS, China; Email: chenyichen2010@gmail.com) **Comparison of analytical methods used to study genotype-by-environment interaction in breeding**
- 16:50-17:40 **Panel Discussions on Sessions 5, 6 and 7** (led by session chairs)

18:00pm-20:00pm **Gala Dinner at CAAS**

29 May 2014 (Thursday) Field Trip

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|-----------------|--|
| 9:00am-10:00am | National Genebank of China, CAAS |
| 10:00am-13:00pm | Changping Experimental Station, CAAS-ICS |
| 13:00pm-17:00pm | Sightseeing Great Wall (Ba Da Ling) |

Logistics

Contacts for Further Information

The OPTICHINA website: www.optichinagriculture.com

For technical issues, contact:

Dr. Jiankang Wang (CAAS/CIMMYT, China), wangjiankang@caas.cn or jkwang@cgiar.org

Dr. Jose Luis Araus (University of Barcelona, Spain), jaraus@ub.edu

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For logistics, contact:

Ms. Yahong Qian (CAAS, China), qianyahong@caas.cn

Dr. Serret Molins (University of Barcelona, Spain), (dserret@ub.edu)

Online Registration

Please complete the online registration by 25 March 2014. Registration in which your presentation to be included, oral or poster, go to <http://www.optichinagriculture.com/online-registration-for-oral-presentation-or-poster/>. To come as public and attend all lectures register here go to <http://www.optichinagriculture.com/online-registration-for-audience-assistant/>.

Invitation Letters and Chinese Visas

CAAS will arrange an invitation letter and a visa-supporting document for your visa application in one Chinese Embassy/Consulate in your home country. For CAAS to issue the visa-supporting document, we need (1) a scanned copy of your passport, and (2) your brief CV. If you do not have a valid Chinese visa, **please send the two documents by email to qianyahong@caas.cn no later than 25 March 2014. Do include the following information in your CV: Full Name, Sex, Date of Birth, Citizenship, Passport No., Place (i.e. City and Country) to issue your Chinese visa, Working Institute, Research Areas.**

Hotel Information

You have been booked in the Beijing Friendship Hotel. Price of a standard guest room is RMB460 (or USD80). **Breakfast is included in your room charge. Lunch and Dinner will be arranged by CAAS.** Address of the hotel is: Beijing Friendship Hotel, No. 1 Zhongguancun South St., Beijing 100873, P.R. China. Tel: 86-10 68498888; Fax: 86-10 68498866; hotel web (English version available): <http://www.bjfriendshiphotel.com>.



Arrival from Airport to Friendship Hotel

For arrival, please follow the TAXI sign in the airport. You are on your own to take a taxi to Friendship Hotel. It will take about 40-50 minutes from the airport to the hotel, and the taxi fare is about RMB100. Most taxi do not accept credit card. **Please make sure you have the local currency in RMB before leaving the airport.** Most taxi drivers do not speak any foreign languages. **Please show the following note in both English and Chinese to the taxi driver when boarding the taxi.**

Please take me to Building No. 2, Beijing Friendship Hotel
 Address: No. 1 Zhongguancun South St., Beijing 100873. Tel: 86-10 68498888

请带我去北京友谊宾馆2号楼

地址: 北京市中关村南大街1号; 电话: 010-68498888

Departure from Friendship Hotel to Airport

For departure to the airport, please book a taxi at the hotel reception. You have to leave the hotel at least 3 hours before your flight departures. There are two major terminals at the Beijing Capital Airport. Please make sure the taxi driver will take you to the correct terminal. For your information, Chinese characters for the two terminals are given below, respectively.

Terminal 2 in Chinese: 2号航站楼 Terminal 3 in Chinese: 3号航站楼

Venue of the Conference

The conference will be held at the Second Floor Conference Hall located at Institute of Crop Science, Chinese Academy of Agricultural Sciences (CAAS). As indicated in the hotel map, CAAS is just the opposite side of the Friendship Hotel. We will convene at 8:30am in the hotel lobby, and someone will lead us walk to the conference venue.

Sponsorships from Private Sectors

The conference accepts sponsorship of RMB10,000 (about USD1600) from private sectors. As a return, we will provide one 4 m² exhibition booth and one page advertisement in the conference proceeding. The sponsorship must be paid to Institute of Crop Science, Chinese Academy of Agricultural Sciences by April 30, 2014.