

An event by



# 4<sup>TH</sup> INTERNATIONAL WHEAT CONGRESS



Patrons



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA



Consiglio per la ricerca in agricoltura  
e l'analisi dell'economia agraria



Consiglio Nazionale  
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ASSOSEMENTI



## BOLOGNA - ITALY MAY 25-29, 2026

Bologna Congress Center,  
Piazza della Costituzione, 4

Conference Chair  
**Roberto Tuberosa**  
DISTAL, University of Bologna, Italy

International Organising  
Committee - Chair  
**Rajeev Varshney**  
Murdoch University, Australia



SCAN ME

# PROGRAM



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Conference & Expo



**BOLOGNA, ITALY - MAY 25-29, 2026**

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## Pre-conference Workshops

### Sunday, 24 May 2026

#### MORNING SESSION

09:00 - 12:30	<p><b>Workshop 1</b>  <b>Borlaug Global Rust Initiative</b>  <b>Chair:</b> Maricelis Acevedo (<i>Cornell University, USA</i>)</p>	<b>Room 1</b>
09:00 - 12:30	<p><b>Workshop 2</b>  <b>WheatIS annual meeting</b>  Organized by the Wheat Initiative <i>WheatIS</i> EWG  <b>Chair:</b> Michael Alaux (<i>URGI-INRAE, France</i>)</p>	<b>Room 2</b>
09:00 - 12:30	<p><b>Workshop 3</b>  <b>Durum for the future farmer and value chain</b>  Organized by the Wheat Initiative <i>Durum Wheat</i> EWG  <b>Chair:</b> Luigi Cattivelli (<i>CREA, Italy</i>)</p>	<b>Room 3</b>
09:00 - 12:30	<p><b>Workshop 4</b>  <b>Restoring agronomy's role in wheat production systems</b>  Session organized by the Wheat Initiative <i>Agronomy</i> EWG  <b>Chair:</b> Romulo Lollato (<i>Kansas State University, USA</i>)  Kenton Porker (<i>CSIRO, Australia</i>)</p>	<b>Room 4</b>
09:00 - 12:30	<p><b>Workshop 5</b>  <b>Spatial Wheat Omics</b>  <b>Chairs:</b> Zhonghua Chen (<i>University of Adelaide, Australia</i>)  Rajeev Varshney (<i>Murdoch University, Australia</i>)</p>	<b>Room 5</b>
09:00 - 12:30	<p><b>Workshop 6</b>  <b>Actual scenario and perspectives for wheat phenotyping</b>  Session organized by the Wheat Initiative <i>Phenotyping</i> EWG  <b>Chairs:</b> Nicola Pecchioni (<i>CREA, Italy</i>), Michela Janni (<i>CNR, Italy</i>)</p>	<b>Room 6</b>
09:00 - 12:30	<p><b>Workshop 7 - First part</b>  <b>What's new in wheat NUE? - Annual meeting (full day event)</b>  Session organized by the Wheat Initiative <i>Nitrogen Use Efficiency</i> EWG  <b>Chairs:</b> Jean Pierre Cohan (<i>ARVALIS, France</i>),  Jairo Palta (<i>University of Western Australia</i>), Ivan Monasterio (<i>CIMMYT, Mexico</i>)</p>	<b>Room 7</b>
09:00 - 12:30	<p><b>Workshop 8</b>  <b>Methods to understand combined abiotic stresses</b>  Session organized by the Wheat Initiative <i>AWAS</i> EWG  <b>Chair:</b> Laura Dixon (<i>IPK, Germany</i>)</p>	<b>Room 8</b>



## Pre-conference Workshops

### Sunday, 24 May 2026

09:00 - 12:30	<b>Workshop 9 – First part</b> <b>Wheat Pathogens Symposium (full day event)</b> Organized by the Wheat Initiative <i>Pathogens</i> EWG <b>Chair:</b> Kar Chur Tan ( <i>Curtin University, Australia</i> )	<b>Room 9</b>
12:30 - 13:30	<b>LUNCH BREAK</b>	
	<b>AFTERNOON SESSION</b>	
13:30 - 18:00	<b>Workshop 10</b> <b>Advancing BNI research breeding, and adoption</b> Organized by CIMMYT <b>Chair:</b> Dreisigacker Susanne ( <i>CIMMYT</i> )	<b>Room 1</b>
13:30 - 18:00	<b>Workshop 11</b> <b>Current trends and challenges in wheat breeding</b> Session organized by the Wheat Initiative <i>Breeding</i> EWGs <b>Chair:</b> Margaret Krause ( <i>Oregon State University, USA</i> )	<b>Room 2</b>
13:30 - 18:00	<b>Workshop 12</b> <b>Wheat Pest Workshop</b> Organized by the Wheat Initiative <i>Pests</i> EWG <b>Chair:</b> Louise McNamara ( <i>Oak Park Crops Research Centre, Ireland</i> )	<b>Room 3</b>
13:30 - 18:00	<b>Workshop 13</b> <b>Global wheat pangenomes</b> <b>Chairs:</b> Rajeev Varshney ( <i>Murdoch University, Australia</i> ) Marco Maccaferri ( <i>University of Bologna</i> )	<b>Room 4</b>
13:30 - 18:00	<b>Workshop 14</b> <b>Wheat germplasm conservation &amp; utilization: challenges and opportunities</b> Organized by the Wheat Initiative <i>Germplasm</i> EWG <b>Chair:</b> Shivali Sharma ( <i>Rani Lakshmi Bai Central Agricultural University, India</i> )	<b>Room 5</b>
13:30 – 15:30	<b>Workshop 15</b> <b>Hybrid Wheat: unlocking heterosis for the next generation of breeding</b> Organized by KWS <b>Chairs:</b> Gemma Molero ( <i>KWS, France</i> ), Jochen Reif ( <i>IPK, Germany</i> )	<b>Room 6</b>

## Pre-conference Workshops

### Sunday, 24 May 2026

- 15:30 – 18:00 **Workshop 16**  
**Accelerating Hybrid Wheat Innovation with Multi-Omics** **Room 6**  
Organized by WheatOmics  
**Chair:** Daolin Fu (*Shandong Agricultural University, China*)
- 13:30 – 18:00 **Workshop 7 – Second part**  
**What's new in wheat NUE? – Annual meeting (full day event)** **Room 7**  
Session organized by the Wheat Initiative *Nitrogen Use Efficiency* EWG  
**Chairs:** Jean Pierre Cohan (*ARVALIS, France*),  
Jairo Palta (*University of Western Australia*), Ivan Monasterio (*CIMMYT, Mexico*)
- 13:30 - 18:00 **Workshop 17**  
**Annual AHEAD workshop** **Room 8**  
**Chair:** Stefanie Hagemann (AHEAD)
- 13:30 - 18:00 **Workshop 9 – Second part**  
**Wheat Pathogens Symposium (full day event)** **Room 9**  
Organized by the Wheat Initiative *Pathogens* EWG  
**Chair:** Kar Chur Tan (*Curtin University, Australia*)
- 18:00 - 20:00 **IWC 4 – CONFERENCE REGISTRATION & WELCOME RECEPTION**





# THE WHEAT INITIATIVE

## COORDINATING GLOBAL WHEAT RESEARCH

The Wheat Initiative is a global programme, endorsed by the G20 Agricultural Ministers. It coordinates international research efforts to ensure the sustainable production of high-quality wheat and to strengthen global food security. Established in 2011, it brings together researchers, funders, policymakers and industry partners to address the complex challenges facing wheat production worldwide.

To respond global challenges in wheat research, the **Wheat Initiative**:

- Identifies strategic research priorities through its global **Strategic Research Agenda**, focusing on challenges that require international coordination
- Facilitates collaboration and builds capacity by connecting researchers and organisations worldwide, fostering multidisciplinary partnerships and strengthening research networks - **Expert Working Groups, Early Career Researchers Programme**
- Supports and coordinates collaborative programmes including targeted actions on key issues such as climate resilience or pests and pathogens in wheat - **AHEAD, WATCH-A**
- Enhances knowledge exchange and access to resources by enabling sharing of data, tools, technologies and infrastructure within the global wheat community - **WheatIS, WheatVIVO**

Come visit us at the 4<sup>th</sup> International Wheat Congress  
or online [www.wheatinitiative.org](http://www.wheatinitiative.org)

✂ @WheatInitiative    🦋 @wheatinitiative.bsky.social





## DAY 1 - Monday, 25 May 2026

### Europa Conference Room

08:00 – 09:00

Registration of participants

09:00 - 09:30

#### WELCOME ADDRESSES

- Francesco Lollobrigida (*Italian Ministry of Agriculture* )\*
- Anna Maria Bernini (*Italian Ministry of University & Research*)\*
- Maurizio Martina (*FAO Vice Director*)
- Silvia Lorenzini (*General Director of Agriculture, Hunting and Fishing of Emilia Romagna Region*)
- Paolo De Castro (*Nomisma President, Italy*)
- Giovanni Molari (*Magnifico Rettore University of Bologna, Italy*)\*
- Roberto Tuberosa (*Conference Chair, Distal, University of Bologna, Italy*)
- Luigi Cattivelli (*Conference Vice Chair, CREA, Italy*)
- Rajeev Varshney (*IOC Chair, Murdoch University, Australia*)
- Peter Langridge (*Scientific Committee Chair Wheat Initiative*)

*\*invited to be confirmed*

09:30 - 10:15

#### OPENING KEYNOTES LECTURES

**CHAIR:** Roberto Tuberosa (*Conference Chair, Distal, University of Bologna, Italy*)

09:30 - 09:50

Philip Pardey (*University of Minnesota, USA*)

**New realities of Agri-Food R&D Worldwide: Implications for varietal innovations in wheat**

09:55 - 10:15

Beat Keller (*University of Zurich, Switzerland*)

**Pathogen-informed strategies for wheat resistance breeding**

10:15 - 11:00

#### COFFEE BREAK

11:00 - 13:00

#### Session 1: ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. I: CROP MANAGEMENT, SOIL CONSERVATION AND HEALTH

**CHAIRS:** De Oliveira Silva Amanda (*Oklahoma St. University, USA*)

Pierluigi Meriggi (*Horta, Italy*)

11:00 - 11:15

Michele Pisante (*University of Teramo, Italy*)

**Translational digital agronomy for durum wheat sustainability**

11:15 - 11:30

Moussadek Rachid (*INRA, Morocco*)

**Toward 1M ha of conservation agriculture in Morocco: Soils and crop resilience**

11:30 - 11:45

Subbarao Guntur (*JIRCAS, Japan*)

**BNI-Wheats - A new category of nitrogen-efficient low-nitrifying wheat**

11:45 - 12:00

Amanda de Oliveira Silva (*Oklahoma State University, USA*)

**Assessing wheat nitrogen use efficiency (rec presentation)**

12:00 - 12:15

Discussion



## DAY 1 - Monday, 25 May 2026

### Europa Conference Room

#### 12:15 - 13:00 SELECTED SHORT TALKS

- 12:15 – 12:19 Stefania Astolfi (*University of Tuscia, Viterbo, Italy*)  
**Optimizing sulfur nutrition as a driver for iron homeostasis and grain safety in durum wheat**
- 12:19 – 12:23 Katharina Belt (*University of Western Australia*)  
**Proteome-informed breeding and management of nitrogen uptake and use efficiency across Australian broadacre wheat systems**
- 12:23 – 12:27 Minely Cerón-Bustamante (*University College Dublin, Ireland*)  
**The Wheat Microbiome: Spatial and Genetic Drivers of Bacterial and Fungal Communities in European Wheat Systems**
- 12:27 – 12:31 Estienne Marie (*ARVALIS, Paris, France*)  
**Improving the performance of durum and winter wheat in intermediate areas of France through a combination of appropriate levers: lessons from 10 years of system experimentation in the Syppre network**
- 12:31 – 12:35 Wasihun Getahun (*Ethiopian institute of Agricultural Research, Addis Ababa, Ethiopia*)  
**Prospects for Enhancing Durum Wheat Productivity in Ethiopia: From Field to Market**
- 12:35 – 12:39 Maria Hernandez-Soriano (*John Innes Centre, Norwich, United Kingdom*)  
**From Genes to the Rhizosphere: Harnessing Root-Microbiome Interactions to Improve Nitrogen Use Efficiency in Wheat**
- 12:39 – 12:43 Jack Jameson (*TEAGASC, Carlow, Ireland*)  
**Learning from Long-Term Data: How Rotation and Establishment Systems have Shaped Winter Wheat Performance in a Temperate Atlantic-influenced Region**
- 12:43 – 12:47 Ramadas Sendhil (*Pondicherry University, Puducherry, India*)  
**Identifying High-Yield and High-Profit Cropping Systems for Sustainable Wheat Production in India - Evidence from Nationally Representative Household Survey**
- 12:47 – 12:51 Paninder Pal Singh (*Michigan State University, United States*)  
**Exploring novel planting strategies for sustainable improvement in wheat yield and profits**
- 12:51 – 13:00 *Discussion*

## DAY 1 - Monday, 25 May 2026

*Europa Conference Room*

- 13:00 - 14:30 **LUNCH & POSTERS SET UP**
- 14:30 - 16:30 **Session 2: ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. II: PHENOMICS, ENVIROMICS, CROP MODELLING, DIGITAL AGRICULTURE**  
**CHAIRS:** Kerstin Neumann (*Leibniz Institute of Plant Genetics and Crop Plant Research, Germany*), Nicola Pecchioni (*CREA, Italy*)
- 14:30 - 14:45 Bruno Basso (*Michigan State Univ, USA*)  
**Digital twins for the sustainability of cropping systems (rec presentation)**
- 14:45 - 15:00 Andries Potgieter (*QAAFI, University of Queensland, Australia*)  
**The digital wheat revolution for more resilient wheat production**
- 15:00 - 15:15 Jean-Pierre Cohan (*ARVALIS, France*)  
**Predicting wheat yield and production: Considering climate change effects**
- 15:15 - 15:30 Senthold Asseng (*TUM, Germany*)  
**Crop model-guided traits for global adaptation to climate warming**
- 15:30 - 15:45 Pierre Martre (*INRAE, France*)  
**Global needs for nitrogen fertiliser to improve wheat yield under climate change**
- 15:45 - 16:00 **Discussion**
- 16:00 - 16:30 **SELECTED SHORT TALKS**
- 16:00 - 16:04 Shannon Baker (*Texas A&M AgriLife Research, Amarillo, United States*)  
**Strategically timed UAV remote sensing for robust wheat yield prediction: A multi-year study on phenology-aligned machine learning dynamics**
- 16:04 - 16:08 Mariano Cossani (*SARDI-South Australian Research and Development Institute, PIRSA, URRBRAE, Australia*)  
**Spectral fingerprinting of wheat at early growth stages enables accurate grain yield prediction**
- 16:08 - 16:12 Alexis Comar (*Hiphen, Avignon, France*)  
**Digitizing wheat variety testing: transitioning high-throughput phenotyping from research to regulatory infrastructure**
- 16:12 - 16:16 Francesca Degan (*ARVALIS, Paris, France*)  
**Multi-climatic plausibility testing of nitrogen-mitigation scenarios in wheat using crop models: a benchmarking workflow for digital agronomy**



## DAY 1 - Monday, 25 May 2026

### Europa Conference Room

- 16:16 - 16:20 Lukas Roth (*Martin-Luther-University, Halle (Saale), Germany*)  
**Characterizing yield through wheat's perception of chronological progression: a multi-omics plant-time warping approach**
- 16:20 - 16:24 Menachem Moshelion (*The Hebrew University of Jerusalem, Rehovot, Israel*)  
**Synchronized plant-environment time series enable machine learning prediction of daily wheat transpiration from high-precision gravimetric lysimetry**
- 16:24 - 16:28 Ehud Strobach (*Agricultural Research Organization, Rishon Lezion, Israel*)  
**Grain yield efficiency of dry land wheat in Israel: a high-resolution coupled crop-climate modeling approach**
- 16:30 - 17:00 **COFFEE BREAK**
- 17:00 - 19:00** **Session 3: CARBON FOOTPRINT OF WHEAT PRODUCTION TO REDUCE GREENHOUSE GAS EMISSIONS: SATELLITE MONITORING OF WHEAT FARMING**  
**CHAIRS:** Laura Ercoli (*Sant'Anna School for Advanced Studies, Italy*),  
Jean-Pierre Cohan (*ARVALIS, France*)
- 17:00 - 17:15 Tobias Schuhmacher (*Verband Deutscher Großbäckereien e.V., Germany*)  
**CO<sub>2</sub>-footprint of the wheat value chain from farmers to mills and bakers**
- 17:15 - 17:30 Netrananda Sahu (*University of Delhi, India*)  
**Carbon footprints and dynamics of wheat farming in India**
- 17:30 - 17:45 Kenton Porker (*CSIRO - Australia*)  
**System synergies to build sustainable wheat yield frontiers in Australia**
- 17:45 - 18:00 Tim George (*James Hutton, UK*)  
**Increasing sustainability of cereal crops using functional diversity**
- 18:00 - 18:15 Chen Tsu-Wei (*Humboldt University of Berlin, Germany*)  
**Plasticity of source-sink dynamics contributes to wheat yield stability**
- 18:15 - 18:45** **SELECTED SHORT TALKS**
- 18:15 - 18:19 Claudia Camplone (*University of Perugia, Italy*)  
**environmental impacts of precision agriculture adoption in central italy wheat production: A comparative LCA**
- 18:19 - 18:23 Catherine Famelton (*Rothamsted Research, Harpenden, United Kingdom*)  
**Sucrose signalling: A new approach for reducing nitrogen inputs in wheat production?**

**DAY 1 - Monday, 25 May 2026**  
*Europa Conference Room*

- 18:23 - 18:27      Lukas Förter (*Justus-Liebig-University, Giessen, Germany*)  
**Improved carbohydrate accumulation drives wheat breeding progress and yield formation**
- 18:27 - 18:31      Oorbessy Gaju (*University of Lincoln, United Kingdom*)  
**Phenotyping nitrogen use efficiency for a new benchmark nutrient management regime in UK farms**
- 18:31 - 18:35      Vanderlise Giongo (*EMBRAPA, Passo Fundo, Brazil*)  
**Carbon footprint of brazilian wheat production under contrasting farm sizes**
- 18:35 - 18:39      Sendhil Ramadas (*Pondicherry University, Puducherry, India*)  
**Carbon footprint in wheat production: A systematic review and multi-method meta-analysis**
- 18:39 - 18:44      Millicent Smith (*University Of Queensland, Brisbane, Australia*)  
**Breeding beyond the plot: Leveraging rotational genetics to improve wheat performance and farming system sustainability**



## DAY 2 - Tuesday, 26 May 2026

### Europa Conference Room

09:00 - 11:00

#### Session 4: EXPLORING WHEAT DIVERSITY, EVOLUTION AND GENETIC RESERVOIRS

**CHAIRS:** Anna Maria Mastrangelo (*CREA, Italy*),  
Zhiyong Liu (*Chinese Academy of Sciences, China*)

09:00 - 09:15

Weilong Guo (*China Agricultural University, China*)

**Digitalizing the wheat evolution trajectories and genetic diversity**

09:15 - 09:30

Tzion Fahima (*Haifa University, Israel*)

**Genome-wide discovery of kinase fusion proteins for plant defense**

09:30 - 09:45

Julie King (*Wheat Research Centre of Nottingham, UK*)

**Genetic diversity from wheat's wild relatives**

09:45 - 10:00

Satinder Kaur (*Punjab Agricultural University, India*)

**Beyond the cultivated gene pool: Mining hidden genetic riches of wild germplasm**

10:00 - 10:15

Elisabetta Mazzucotelli (*CREA, Italy*)

**Harnessing the genetic wealth of tetraploid wheat relatives**

10:15 - 10:30

**Discussion**

10:30 - 11:00

#### SELECTED SHORT TALKS

10:30 - 10:33

Matteo Bozzoli (*DISTAL, University of Bologna, Italy*)

**Genetic diversity characterization of *aegilops tauschii* wide sequenced collection to unlock useful alleles left-behind by domestication and breeding**

10:33 - 10:36

Surbhi Grewal (*University of Nottingham, United Kingdom*)

**Comprehensive atlas of wild relative introgressions reveals conserved introgression patterns and massive untapped diversity in wheat genebanks**

10:36 - 10:39

Matthew Hayden (*Agriculture Victoria, Melbourne, Australia*)

**Mapping global wheat diversity through an Australian lens**

10:39 - 10:42

Max Haupt (*IPK Gatersleben, Germany*)

**Genebank genomics provides a comprehensive genome diversity atlas of wheat**

10:42 - 10:45

Kingsley Ikenna Ikpa-Agodo (*Tottori University, Tottori, Japan*)

**Mitochondrial hybridity in in vitro fertilization-generated maizewheat and pearl milletwheat cybrids drive important stable phenotypic variations**



## DAY 2 - Tuesday, 26 May 2026

### Europa Conference Room

- 10:45 - 10:48 Yael Lev-Mirom (*University of Haifa, Israel*)  
**Ancient grains illuminate the mosaic origin of domesticated wheat**
- 10:48 - 10:51 Lorenzo Pancaldi (*DISTAL, University of Bologna, Italy*)  
**Comparative analysis of exome sequencing data reveals convergent selection of durum and bread wheat**
- 10:51 - 10:54 Salome Lengrand (*Earth and Life Institute, Louvain-la-Neuve, Belgium*)  
**Long-term evolution of root architecture response to soil nitrogen management in tetraploid wheat (*Triticum durum*)**
- 10:54 - 10:57 Zihao Wang (*China Agricultural University; Institute of Crop Sciences, Beijing, China*)  
**Digital characterization of chromosome centromeric haplotypes in polyploid wheat and their potential for breeding**
- 10:57 - 11:00 Meryem Zaim (*ICARDA, Rabat, Morocco*)  
**Unlocking genetic diversity for climate-resilient durum wheat improvement**
- 11:00 - 11:03 Amir Sharon (*Tel Aviv University*)  
**High-Resolution Genomics Enables Rapid Gene Discovery in *Aegilops longissima***
- 11:00 - 11:30 **COFFEE BREAK & POSTERS VISION**
- 11:30 - 12:30 Panel Discussion I - SOIL AND THE RHIZOSPHERE IN WHEAT PRODUCTION: THE NEW FRONTIER FOR A SUSTAINABILITY**  
**CHAIRS:** Laura Ercoli (*Sant'Anna School for Advanced Studies, Italy*),  
Lee Hickey (*University of Queensland, Australia*)  
**PANELISTS:** Francisca Castillo (*Neocrop Technologies, Chile*)  
Maria Hernandez-Soriano (*John Innes Centre, UK*)  
Eric Ober (*NIAB, UK*)  
Alessandra Salvioli (*University of Torino, Italy*)
- 12:30 - 14:00 **LUNCH**
- 14:00 - 16:00 Session 5: WHEAT GENOMES AND PANGENOMES**  
**CHAIRS:** Valentyna Klymiuk (*University of Saskatchewan, Canada*)  
Mao Long (*Shandong Agricultural University, China*)
- 14:00 - 14:15 Marco Maccaferri (*University of Bologna, Italy*)  
**Tetraploid wheat pangenome to better bridge with hexaploid wheat**
- 14:15 - 14:30 Luxiang Liu (*Institute of Crop Science of the Chinese Academy of Agricultural Sciences, China*)  
**Genome variation and breeding application of irradiation in wheat**



## DAY 2 - Tuesday, 26 May 2026

### Europa Conference Room

- 14:30 - 14:45 Rajeev Varshney (*Murdoch University, Australia*)  
**Wheat pangenome 100+ and rising: Building a global haplotype catalogue**
- 14:45 - 15:00 David Gilbert (*KAUST, Saudi Arabia*)  
**The Wheat Rchive**
- 15:00 - 15:15 Adul Kader Allabdullah (*John Innes Centre, UK*)  
**GWAS across wheat genomes: Insights from the watkins collection**
- 15:15 - 15:30 **Discussion**
- 15:30 - 16:00 SELECTED SHORT TALKS**
- 15:30 - 15:33 Emile Cavalet-Giorsa (*KAUST, Thuwal, Saudi Arabia*)  
**Tracing the origin of non-brittle rachis alleles in wheat**
- 15:33 - 15:36 Susanne Dreisigacker (*CIMMYT, Texcoco, Mexico*)  
**Unlocking long-range haplotype diversity in synthetic hexaploid wheat for breeding**
- 15:36 - 15:39 Cristian Forestan (*DISTAL, University of Bologna*)  
**From reference transcriptome to pangenome transcriptional diversity: regulatory networks controlling kernel development in durum wheat**
- 15:39 - 15:42 Kerrie Forrest (*Agriculture Victoria, Melbourne, Australia*)  
**An ecosystem of digital tools to solve the FAIR data problem in the pan-genome era**
- 15:42 - 15:45 Weilong Guo (*China Agricultural University, Beijing, China*)  
**Digitalized map of homologous clusters across poaceae species unveil the complex evolutionary trajectory of genes in triticeae**
- 15:45 - 15:48 Fei He He (*Chinese Academy of Sciences, Beijing, China*)  
**Genomic investigation of wheat genetic improvement: Introgression, disease resistance, and yield**
- 15:48 - 15:51 Pauline Lasserre-Zuber (*INRAE, Clermont-Ferrand, France*)  
**The IWGSC RefSeq 3.0 and a bread wheat pangenome providing access to worldwide diversity**
- 15:51 - 15:56 Kentaro K. Shimizu (*University of Zurich, Switzerland*)  
**10+ wheat genomes project highlights that purifying selection on deleterious variants is shaped by the interactions between subgenomes and gene expression**
- 16:00 - 17:00 **COFFEE BREAK & POSTER VISION**

**DAY 2 - Tuesday, 26 May 2026**  
*Europa Conference Room*

**17:00 - 19:00**

**Session 6: WHEAT FUNCTIONAL GENOMICS**

**CHAIR:** Eduard Akhunov (*Kansas State University, USA*)

17:00 - 17:15

Gurcharn Brar Singh (*University of Alberta, Canada*)

**Genomics of novel disease resistance genes in wheat**

17:15 - 17:30

Xia Lanqin (*Yazhou Bay National Laboratory, China*)

**Genome editing for sustainable wheat production and population health**

17:30 - 17:45

Yao Yingyin (*China Agricultural University, China*)

**Deciphering the genetic basis of end-use quality in wheat**

17:45 - 18:00

Pierre Sourdille (*INRAE, France*)

**Evaluation of the fate of wild-relative introgressions in wheat**

18:00 - 18:15

Huijun Guo (*CAAS, China*)

**Induced mutations and application in genetic analysis of wheat yield**

18:15 - 18:30

**Discussion**

**18:30 - 19:00**

**SELECTED SHORT TALKS**

18:30 - 18:33

Chiara D'Attilia (*University of Tuscia, Viterbo, Italy*)

**Revealing the role of IBH1 in brassinosteroid biosynthesis and signalling via CRISPR-Cas9 knockout in durum wheat**

18:33 - 18:36

Benjamin Jaegle (*Agroscope, Zurich, Switzerland*)

**K-mer-based GWAS in a wheat collection reveals novel and diverse sources of powdery mildew resistance**

18:36 - 18:39

Miaomiao Li (*Chinese Academy of Sciences, Beijing, China*)

**Cloning of diverse disease resistance genes from wild emmer wheat for breeding**

18:39 - 18:42

Yunchuan Liu (*John Innes Centre, Norwich, United Kingdom*)

**Rudimentary basal spikelet formation in wheat: The tug-of-war between vegetative and differentiation**

18:42 - 18:45

Long Mao (*Chinese Academy of Agricultural Sciences, Beijing, China*)

**A TaKNOX1-TaAPO1-Rht1 feedback regulation orchestrates grain number and yield in wheat**

**DAY 2 - Tuesday, 26 May 2026**  
*Europa Conference Room*

- 18:45 - 18:47      Tori Millstead (*QAAFI, University of Queensland, Australia*)  
**Spatial transcriptomics of developing wheat seed reveals concentric gene expression zones and subgenome biased expression of key genes**
- 18:47 - 18:50      Shun Sakuma (*Tottori University, Japan*)  
**Grain number increase 2 (gni2) improves floret fertility and enhances grain yield in wheat**
- 18:50 - 18:53      Becca Testa (*John Innes Centre, Norwich, United Kingdom*)  
**Green be gone: Transcription factor nac3 regulates wheat senescence**
- 18:53 - 19:00      **Discussion**



## DAY 3 - Wednesday, 27 May 2026

### Europa Conference Room

09:00 - 11:00

#### Session 7: INNOVATIVE WHEAT BREEDING

**CHAIRS:** Susanne Dreissigacker (*CIMMYT, Mexico*),  
Curtis Pozniak (*University of Saskatchewan, Canada*)

09:00 - 09:15

**Keynote Lecture:** Eduard Akhunov (*Kansas State University, USA*)  
**Historical genomics of host-pathogen interaction in wheat rust pathosystem**

09:15 - 09:30

Paula Silva (*INIA, Uruguay*)  
**Sustainable wheat production through trait discovery and pre-breeding**

09:30 - 09:45

Jochen Reif (*IPK-Gatersleben, Germany*)  
**Innovations paving (half)-way towards hybrid wheat breeding**

09:45 - 10:00

Jessie Alt (*Corteva Agriscience, USA*)  
**Advancing hybrid wheat through innovative breeding**

10:00 - 10:15

Shuhei Nasuda (*University of Kyoto*)  
**Exploration of Asian wheat genetic diversity through NAM population**

10:15 - 10:30

Tiwari Vijaj (*University of Maryland, College Park, USA*)  
**Translational research in wheat using einkorn genomics**

10:30 - 10:45

**Discussion**

10:45 - 11:15

#### SELECTED SHORT TALKS

10:45 - 10:49

Filippo Bassi (*ICARDA, Rabat, Morocco*)  
**Genomic breeding for dryland durum at ICARDA**

10:49 - 10:53

Francisca Castillo (*Neocrop Technologies, Valdivia, Chile*)  
**Integrative Platform for Accelerated Development of Wheat Varieties via Multiplex Genome Editing**

10:53 - 10:57

Hickey Lee (*QAAFI, University of Queensland, Australia*)  
**An AI-guided breeding toolkit for durable multi-disease resistance in wheat**

10:57 - 11:01

Takashi Okamoto (*Tokyo Metropolitan University, Japan*)  
**In vitro fertilization system with wheat, rice and maize gametes: Production of cytoplasmic hybrid between wheat and rice/maize across subfamily**

11:01 - 11:05

Anne-Kathrin Pfrieme (*Martin-Luther-University, Halle, Germany*)  
**From haplotype-based QTL mapping to founder-resolved pangenomics: dissecting multi-disease resistance architecture in a wheat MAGIC population**

## DAY 3 - Wednesday, 27 May 2026

### Europa Conference Room

- 11:05 - 11:09 Damiano Puglisi (*CREA, Italy*)  
**Integrating Genomics, Multi-Trait Multi-Environment Modeling, and Multimodal Deep Learning Frameworks for Predicting Yield Components in Mediterranean Durum Wheat**
- 11:09 - 11:13 Paolo Vitale (*CIMMYT, Mexico*)  
**Predictive Breeding Applications in Wheat Using Genomics and Phenomics through Artificial Intelligence and Computer-Vision**
- 11:13 - 11:15 Yuan Zong (*China Agricultural University, Beijing, China*)  
**Wheat genome editing: from prime editing to large DNA fragment editing**
- 11:15 - 11:45 **COFFEE BREAK & POSTERS VISION**
- 11:45 - 12:45 Panel Discussion II: LIMITING PESTICIDE USE FOR A SUSTAINABLE WHEAT WITH A LOWER ENVIRONMENTAL FOOTPRINT**  
**CHAIRS:** McNamara Louise (*Oak Park Crops Research Centre, Ireland*),  
Kar-Chun Tan (*Curtin University, Australia*)
- PANELISTS:** Toby Bruce (*Keele University, UK*),  
Roberto Busi (*University of Western Australia*),  
Nichola Hawkins (*NIAB, UK*),  
Daniel Leybourne (*Agri Food and Biosciences Institute, Belfast, UK*),  
Tom Pope (*Harper-Adams University, UK*),  
Francesco Vidotto (*University of Torino, Italy*).
- 12:45 - 14:00 **GROUP PHOTO AND LUNCH**
- 14:00 - 19:00 TECHNICAL TOURS**  
(Meeting point at 14:00 in the Conference Hall)

## DAY 3 - Wednesday, 27 May 2026

### Technical Tours

#### TOUR N. 1 - **BARILLA**

**Location:** PARMA

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#### TOUR N. 2 - **CO.NA.SE**

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#### TOUR N. 3 - **CREA - Council for Agricultural Research and Agricultural Economics Analysis**

**Location:** FIORENZUOLA (PC)

**Type of Institution:** RESEARCH ORGANIZATION

**Website:** [www.crea.gov.it](http://www.crea.gov.it)

#### TOUR N. 4 - **SIS – ITALIAN SEEDS SOCIETY**

**Location:** SAN LAZZARO (BO)

**Type of Company:** SEED & FIELD

**Website:** [www.sisonweb.com](http://www.sisonweb.com)

#### TOUR N. 5 - **UNIVERSITY OF BOLOGNA: DISTAL DEPT. & FIELDS**

**Location:** BOLOGNA - CADRIANO

**Type of Institution:** UNIVERSITY & RESEARCH CENTER

**Website:** [www.distal.unibo.it](http://www.distal.unibo.it)

#### TOUR N. 6 \*\* *Special Motorvalley* - **FERRARI MUSEUM**

**Location:** MARANELLO (MO)

**Type of Company:** CULTURAL VISIT – MOTORVALLEY

**Website:** [www.ferrari.com/en-EN/museums/the-ferrari-museum](http://www.ferrari.com/en-EN/museums/the-ferrari-museum)



## DAY 4 - Thursday, 28 May 2026

### Europa Conference Room

**09:00 - 11:00**      **Session 8: DEVELOPING CLIMATE-SMART WHEAT IN THE CONTEXT OF ABIOTIC STRESSES**

**CHAIRS:** Laura Dixon (*IPK-Gatersleben, Germany*), Kiran Gaikwad (*ICAR, India*)

09:00 - 09:15

Hafssa Kabbaj (*ICARDA, Morocco*)

**Genomic breeding for heat tolerance at ICARDA**

09:15 - 09:30

Richard Trethowan (*University of Sydney, Australia*)

**Buffering yield potential in an increasingly unstable environment**

09:30 - 09:45

Daniel Miralles (*University of Buenos Aires, Argentina*)

**A model based on allele combinations to predict phenology to prevent extreme weather events**

09:45 - 10:00

Laura Dixon (*IPK-Gatersleben, Germany*)

**The role of ambient temperatures in cereal adaptation**

10:00 - 10:15

Sundeeep Kumar (*ICAR, India*)

**Genomic insights into terminal heat tolerance from India's National Genebank collections**

10:15 - 10:30

**Discussion**

**10:30 - 11:00**

**SELECTED SHORT TALKS**

10:30 - 10:33

Emily Carr (*University of Bristol, United Kingdom*)

**An XTH gene modulates root exudate-substrate cohesion**

10:33 - 10:36

Giulia Castorina (*CREA, Italy*)

**Leveraging wild emmer wheat diversity to unlock adaptive traits to improve drought-resilience in durum wheat**

10:36 - 10:39

Miles Curl (*John Innes Centre, UK*)

**Exploring the role of NAM-2 in delaying drought-induced senescence in wheat**

10:39 - 10:42

Seidat Oluwadamilola Dauda (*Western Sydney University, Penrith, Australia*)

**Wheat's heat strategy: linking stomatal traits, sugar dynamics, and grain omics to heat tolerance**

10:42 - 10:45

Angela Juhasz (*Edith Cowan University, Joondalup, Australia*)

**From root to grain: multi-omics reveals how nitrogen, CO<sub>2</sub>, and microbes tune wheat drought resilience and grain quality**

## DAY 4 - Thursday, 28 May 2026

### Europa Conference Room

- 10:45 - 10:48 Zbynek Milec (*Global Change Research Institute, Brno, Czech Republic*)  
**Wheat responses to combined drought, heat, and elevated CO<sub>2</sub>: integrative morpho-physiological and transcriptomic insights under future climate scenarios**
- 10:48 - 10:51 Grace Achieng Ochieng (*University of Bonn, Germany*)  
**Identification and functional characterization of wue and drought resilience factors in wheat**
- 10:51 - 10:54 Jun Xiao (*Chinese Academy of Sciences, Beijing, China*)  
**Identification and functional characterization of wue and drought resilience factors in wheat**
- 10:54 - 11:00 **Discussion**
- 11:00 - 11:30 **COFFEE BREAK & POSTERS VISION**
- 11:30 - 12:30 Panel Discussion III: INTERNATIONAL COLLABORATION: CHALLENGES AND OPPORTUNITIES**  
**CHAIRS:** Jeff Rosichan (*International Wheat Yield Partnership, USA*), Peter Langridge (*University of Adelaide, Australia*)  
  
**PANELISTS:** Maricelis Acevedo (*Cornell University, USA*), Filippo Bassi (*ICARDA, Marocco*), Richard Flavell (*John Innes Centre, UK*), Petra Schulte (*Goethe University, Germany*)
- 12:30 - 14:00 **LUNCH**
- 14:00 - 16:00 Session 9: DISSECTING THE WHEAT-PATHOGEN AND PEST INTERACTION**  
**CHAIRS:** Fiona Doohan (*University College Dublin*), Evans Lagudah (*CSIRO, Australia*)
- 14:00 - 14:15 Valentyna Klymiuk (*University of Saskatchewan*)  
**Integrative genomic approaches to resolve wheats genetic diversity for FHB resistance**
- 14:15 - 14:30 Fiona Doohan (*University College, Dublin, Ireland*)  
**Dissecting wheat resistance to FHB and *Septoria tritici* blotch disease**
- 14:30 - 14:45 Steven Xu (*USDA, USA*)  
**Breaking barriers: *Ph1b*-facilitated introgression of novel disease resistance genes from *Aegilops caudata***



## DAY 4 - Thursday, 28 May 2026

### Europa Conference Room

- 14:45 - 15:00 Wuletaw Tadesse (*ICARDA, Ethiopia*)  
**Accelerated wheat breeding and deployment to ensure food security in Africa**
- 15:00 - 15:15 Sarrah Ben M'Barek (*Regional Field Crops Research Center Béja, Tunisia*)  
**Decoding wheat-fungal pathogen dynamics: Insights from durum wheat landraces**
- 15:15 - 15:30 **Discussion**
- 15:30 - 16:00 SELECTED SHORT TALKS**
- 15:30 - 15:33 Natalia Arango (*King Abdullah University Of Science And Technology, Thuwal, Saudi Arabia*)  
**Non-host resistance genes – new sources for durable rust resistance?**
- 15:33 - 15:36 Meriem Aoun (*Oklahoma State University, Stillwater, United States*)  
**Identification of disease resistance and sensitivity genes in U.S. hard winter wheat**
- 15:36 - 15:39 Lorenzo Calzini, (*DISTAL, University of Bologna, Italy*)  
**Identification of candidate genes for resistance to soil-borne cereal mosaic virus in durum wheat using crispr-cas9 genome editing systems**
- 15:39 - 15:42 Samuel Holden (*University of Alberta, Edmonton, Canada*)  
**Pan-genome facilitated discovery of dominant north American stripe rust lineage's origin in somatic hybridization**
- 15:42 - 15:45 Mogens Støvring Hovmøller (*Aarhus University, Agroecology, Slagelse, Denmark*)  
**Twenty years of global disease surveillance in wheat reveals increased vulnerability to yellow rust due to incursions of new aggressive races at regional and global scales**
- 15:45 - 15:48 Chunyi Liu (*DISTAL, University of Bologna, Italy*)  
**Loci relevant for yellow rust resistance in a mediterranean multi-environmental trial networks identified from the global durum genomic resource**
- 15:48 - 15:51 Marion Müller (*University of Munich, Germany*)  
**Dual recognition of structurally unrelated mildew effectors underlies the broad-spectrum resistance of Pm3e in wheat**

## DAY 4 - Thursday, 28 May 2026

### Europa Conference Room

- 15:51 - 15:54 Laura Paire (*INRAE, Clermont-Ferrand, France*)  
**Meta-QTL analyses for better characterisation of the genetic architecture of bread wheat resistance to *Septoria tritici* blotch**
- 15:54 - 15:57 Kar-Chun Tan (*Curtin University, Perth, Australia*)  
**Asymmetric priority effects between co-infecting wheat pathogens undermine single-pathogen resistance**
- 16:00 - 17:00 **COFFEE BREAK & POSTER VISION**
- 17:00 - 18:45 Panel Discussion IV: FROM STRAMPELLI TO INFORMED BREEDING IN A PUBLIC-PRIVATE PARTNERSHIP SCENARIO**  
**CHAIRS:** Gemma Molero (*KWS, France*),  
Roberto Tuberosa (*DISTAL, University of Bologna, Italy*)
- PANELISTS:** Marc Albertsen (*Ex Corteva, USA*),  
Hans Braun (*ex CIMMYT, Mexico*),  
José Crossa (*CIMMYT, Mexico*),  
Nigussie Dechasa (*EIAR, Ethiopia*),  
Xiangdong Fu (*CAAS, China*),  
Guillermo Gerard (*CIMMYT, Mexico*).
- Nazareno Strampelli Award 2026 prizes**
- 19:00 - 19:10 **Presentation of IWC5 (2028)**



## Overview

WheatOmics is an open access international, peer-reviewed journal that publishes excellent, novel research on the broadest aspects of wheat and other *Triticeae* species. WheatOmics encourages submissions that span Agronomy, Breeding, Biotechnology, Genetics, Genome editing, Microbiome, Physiology, Artificial intelligence, and many more fields with full or partial integration of 'omics'. WheatOmics is sponsored by Shandong Agricultural University and dedicated to the promotion of *Triticeae* research.

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**DAY 4 - Thursday, 28 May 2026**

20:00 - 23:00

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## DAY 5 - Friday, 29 May 2026

### Europa Conference Room

- 09:00 - 11:00**      **Session 10: WHEAT QUALITY, END-USE PROCESSING, NUTRITION AND HUMAN-HEALTH**  
**CHAIRS:** Itria Ibba (*CYMMIT, Mexico*), Tatsuya Ikeda (*National Institute for Agro-Environmental Sciences in Japan, Japan*)
- 09:00 - 09:15      Francisco Barro (*CSICS Cordoba, Spain*)  
**CRISPR/Cas strategies for high-quality, celiac disease-safe wheat**
- 09:15 - 09:30      Nigel Halford (*Rothamsted, UK*)  
**Agronomic and genetic approaches to reduce the risk of acrylamide formation in wheat products**
- 09:30 - 09:45      Jan De Vries (*De Vries Nutrition Solutions, The Netherlands*)  
**The role of wheat in a healthy and sustainable diet**
- 09:45 - 10:00      Maria Caboni (*University of Bologna, Italy*)  
**Whole grain and technological quality: opportunities and challenges**
- 10:00 - 10:15      Katherina Scherf (*University of Munich, Germany*)  
**Proteomic insights into baking quality and wheat-related disorders**
- 10:15 - 10:30      **Discussion**
- 10:30 - 11:00**      **SELECTED SHORT TALKS**
- 10:30 - 10:34      Cristina Rodríguez-Suárez (*Instituto de Agricultura Sostenible, CSIC, Córdoba, Spain*)  
**Mapping the landscape of carotenoid esterification in the global durum panel**
- 10:34 - 10:38      Upendra Kumar (*Mahatma Jyotiba Phule Rohilkhand University, Bareilly, India*)  
**Development of high dietary fiber wheat through introgression of  $\beta$ -glucan-rich alleles from *aegilops kotschy***
- 10:38 - 10:42      Barbara Laddomada (*CNR ISPA, DISBA, Bari, Italy*)  
**Clinical trials investigating the health-promoting effects of Svevo high-amylose products on patients affected by concomitant chron's disease and metabolic syndrome**
- 10:42 - 10:46      Rose McNelly (*John Innes Centre, Norwich, United Kingdom*)  
**Exploiting natural variation in starch granule size and composition in *aegilops tauschii* to improve wheat starch**

## DAY 5 - Friday, 29 May 2026

### Europa Conference Room

- 10:46 - 10:50 Antonio Pescatore (*University of Florence, Italy*)  
**Optimizing selenium and sulphur foliar fertilization to enhance nutritional and technological quality of bread wheat**
- 10:50 - 10:54 Naoto Sano (*INRAE, GDEC, Clermont-Ferrand, France*)  
**Pleiotropic genetic network underlying grain storage protein composition in bread wheat**
- 10:54 - 10:58 Claudia Sardella (*University of Turin, Italy*)  
**Rheological, technological, and nutritional implications of high-amylose wheat in breadmaking**
- 11:00 - 11:30 **COFFEE BREAK & POSTERS VISION**
- 11:30 - 12:30 Panel Discussion V: NOVEL NUTRITIONAL TRENDS TOWARD A HEALTHIER WHEAT-BASED DIET**  
**CHAIRS:** Marina Carcea (*CREA, Italy*),  
Jan De Vries (*De Vries Nutrition Solutions, The Netherlands*)  
  
**PANELISTS:** Lorraine Brennan (*University College, Dublin*),  
Silvia Folloni (*Open Fields, Italy*),  
Tatsuya Ikeda (*Naro University, Japan*),  
Riccardo Vecchi Lari (*Nomisma, Italy*).
- 12:30 - 14:00 **LUNCH**
- 14:00 - 16:00 Closing Session: ARE WE READY FOR DESIGNING THE FUTURE WHEAT CROP?**  
**CHAIRS:** Sylvie Coultier (*Agriculture and Agri-Food Canada, Canada*),  
Peter Langridge (*University of Adelaide, Australia*)
- 14:00 - 14:15 Mariangela Hungria (*EMBRAPA, Brasil*)  
**A MicroGreen revolution empowering soil health, mitigating the emission of GHG for food production (rec presentation)**
- 14:15 - 14:30 Brian Beres (*Agriculture and Agri-Food Canada, Canada*)  
**The nitrogen paradox: feeding wheat, cutting emissions, and building resilient cropping systems**
- 14:30 - 14:45 Flavio Breseghello (*CIMMYT, Mexico*)  
**Is hybrid wheat a good thing for the Global South?**

**DAY 5 - Friday, 29 May 2026**  
*Europa Conference Room*

- 14:45 - 15:00 Ksenia Krasileva (*University of California, Berkeley, California*)  
**The rise of resistance: from natural diversity to precise modification of plant immune receptors**
- 15:00 - 15:15 Evans Lagudah (*CSIRO, Australia*)  
**Embedding robust disease resistance into the architecture of tomorrow's wheat**
- 15:15 - 15:30 Wolfram Weckwerth (*University of Wien, Austria*)  
**The holobiont concept in wheat breeding - a paradigm shift into sustainable agroecosystems**
- 15:30 - 15:45 Michael Alaux (*INRAE, France*)  
**Use of AI in wheat databases: overview and prospects**
- 15:45 - 16:00 **Discussion**
- 16:00 - 16:20 **Presentation of IWC6 (2030)**
- 16:20 - 16:30 Congress closure:**  
Roberto Tuberosa (*DISTAL, University of Bologna, Italy*),  
Peter Langridge (*University of Adelaide, Australia*)

**For further information :** [www.iwc2026.com](http://www.iwc2026.com)

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