



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

Current Program (correct as at 17 July 2008)

The Symposium Organisers reserve the right to alter the program as required

Sunday 24 August

- | | |
|---------------------|---|
| 9.00 am – 11.30 am | International Wheat Genome Sequencing Consortium – General Business Meeting
Convenor: Rudi Appels |
| 11.30 am – 12.30 pm | ITMI Business Meeting
Convenor: Catherine Feuillet |
| 1.00 pm – 6.00 pm | Ug99 Rust Workshop |
| 1.00 pm | Welcome: ACIAR representative |
| 1.10 pm – 3.10 pm | Session 1 |
| | <u>Chair:</u> Evans Lagudah, IWGS, CSIRO |
| 1.10 pm | O01 <i>Historical overview of stem rust research</i>
<u>Robert McIntosh</u> , University of Sydney |
| 1.40 pm | O02 <i>Ug99 Surveillance: Current Status, evolution and migration of the Ug99 lineage</i>
<u>Yue Jin</u> , USDA-ARS Minnesota, USA |
| 2.10 pm | O03 <i>Current resistance sources and breeding strategies to mitigate Ug99 threat</i>
<u>Ravi Singh</u> , CIMMYT Mexico |
| 2.40 pm | O04 <i>Status of molecular markers available for MAS and future plans</i>
<u>Mark Sorrells</u> , Cornell University |
| 3.10 pm | O05 <i>Ug99 rust in Iran</i>
<u>Kumarse Nazari</u> , iCARDA, Syria |
| 3.20 pm – 3.40 pm | Afternoon Tea |
| 3.40 pm – 5.50 pm | Session 2 |
| | <u>Chair:</u> Paul Fox, ACIAR |
| 3.40 pm | O06 <i>Chromosome engineering to enhance utility of alien-derived stem rust resistance</i>
<u>Steven Xu</u> , USDA-ARS North Dakota, USA & Ian Dundas |
| 4.10 pm | O07 <i>Status of Ug99 resistance in current Australian wheat cultivars and breeding materials</i>
<u>Harbans Bariana and Robert Park</u> , University of Sydney |
| 4.40 pm | O08 <i>Operation and development of screening facilities in East Africa</i>
<u>Rick Ward</u> , Cornell-BGRI |
| 5.10 pm | O09 <i>The Borlaug global rust initiative and international collaboration</i>
<u>Rick Ward and Katherine Kahn</u> , Gates Foundation |
| 5.50 pm | Close |
| 6.00 pm – 8.00 pm | IWGS 2008 Welcome Reception |



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

Monday 25 August

- 8.30 am – 9.00 am **Conference Opening**
- 9.00 am – 10.25 am **Session 1: Exploring and exploiting wheat genetic resources**
9.00am
O10 *Conserving crop diversity: navigating politics and climate change to create a global system*
Cary Fowler, Global Crop Diversity Trust, Italy
- 9.45 am **O11** *Metabolic phenotyping of genetically diverged species in Gramineae*
Mochida K, Furuta T, Ogihara Y, Shinozaki K, Kikuchi J
- 10.05 am **O12** Molecular diversity, structure and association mapping in a collection of synthetic hexaploid wheat
Ogbonnaya FC, Ye G, Emebiri LC, Trethowan R, van Ginkel M
- 10.25 am – 11.10 am **Morning Tea**
- 11.10 am – 12.35 pm **Session 2: Exploring and exploiting wheat genetic resources (contd)**
11.10 am
O13 *Swimming in the genepool - a rational approach to exploiting large genetic resource collections*
Ken Street, ICARDA, Syria
- 11.55 am **O14** *Allele mining and sequence diversity at the wheat powdery mildew resistance locus Pm3*
Kaur K, Street K, Mackay M, Yahiaoui N, Keller B
- 12.15 pm **O15** *Imprint of selection in pedigrees of modern bread wheat varieties*
Horvath A, Charmet G, Balfourier F
- 12.35 pm – 2.00 pm **Lunch and Posters**
- 2.00 pm – 3.25 pm **Session 3: Chromosome biotechnology**
2.00 pm
O16 *Unexpected chromosome behavior in wheat: an exception or a general rule?*
Adam Lukaszewski, University of California, USA
- 2.45 pm **O17** *Chromosome re-assembly for wheat improvement*
Ayala-Navarrete L, Bariana HS, Singh RP, Mechanicos AA, Gibson JM, Larkin PJ
- 3.05 pm **O18** *Recombination analysis on bread wheat chromosome 3B*
Saintenac C, Paux E, Choulet F, Faure S, Philippon J, Boyer D, Bernard M, Feuillet C, Sourdille P
- 3.25 pm – 4.00 pm **Afternoon Tea**



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

4.00 pm – 5.25 pm

4.00 pm

Session 4: Chromosome biotechnology (contd)

O19 *It's not size but coordination that matters*

Graham Moore, John Innes Centre, UK

4.45 pm

O20 *Development and mapping of SSR markers for 1RS*

Kofler R, Gong L, Resch K, and Lelley I

5.05 pm

O21 *Dissecting the hexaploid wheat genome by chromosome sorting*

Suchankova P, Kubalaková M, Cihalikova J, Zagorova H, Gill BS, Dolezel J

5.30 pm – 7.00 pm

P001-P054

P055-P074

P075-P078

Posters

Exploring and exploiting wheat genetic resources

Chromosome biotechnology

Genetic diversity

5.30 pm – 8.30 pm

GCP Workshop on Application of Genomics in Wheat Breeding

Convenors: Peter Langridge (ACPFPG), Scott Chapman (CSIRO), Rajeev Varshney (GCP/ICRISAT)

Tuesday 26 August

9.00 am – 10.25 am

9.00 am

Session 5: Genome dynamics

O22 *The Big B of Bread wheat – 3B – exploring the structure, function, and evolution of the hexaploid wheat genome*

Catherine Feuillet, INRA, France

9.45 am

O23 *Genomic shock induced genetic and epigenetic changes in homoeologs of class ABCDE MADS-box genes in hexaploid wheat*

Murai K, Shitsukawa N

10.05 am

O24 *High-resolution radiation hybrid mapping in wheat: an essential tool for the construction of the wheat physical maps*

Kianian SE, Riera-Lizarazu O, Gu Y, Feuillet C

10.25 am – 11.10 am

Morning Tea

11.10 am – 12.35 pm

11.10 am

Session 6: Genome dynamics (contd)

O25 *Structure and organization of the wheat genome*

Katrien Devos, The University of Georgia, USA

11.55 am

O26 *Single feature polymorphism discovery using the wheat Affymetrix Gene Chip*

Somers DJ, Jordan MC, Banks T

12.15 pm

O27 *Marker/trait associations identified in spring wheat using 25 years of CIMMYT international trials*

Arief V, DeLacy IH, Dieters MJ, Crossa J, Godwin I, Batley J, Davenport G, Dreisigacker S, Edwards D, Huttner E, Lambrides C, Manes Y, Payne T, Singh RP, Duveiller E, Warburton M, Wenzl P, Kilian A, McLaren G, Braun H-J, Crouch J, Ortiz R, Basford KE



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

12.35 pm – 2.00 pm

P079-P105

P106-P168

P169-P218

Lunch and Posters

Genome dynamic

Coping with wheat in a changing environment – biotic stresses

Coping with wheat in a changing environment – abiotic stresses

2.00 pm – 3.25 pm

2.00 pm

2.45 pm

3.05 pm

3.25 pm – 4.00 pm

4.00 pm – 5.25 pm

4.00 pm

4.45 pm

5.05 pm

5.30 pm – 7.00 pm

5.30 pm – 7.00 pm

8.00 pm – 10.30 pm

Session 7: Coping with wheat in a changing environment – biotic stresses

O28 *Genetics of host-pathogen interactions in the wheat-Stagonospora nodorum pathosystem*

Justin Faris, USDA-ARS Cereal Crops Research Unit, USA

O29 *Deciphering defense strategies that are elucidated in wheat containing different Dn resistance genes*

Botha AM, Swanevelder ZH, Schultz T, Van Eck L, Lapitan NLV

O30 *The role for basal resistance in non-host interactions*

Tufan HA, Boyd LA

Afternoon Tea

Session 8: Coping with wheat in a changing environment – biotic stresses (contd)

O31-*Molecular analysis of fungal disease resistance in wheat*

Beat Keller, University of Zurich, Switzerland

O32 *Fine-mapping of the durable leaf rust resistance gene Lr34 using sequence information from Brachypodium and Aegilops tauschii*

Krattinger SG, Lagudah ES, Spielmeier W, Keller B

O33 *General disease resistance loci against biotrophic pathogens in wheat*

Lillemo M, Asalf B, Singh RP, Huerta-Espino J, Chen XM, He ZH, Brown JKM, Bjørnstad Å

Posters

Wheat Genetic Resources Workshop

Convenor: Michael Mackay

International Wheat Genome Sequencing Consortium – Coordinators Meeting (By invitation only)

Convenor: Rudi Appels

Wednesday 27 August

9.00 am - 10.25 am

9.00 am

Session 9: Coping with wheat in a changing environment – abiotic stresses

O34 *Genetic improvement of wheat for dry environments – a trait based approach*

Richard Richards, CSIRO Plant Industry, Australia



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

- 9.45 am **O35** *Physiological-genetic dissection of drought resistance in wild emmer wheat*
Saranga Y., Peleg Z, Fahima T
- 10.05 am **O36** *Effects of post-anthesis heat stress and nitrogen levels on grain yield and grain growth of wheat (*T. durum* and *T. aestivum*) genotypes*
Modhej A., Naderi A, Emam Y, Ayneband A, Normohamadi G
- 10.25 am – 11.10 am **Morning Tea**
- 11.10 am – 12.25 pm **Session 10: Coping with wheat in a changing environment – abiotic stresses (contd)**
- 11.10 am **O37** *Wheat production in a changing environment - low temperature adaptation*
Brian Fowler, University of Saskatchewan, Canada
- 11.55 am **O38** *Can ABA signaling be used to develop drought tolerant wheat?*
Schramm E, Abellera J, Strader L, Garland Campbell K, Steber CM
- 12.15 pm **O39** *Stay-green wheat for Australia's changing, dry environment*
Christopher JI., Manschadi AM, Hammer GL, Borrell AK
- 1.00 pm – 5.30 pm **CIMMYT Users Group Workshop**
Convenor: Richard Trethowan
- 7.45 pm – 10.30 pm **Wheat Genome Databases Workshops**
Convenors: Pablo Rabinowicz & Rudi Appels
- This workshop includes time for participants to use the web tools, provided their laptops can access the wireless facility provided. Advance notice is required for attendance at the workshop.
- 7.45 pm Introduction
Pablo Rabinowicz
- 8.00 pm JCVI/UMB annotation (ex-TIGR annotation): Annotation pipeline, project's website showcase, community annotation
Rama Maiti (JCVI)
- 8.40 pm The DAWS-PAWS wheat annotation pipeline
Katrien Devos
- 9.20 pm *INRA annotation and physical mapping of Chromosome 3B*
Catherine Feuillet
- 10.00 pm *Update on the Wheat gene catalogue*
Yukiko Yamazaki, Rudi Appels, Bob McIntosh
- 10.15 pm *Update on molecular genetic maps available in CMap format*
Rudi Appels



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

Thursday 28 August

- 9.00 am – 10.25 am** **Session 11: Coping with wheat in a changing environment – quality**
9.00 am **O40** *Proteomics evidence of quality stresses caused by changing environment*
Gerard Branlard, INRA, France
- 9.45 am **O41** *Characterization of low-molecular-weight glutenin subunit genes at Glu-B3 and Glu-D3 loci and development of functional markers in common wheat*
He XY, He ZH, Sun DJ, Zhang LP, Zhang YL, Xia XC
- 10.05 am **O42** *International collaboration for unifying Glu-3 nomenclature system in common wheats*
Ikeda TM, Branlard, G, Peña RJ, Takata K, Liu L, He Z, Lerner SE, Kolman MA, Yoshida H, Rogers WJ
- 10.25 am – 11.10 am** **Morning Tea**
- 11.10 am – 12.25 am** **Session 12: Coping with wheat in a changing environment – quality (contd)**
11.10 am **O43** *Quality attributes that are sensitive and tolerant to environmental stress*
Zhonghu He, PR China
- 11.55 am **O44** *Dormancy in white-grained wheat: Mechanisms and genetic control*
Rathjen JR, Mares DJ, Mrva K, Schultz C, Cheong J
- 12.15 pm **O45** *An integrated approach to predicting end-product quality of wheat*
Bekes F, Morell M
- 12.35 pm – 2.00 pm** **Lunch and Posters**
P219-P261 Coping with wheat in a changing environment – quality
P262-P276 Coping with wheat in a changing environment – varying development
P277-P298 Breeding for a changing world
P299-P302 Integration from molecules to function
- 2.00 pm – 3.25 pm** **Session 13: Coping with wheat in a changing environment – varying development**
2.00 pm **O46** *The application of new tools to study gene expression and genetic diversity in allopolyploid wheat*
Keith Edwards, University of Bristol, UK
- 2.45 pm **O47** *AMMI analysis for stability and location effect on grain yield and its components of durum wheat genotypes*
Haile JK, Sarial AK, Assefa S, Sareen S
- 3.05 pm **O48** *Wheat (*Triticum aestivum* L.) root proteome and identification of differentially expressed proteins between hybrid and parents*



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

Sun Q, Song X, Ni Z, Yao Y, Zhang Y

3.25 pm – 4.00 pm

Afternoon Tea

4.00 pm – 5.25 pm

Session 14: Coping with wheat in a changing environment – varying development (contd)

4.00 pm

O49 *Genes and gene networks regulating wheat development*
Jorge Dubcovsky, University of California, USA

4.45 pm

O50 *Integration of low-temperature and long-day flowering responses in cereals*
Trevaskis B, Hemming MH, Dennis ES, Peacock WJ

5.05 pm

End of session

Conference Dinner at the Gabba

Friday 29 August

9.00 am – 10.25 am

Session 15: Breeding for a changing world

9.00 am

O51 *Outstanding in their field: the phenotype of the 21st century plant breeder*
Stephen Baenziger, University of Nebraska, USA

9.45 am

O52 *Effectiveness of marker assisted selection for resistance to Fusarium head blight in a wheat backcross breeding program*
Cao W, Fedak G, Somers DJ, McCartney C, Xue A, Savard ME, Voldeng H

10.05 am

O53 *Breeding strategies to improve grain yield and quality of short-season spring wheat for the steppe of Kazakhstan and Siberia*
Morgounov AI, Abdullayev K, Abugaliev A, Baytassov A, Bekenova LV, Bekes F, Belan I, Cakmak I, Chudinov V, Ganeev V, Gomez HF, Koyshibayev MK, Rsaliev S, Sereda GA, Shpigun S, Tomoskozi S, Tsygankov V, Zelenskiy YI, Zykin VA

10.25 am – 11.10 am

Morning Tea

11.10 am – 12.25 pm

Session 16: Breeding for a changing world (contd)

11.10 am

O54 *The challenges of integrating new technologies into a wheat breeding programme*
Hadyn Kuchel, Australian Grain Technologies, Australia

11.55 am

O55 *Population plant breeding: making a big picture from all the little pieces*
Falk DE

12.15 pm

O56 *Breeding for biofuel production*
Botes WC, Tsupko Y, Dix R, De Groot S, Saul H

12.35 pm – 2.00 pm

Lunch and Posters



International Wheat Genetics Symposium

24–29 August 2008

Brisbane Convention Centre

Brisbane, Qld, Australia

2.00 pm – 3.45 pm

2.00 pm

Closing Session: Integration from molecules to function

O57 *Comparative genomics as a guide to the wheat genome*

Michael Bevan, John Innes Centre, UK

2.45 pm

O58 *Discovery of novel genes for bread making quality in wheat: a novel example of Public-Private research partnerships*

Snape JW, Simmonds J, Leverington M, Fish LJ, Wang YK, Higgins J, Christoudolou V, Griffiths S, Millar S

3.15 PM

O59 *Priorities for the future of wheat*

Bob McIntosh, University of Sydney, Australia

3.45 pm

Conference Ends