

1_B0_R0_N YEARS

International Conference on 100 Years of Results on Boron Research in Plants
22 - 23 September 2023, Hohenheim, Germany

PROGRAMME

HAPPY BORON

Thursday	21. September 2023
17:00	Registration open "get-together" Schloß (Brezeln & Snacks)
Friday	22. September 2023
8:00	Registration desk open; poster mounting
Opening Session (Chair: Ismail Cakmak, Sabanci)	
8:47-9:10	Welcome addresses: Prof. Ralf Vögele, Dean of Faculty of Agricultural Sciences; Patrick Bienert, Ismail Cakmak & Monika Wimmer
9:10-9:45	<i>Opening Plenary Talk:</i> Heiner Goldbach (University of Bonn, Germany) <i>"100 years of boron research from a personal view"</i>
9:45-10:20	<i>Plenary Talk:</i> Mike McLaughlin (University of Adelaide, Australia) <i>"Designing novel boron fertilisers to match plant nutrient demand"</i>
10:20-11:00	Coffee Break & Poster Viewing
Session 1: Boron Fertilization and Management (Chair: Ellis Hoffland, Wageningen)	
11:00-11:10	Fabiano Silvestrin (Rio Tinto, US) <i>Boron in soil and crop nutrition – boron fertilization and technical research results</i>
11:10-11:30	Adriana Nario (Santiago, Chile) <i>"Boron (¹⁰B) application to soil and flower in Cherry trees at the central valley of Chile"</i>
11:30-11:50	Lei Shi (Huazong Agricultural University, China) <i>"Effect of Etibor-48 and Colemanite on seed yield and seed quality of oilseed rape (Brassica napus) and their residual effectiveness for rotated rice"</i>

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11:50-12:10	Tarja Lehto (Natural Resources Institute Finland, Finland) <i>"Long-term effects of boron fertilization on growth, nutrition and wood quality of Norway spruce"</i>
12:10-12:30	Mirjam Breure (Wageningen University, Netherlands) <i>"Understanding boron speciation and availability to maize in tropical soils"</i>
12:30-12:50	Ismail Cakmak (Sabanci University, Türkiye) <i>"Changes in shoot and root growth of various plant species after root or leaf applications of boron"</i>
13:00-14:20	Light Lunch and stroll through the Botanical Garden, Poster Viewing
Session 2: Boron uptake and efficiency (Chair: Toru Fujiwara, Tokyo)	
14:20-14:55	<i>Plenary Talk:</i> Junpei Takano (Osaka Metropolitan University, Japan) <i>"Boron transport and sensing by a borate transporter AtBOR1"</i>
15:00-15:20	Akira Yoshinari (Nagoya University, Japan) <i>"Discovery of a novel small molecule that inhibits boron transport activity of BOR1"</i>
15:20-15:40	Alex Valentine (Yara, UK) <i>"Genomic Responses to Foliar Boron Application in Soybean Plants"</i>
15:40-16:40	Coffee Break & Poster Session 1
16:40-17:00	Zhaojun Liu (Technical University Munich, Germany) <i>"Boron Deficiency Induced 1 (BDI1) genes showed conserved functions under boron deficiency and may serve as new markers for boron deficiency in higher plants"</i>
17:00-17:20	Sheliang Wang (Huazhong Agricultural University, China) <i>"Increasing boron use efficiency in plants with loss-of-function in LBT gene"</i>
17:20-17:40	Rodrigo Boaretto (Instituto Agronomica, Brazil) <i>"Uptake and distribution of labelled boron applied to Citrus rootstocks with split-root system"</i>
17:40-18:00	Patrick Bienert (Technical University Munich, Germany) <i>"Boron efficiency in Arabidopsis thaliana and Brassica napus"</i>
19:00-22:00	Dinner (optional): Zehntscheuer Plieningen

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Saturday	23. September 2023
Session 3: Boron Functions and Deficiency (Chair: Patrick Brown, Davis)	
09:00-09:35	<i>Plenary Talk:</i> Michaela Matthes (University of Bonn, Germany) <i>"Cell wall and beyond: Early boron deficiency responses in maize meristems"</i>
09:40-10:00	Thomas Alcock (Technical University Munich, Germany) <i>"The inflorescence transcriptome response of rapeseed (Brassica napus L.) to boron deficiency resembles a wounding- and infection-type response"</i>
10:40-10:20	Xi Chen (University of Western Australia) <i>"Single-cell transcriptomic analysis of pea shoot development and cell-type-specific responses to boron deficiency"</i>
10:20-10:40	Liuyang Chu (University of Bonn, Germany) <i>"Boron deficiency leads to lateral root defects in maize"</i>
10:40-11:40	Coffee Break & Poster-Session 2
Session 3 cont.: Boron Functions and Deficiency (Chair: Tarja Lehto, Helsinki)	
11:40-12:00	Masaru Kobayashi (Kyoto University) <i>"Early responses to boron deprivation in the roots of Arabidopsis thaliana seedlings"</i>
12:00-12:20	Yu Min (Foshan University, China) <i>"Role of Boron for Plant Polar Growth Governed by Auxin Biosynthesis and Transport"</i>
12:20-12:40	Lin Tao (Foshan University, China) <i>"Boron Supply Alleviates Aluminum Toxicity-Inhibited Polar Auxin Transport and Pectin Dynamics in Root Transition Zone"</i>
12:40-13:00	Sergey Shabala (University of Western Australia) <i>"Boron and salinity stress tolerance in plants: revealing the mechanistic basis"</i>
13:00-14:20	Light lunch & time to mingle in the park of the castle, Poster Viewing

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Session 4: Boron Physiology and Toxicity (Chair: Sergey Shabala, Perth)	
14:20-14:55	<i>Plenary Talk:</i> Stephen Fry (University of Edinburgh, UK) <i>"Boron-acting 'enzymes' produce pectic dimers and tetramers"</i>
15:00-15:20	Muhammad Riaz (Zhongkai University, China) <i>"Enhancing boron tolerance by nano-calcium L-aspartate (NPs-Ca) in rice (Oryza sativa) seedlings"</i>
15:20-15:40	Jesus Rexach (Sevilla, Spain) <i>"Physiological characterization of two Peruvian maize landraces differing in tolerance to boron toxicity"</i>
15:40-16:00	Naoyuki Sotta (University of Tokyo, Japan) <i>"The effect of boron on plant defense against insect herbivores"</i>
16:00-16:25	Coffee break & Poster Viewing
Closing Session (Chair: Min Yu, Foshan)	
16:25-17:00	<i>Plenary Talk:</i> Toru Fujiwara (University of Tokyo, Japan) <i>"Sensing of and reaction to boron in plants"</i>
17:00-17:35	<i>Closing Plenary Talk:</i> Patrick Brown (University of California, Davis, US) <i>"The quintessential plant nutrient"</i>
17:35-17:45	Poster Awards
17:45-18:00	Closing remarks and Acknowledgements, End of Meeting
18:30-21:00	Get-together & Dinner (optional)