



July 3, Sunday

14:00 - 17:00 Registration and poster set up: University of Latvia, Academic Centre, the House of Nature (Riga, Jelgavas street 1)
17:30-20:30 Welcome reception: Radisson Blu Daugava Hotel Riga, (Riga, Kugu street 24)

July 4, Monday

7:30 - 8:30 Registration and Poster setup University of Latvia, Academic Centre, the House of Nature (Riga, Jelgavas street 1)

OPENING SESSION

8:30 - 9:00 Representatives of IBGS13 LOC, IBGS IOC, the Institute of Agricultural Resources and Economics, the Latvia Ministry of Agriculture, University of Latvia, Ministry of Education and Science

The barley genome: from reference genome to structure and function (Chair **Nils Stein**, Gatersleben, DE)

9:00 - 9:30 Keynote: Martin Mascher, IPK Gatersleben, Germany - *Pangenomics in barley and beyond*

9:30 - 9:50 Einar Baldvin Haraldsson - A new genomic resource for crop improvement: the complete reference genome of *Hordeum erectifolium* using long-read genomic and transcriptomic sequencing

9:50 - 10:10 Alessandro Tondelli - A gene duplication at the Bp1 locus is associated with the black grain phenotype in barley

10:10 - 10:30 Martin Kovacic - Developing an atlas of gene expression during barley grain development

10:30 - 11:00 Coffee break

Biotic stresses under Climate Change (Chair **Robert S. Brueggeman**, Washington State University, USA)

11:00 - 11:30 Keynote: Brian J. Steffenson, Department of Plant Pathology, University of Minnesota, USA - *Pan-genome enabled disease resistance gene discovery in wild barley*

11:30 - 11:50 Karl Effertz - Rpt5 encodes a receptor-like protein that provides the broadest and most effective net form net blotch (*Pyrenophora teres f. teres*) resistance in barley

11:50 - 12:10 Molly Bergum - Functional diversification of a barley receptor kinase involved in

immunity to wheat stripe rust

12:10 - 12:30 Ping Yang - Convergent mechanisms of host susceptibility factors assisting genetic improvement of the bymovirus resistance in barley and wheat

12:30 - 1:30 Lunch break

Abiotic stresses under Climate Change (Chair **Ernesto Igartua**, EEAD-CSIC, ES)

13:30 - 14:00 Keynote: Sergey Shabala, School of Agricultural Science, University of Tasmania, AU - *Cell-based phenotyping approach for improving abiotic stress tolerance in barley*

14:00 - 14:20 Eyal Fridman - Needles in the stressed hay: Can wild barley alleles contribute to yield abiotic tolerance?*

14:20 - 14:40 Agata Dszakowska-Golec - The transcriptome landscape of barley under drought stress reveals insights into the role of alternative splicing in adaptation to stress

14:40 - 15:00 Maltry Paul - Drought response and recovery in barley: a role for autophagy and its link to retrotransposon expression dynamics.

15:00 - 15:30 Coffee break

Barley breeding and New Breeding Techniques (NBTs): a way forward? (Chairs **Wendy Harwood**, John Innes Centre, UK; **Kevin Smith**, University of Minnesota, USA)

15:30 - 16:00 Keynote: Dr. Jochen Kümlehn, IPK Gatersleben, DE - *Site-directed genome modification in barley - methods and applications*

16:00 - 16:20 Julian Garcia-Maldonado - Genomic-assisted sparse multi-location testing to increase genetic gain in barley

16:20 - 16:40 Tom Lawrenson and Wendy Harwood - New tools for barley genome editing

16:40 - 17:00 Alan Schulman - Current status and future prospects for NBT regulation in Europe

17:00 - 18:00 Poster session I
Coffee&Snaks

18:00 - 19:30 EVENING WORKSHOP 1. Funding of a barley research: further strategic directions (moderator **Alan Schulman**) *Summary on the funding picture going forward beyond the Horizon 2020 and some strategic directions defined by European Plant Science Organisation (EPSO); Barley Community Initiative (moderator Robbie Waugh):*

Introduce and discuss the Barley Community Initiative (BCI: <https://wheat.pwusda.gov/GG3/content/initiative-re-galvanise-international-barley-research-community>) and discuss how our community could actively develop from where we are now. A number of us could certainly give overviews of whats been done so far, stimulate discussion and seek commitment from a 'broader church' than currently subscribe.

Dinner (on your own)

July 5, Tuesday

Barley breeding: success stories (Chair **Ahmed Jahoor**, Nordic Seed, DK)

8:30 - 9:00 Keynote: Birger Eriksen, Sejet Plant Breeding, DK - *Barley cultivar development in Europe - success in the past and possible changes in the future**

9:00 - 9:20 Alexander Strube - New developments in IP in plant breeding - a golden or a dark age for innovation?

9:20 - 9:40 Emmanuelle Dyrzka - Breeding for the producibility of female parental lines in hybrid barley

9:40 - 10:00 Pernille Merete Sarup - Putting millions of markers and thousands of yield plots to the test: Genomic prediction of 2-row spring barley

10:00 - 10:30 Coffee break

Genetics and breeding of biomass (Resources use efficiency/RUE) (Chair **Dr. Klaus Pillen**, Martin Luther University, Halle-Wittenberg, Halle, DE)

10:30 - 11:00 Keynote: Daniel Julio Miralles, University of Buenos Aires, AR - *What were the physiological attributes modified by the breeders*

11:00 - 11:20 Lana Shabala - Physiological and agronomical aspects of potassium use efficiency (KUE) in barley

11:20 - 11:40 Paolo Pesaresi - The barley mutant happy under the sun 1 (hus1): An additional contribution to pale green crops

11:40 - 12:00 Sonia Negrao - Diving into the genetic diversity of the European Heritage Barley collection (ExHIBIT)

12:00 - 13:00 Lunch break

Barley end uses: from food and feed to maling, brewing, and novel products (Chairs **Kim Hebelstrup**, Aarhus University, DK; **Christoph**

Dockter, Carlsberg Research Laboratory, DK)

13:00 - 13:30 Keynote: Henrik Brinch Pedersen, Aarhus University, DK - *New potentials of the barley grain*

13:30 - 13:50 Markus Herz - Assessment of winter barley for feeding quality traits to breed for improved protein utilization in pig nutrition

13:50 - 14:20 Keynote: Christoph Dockter, Carlsberg Research Laboratory, DK - *Acceleration with a purpose - ultrafast barley trait development for sustainable beer production*

14:20 - 14:40 Leona Leišová-Svobodová - Molecular markers for malting barley breeding for PGI Czech beer

14:40 - 15:10 Coffee break

SPONSOR PRESENTATION

15:10 - 15:40 Miguel Sanchez-Garcia - The Global Barley Breeding Program in the new OneCGIAR: New strategies to breed barley in and for the Developing World

Flash & Dash presentations (Chair **Outi Manninen**, Borealis Plant Breeding Ltd., FI)

15:40 - 17:00 Short oral presentation from students and postdocs

17:00 - 18:00 Poster session II
Coffee&Snaks

18:00 - 19:30 EVENING WORKSHOP 2. Barley genetic resources. Welcome (Chair: **Dr. Søren K. Rasmussen**, University of Copenhagen, DK)

Jan T. Svensson, Nordic Genetic Resource Center, Sweden: *Barley collection at NordGen Andrea Visionsi, Rabat, Morocco: Barley collection at ICARDA Nils Stein, Gatersleben, Germany: Barley Collection at IPK Ernesto Igartua Arregui, CSIC, Zaragoza, Spain: Mediterranean landraces, GENDBAR Fluturë Novakazi, SLU, Sweden: Origin of Icelandic barley germplasm Chengdao Li, Murdoch University, Australia: Barley germplasm in Australia*

July 6, Wednesday

Genetic and database resources: harnessing diversity (Chairs **Dr. Robbie Waugh**, James Hutton Institute, Dundee, Scotland, UK; **Dr. Mats Hansson**, Lund University, SW)

8:30 - 9:00 Keynote: Nils Stein, IPK Gatersleben, DE - *At the dark side of barley diversity - the gap between discovery and user-friendly access*

9:00 - 9:20 Asis Shrestha - The double round



robin population unravels the genetic architecture of grain size in barley

9:20 - 9:40 Outmane Bouhlal - CGIAR BARLEY BREEDING TOOLBOX: A diversity panel to facilitate breeding and genomic research in the Developing World

9:40 - 10:00 Ronja Wonneberger - Comprehensive expression atlas of six tissues coupled with high density SNP data provides a resource for studies and characterization of European two-rowed spring barleys and identified a major haplotype switch on chromosome 5H

10:00 - 10:30 Coffee break

Genetic and database resources: harnessing diversity (continued)

10.30 - 10.50 Agatha Walla - Quest for an elusive developmental gene in barley

10.50 - 11.10 Congcong Jiang - A reference-guided TILLING by amplicon-seq platform supports forward and reverse genetics in barley

Morphology, phenology, and development (Chair **Dr. Laura Rossini**, University of Milan, Milan, IT)

11.10 - 11.40 Keynote: Maria von Korff Schmising, Institute of Plant Genetics, Heinrich-Heine-University, Düsseldorf, DE - *Inflorescence development and floral abortion under stress in barley*

11:40 - 12:00 Ravi Koppolu - Spikelet determinacy as a factor for improving grain yield potential in Triticaceae crops

12:00 - 13:00 Lunch break

Morphology, phenology, and development (continued)

13.00 - 13.20 Luke Ramsay - An induced mutation in HvRecA4 increases overall recombination and restores fertility in a barley HvMlh3 mutant background

13.20 - 13.40 Ivan Acosta - The role of auxin in the starch production of barley pollen

13.40 - 14.00 Vanda B. Marosi - Systematic Comparison of Barley and Wheat Transcriptomes Reveals Evolutionary Insights of Flower Development

14.00 - 14.20 Silvio Salvi - Dissecting barley root development and tropism by cloning chemical-induced mutants

14:20 - 15:00 Coffee break

Baltic and Nordic barley: a regional perspective (Chair **Søren K. Rasmussen**, University of Copenhagen, DK)

15.00 - 15.30 Keynote: Therése Bengtsson, Swedish University of Agricultural Sciences, Alnarp, SE - *Together we are stronger- United forces to promote Nordic pre-breeding in spring barley*

15.30 - 15.50 Alge Leistrumalte - Barley in Lithuania: a century long breeding story

15.50 - 16.10 Mara Bleidere - Centenary retrospect and outlook of spring barley breeding and research in Latvia

16.10 - 16.30 Magnus Göransson - What is unique about Icelandic barley?

16.30 - 18.00 Poster session III
Coffee@Snaks

18.00 - 19.30 EVENING WORKSHOP 3. Honoring barley research coryphaei (moderator Mats Hansson); IBGS Business session: IBGS13 statistics@venue of the next symposium (moderators representative from LOC and IOC)

Dinner (on your own)

July 7, Thursday

8.00 - 8.15 Boarding busses. University of Latvia, Academic Centre, the House of Nature (Riga, Jelgavas street 1)

8.15 - 10.00 Travel to the field day: Riga - Priekule
IBGS13 Barley Field Day

10.00-10.30 Arrival to the field, refreshments

10.30- 12.30 Tour through the nurseries in groups

12.30-13.00 Free time to go back to the most interesting material

13.00 - 14.00 Lunch break

14.00 - 18.00 Excursion: guided town tour in Cēsis

18.00 - 22.00 Farewell party: the Castle of Cēsis

22.00 - 24.00 Returning to Riga

AREI organizers:

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Emergency 112



PROGRAM DAY BY DAY

KEYNOTE SPEAKERS