



PLANT BIOTECHNOLOGY: GREEN FOR GOOD V.

10 - 13 JUNE, 2019
OLOMOUC, CZECH REPUBLIC

The aim of the conference was to introduce participants to new trends in plant biotechnology, genetics, or plant biochemistry, and to the participants, exchange experiences and contacts. One of the goals was also to find ways to help address major global challenges, including providing enough food for an ever-growing population.

The topics included:

- Crop biotechnology
- Plant-microorganism interactions
- Plant genetics and genomics
- Molecular farming and genetic engineering
- Improvement of food and feed
- Sustainable environmental technologies
- Plant environmental interactions

EXTENDED PROGRAMME

Monday 10th of June 2019

12:00 – 20:00 *Registration*

13:00 – 15:30 Joint Meeting of the Scientific Board and International
Advisory Board of CRH

Opening session

16:00 – 16:30 Welcome speech by organizers

16:30 – 17:15 Opening lecture: From genome to pan-genome in barley
and wheat

Nils Stein (IPK Gatersleben, Germany)

17:15 – 18:00 Plenary lecture: Morphogenetic regulatory networks

Miltos Tsiantis (Max Planck Institute for Plant Breeding
Research, Cologne, Germany)

18:00 – 21:00 *Welcome party*

Tuesday 11th of June 2019

8:30 – 12:30 *Registration*

Crop biotechnology

Chair: I. Dodd

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| 09:00 – 09:40 | Keynote lecture: Drought adaptation and flowering time control in barley
Maria von Korff Schmising (Max Planck Institute for Plant Breeding Research, Cologne, Germany) |
| 09:40 – 10:00 | Domestication delayed circadian rhythms in tomato
José Jiménez-Gómez (INRA Versailles, France) |
| 10:00 – 10:20 | Using site-directed mutagenesis to manipulate beer quality and other cereal traits
Goetz Hensel (IPK Gatersleben, Germany) |
| 10:20 – 10:40 | Targeting gibberellin signalling for improved plant architecture and stress tolerance in wheat
Peter Hedden (Institute of Experimental Botany CAS/Palacký University Olomouc, Czech Republic) |
| 10:40 – 11:00 | <i>Coffee break</i> |

Tuesday 11th of June 2019

Plant-microorganism interactions I

Chair: S. Wendeborn

- 11:00 – 11:40 Keynote lecture: Arbuscular mycorrhiza development and function
Caroline Gutjahr (Technical University of Munich, Germany)
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- 11:40 – 12:00 Advanced light-sheet fluorescence microscopy of plant development and plant-microbe interactions in *Medicago sativa*
Miroslav Ovečka (CRH, Palacký University Olomouc, Czech Republic)
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- 12:00 – 12:20 Follow-up of the degradation of thiametoxam and its metabolite clothianidin in open field cultivated industrial tomatoes: influence of mycorrhizal inoculation
Kamirán Hamow (Centre for Agricultural Research, Hungarian Academy of Sciences, , Hungary)
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- 12:20 – 12:40 The efficacy of plant hormone containing product GreenCytokinin in field experiments
Simona Larsson (Razosanas Tehnologijas, Latvia)
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- 12:40 – 14:00 *Lunch*
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Tuesday 11th of June 2019

Plant genetics and genomics

Chair: G. Hensel

- 14:00 – 14:30 Keynote lecture: Genome stability in maize
Lieven de Veylder (VIB Ghent, Belgium)
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- 14:30 – 15:00 Understanding plant-plant interactions via plant and microbial genomics
Niklas Schandry (Gregor Mendel Institute, Vienna, Austria)
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- 15:00 – 15:20 SMC5/6 complex maintains normal ploidy levels of male gametes during generative development in Arabidopsis
Ales Pečinka (CRH, Institute of Experimental Botany CAS, Czech Republic)
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- 15:20 – 15:40 MicroRNA-regulated stress responses in banana
Jennifer Ann Harikrishna (University of Malaya, Malaysia)
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- 15:40 – 16:10 *Coffee Break*

Plant-microorganism interactions II

Chair: E. Balázs

- 16:10 – 16:30 Volatile compounds other than CO₂ emitted by different microorganisms promote distinct post-transcriptionally regulated responses in plants
Javier Pozueta-Romero Instituto de Agrobiotecnología (CSIC/Gobierno de Navarra), Spain , Spain)
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- 16:30 – 16:50 Selection and bioactivity of microalgae for agricultural purposes - concept and biological aspects of the SABANA project
Vince Ördög (Széchenyi István University, Hungary)

17:00 – 19:00 **Poster session**

Wednesday 12th of June 2019

Molecular farming and genetic engineering

Chair: I. Frébort

- 09:00 – 09:40 Understanding and utilizing endomembrane organelles for molecular farming
Eva Stöger (BOKU Vienna, Austria)
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- 09:40 – 10:00 GWAS: fast-forwarding gene identification and characterization in temperate cereals
Ahmad Alqudah (IPK Gatersleben, Germany)
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- 10:00 – 10:20 Study of cytokinin-mediated tolerance under water stress using a novel image method based on the canopy height of barley populations
C. F. Marchetti (CRH, Palacký University Olomouc, Czech Republic)
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- 10:20 – 10:40 Kinetics of nuclear ploidy changes in developing grains of barley
Anna Nowicka (CRH, Institute of Experimental Botany CAS, Czech Republic)
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- 10:40 – 11:00 *Coffee break*

Improvement of food and feed

Chair: A. Pečinka

- 11:00 – 11:40 Keynote lecture: Plant genome editing
Sungwa Choe (Seoul National University, South Korea)
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- 11:40 – 12:00 Metabolomics and MALDI MS Imaging (MSI) of metabolites in barley seeds during malting
Karsten Niehaus (Universität Bielefeld, Germany)
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- 12:00 – 12:20 Highly effective inhibitors of cytokinin oxidase/dehydrogenase
Jaroslav Nisler (CRH, Palacký University Olomouc, Czech Republic)
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- 12:20 – 12:40 Effects of elicitors on Ginsenoside production in hairy root culture of *Panax vietnamensis* Ha et Grushv.
Loan Ha Thi (Biotechnology Center of Ho Chi Minh City, Vietnam)
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- 12:40 – 14:00 *Lunch*
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Wednesday 12th of June 2019

Publication and grant workshop

Chair: M. Holecová

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| 14:00 – 14:20 | How to be sure your paper will be rejected
Jeff Cole (University of Birmingham, UK) |
| 14:20 – 14:40 | Publish or perish OR... Publish & perish (ethics in scientific publishing)
Lynn Sherrer (Elsevier, USA) |
| 14:40 – 15:00 | ERC grant selection process experience
Michal Otyepka (RCPTM, Palacký University Olomouc, Czech Republic) |
| 15:00 – 15:20 | Support to biotechnology and bioeconomy research in Horizon 2020 Programme
Nad'a Koničková (Technology Centre, Czech Academy of Sciences, Czech Republic) |
| 15:20 – 15:40 | <i>Coffee break</i> |
| 15:40 – 17:00 | Poster Session |
| 18:00 – 22:00 | Excursion to the research facilities of the host organisation - Centre of the Region Haná for Biotechnological and Agricultural Research and Networking event |

Thursday 13th of June 2019

Sustainable environmental technologies

Chair: M. Otyepka

- 09:00 – 09:40 Keynote lecture: Carbonaceous waste: sustainable applications in chemical transformations and environmental remediation
Rajender S. Varma (U.S. Environmental Protection Agency, USA)
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- 09:40 – 10:10 Iron-based (nano)materials: an advanced tool for water treatment
Jan Filip (RCPTM, Palacký University Olomouc, Czech Republic)
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- 10:10 – 10:20 Natural plant biostimulants for invigorating pollen growth
Johannes Van Staden (University of KwaZulu-Natal, South Africa)
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- 10:20 – 10:50 *Coffee break*

Plant environmental interactions

Chair: J. Šamaj

- 10:50 – 11:30 Keynote lecture: Using rhizobia to reduce N₂O emissions
Asa Frostegard (Norwegian University of Life Sciences, Ås, Norway)
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- 11:30 – 11:50 Size matters!?! Influence of giant cells on ER body formation in *Arabidopsis thaliana*
Alwine Wilkens (Jagiellonian University, Poland)
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- 11:50 – 12:10 NAI2 and TSA1 paralogous are responsible for differentiation constitutive and inducible ER body formation in *Brassicaceae*
Jakub Bizan (Malopolska Centre of Biotechnology, Poland)
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Thursday 13th of June 2019

Closing session

12:10 – 12:50	Closing plenary lecture: Microbial redox chemistry of nitrogen in soil by bacteria and archaea Kyle Lancaster (Cornell University, USA; supported by US Embassy in Prague)
12:50 – 13:10	Closing remarks, poster awards
13:10	Final adjournment