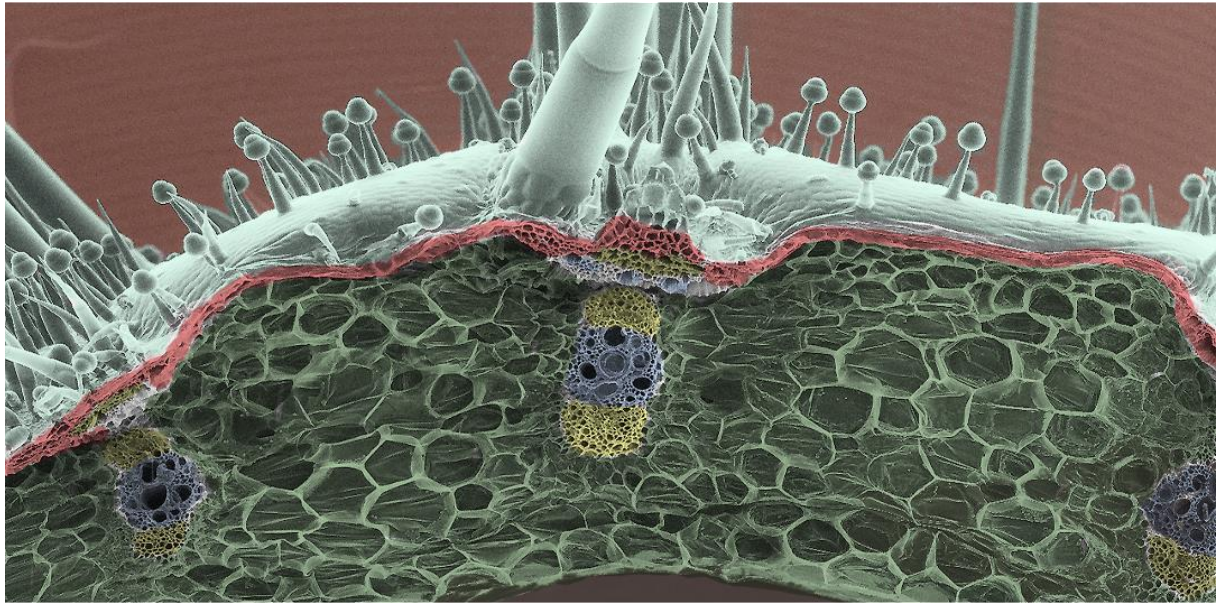


Final Program



**Sixth international conference on Plant Vascular Biology
2022**

July, 17th – 21st, 2022

Harnack House, Ihnestrasse 16-20, 14195 Berlin, Germany

Local Organizing Committee

Friedrich Kragler, MPI-MPP, Golm, Germany

Julia Kehr, Universität Hamburg, Germany

Rainer Hedrich, University Würzburg, Germany

Uwe Sonnewald, FAU, Erlangen, Germany

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Gertrud Lohaus, Germany

Yi-Fang Tsay, Academia Sinica, Taiwan

Koh Aoki, Japan

Xiangdong Fu, China

Plant Vascular BIOLOGY 2022

PROGRAM SCHEDULE

Sunday, July 17th

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|----------------|---|
| 16:00 | Registration (Planck-Lobby) |
| 17:00 – 19:00 | Welcome Reception (Planck-Lobby) |
| 19:00 – 21:00 | Evening Lecture by Aart van Bel |
| 21:00 .- 23:00 | Continuation of the reception (Einstein-Lounge) |

Monday, July 18th

Poster set-up (all posters will be on display throughout the conference)
Poster presentation will be in two rooms: **Posters 1-30**, Meitner Saal and posters **31-61, Goethe-Saal**. Posters which have not been registered can be presented in Goethe-Saal.

Session I: Vascular Transport - Sugars

Chairperson: Julia Kehr

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| 09:00-09:45 | Keynote Lecture Michael Knoblauch "How Sieve Elements work" |
| 09:45-10:10 | Lecture Ekkehard Neuhaus "Dynamic changes of intracellular sugar transport under stress" |
| 10:00-10:25 | Short Talk Emma Raven "Changes in plasmodesmal stress responses across development" |
| 10:25-10:40 | Short Talk Claus Frohberg "Increased Sucrose Phloem Loading enhances Yield in Oilseed Rape" |

10:40-11:00 Coffee Break

Session II: Vascular Transport – More than sugars

Chairperson: Friedrich Kragler

- 11:00-11:25 Lecture **Franziska Fichtner** “The vascular signaling metabolite trehalose 6-phosphate is a key signal in the regulation of development”
- 11:25-11:50 Lecture **Salome Prat** “Vascular-related gene expression during early potato tuber development”
- 11:50-12:05 Short Talk **David Jackson** “RRP44A mediates the cell-to-cell trafficking of KNOTTED1 and SHOOTMERISTEMLESS mRNAs through plasmodesmata”
- 12:05-12:20 Short Talk **Günter Gerhard Lehretz** “Assimilate highway to sink organs – Physiological consequences of SP6A overexpression in transgenic potato (*Solanum tuberosum* L.)”

13:00-14:00 Lunch

Session III: Vascular Transport – Harmonizing C and N-allocation

Chairperson: Eleftheria Saploura

- 14:00-14:25 Lecture **Mechthild Tegeder**, “Central function of assimilate transport processes in source and sink physiology”
- 14:25-14:50. Lecture **Yi-Fang Tsay** “Phloem and xylem transport of nitrate”
- 14:50-15:15 Lecture **Xiangdong Fu** “Coordinated regulation of carbon and nitrogen assimilation in Arabidopsis”
- 15:15-15:30 Short Talk **Hannah Thomas** “Understanding the role of cellular processes in grafted crops”
- 15:35-16:00 Coffee break

Session IV: Vascular Transport – When altitude matters

Chairperson: Koh Aoki

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| 16:00-16:25 | Lecture Andrew Groover “Regulation of vessel traits impacting drought resistance in trees” |
| 16:25-16:50 | Lecture Ari Pekka Mähönen “Cambial development: at the crossroads of signaling“ |
| 16:50-17:15 | Lecture Dietmar Geiger “S-type anion channel transport module balances between NO ₃ ⁻ and Cl ⁻ loading of xylem vessels for root-to-shoot translocation” |
| 17:15-17:30 | Short Talk Hagar Fox “Coupling of sugar sensing and transport in Populus trees under drought” |
| 17:30-18:00 | Spotlight Talks (three presentations, 5 minutes each) |
| 18:30-20:00 | Dinner |
| 20:00-21:30 | Poster Session |

Tuesday, July 19th

Session V: (When) microbes gain access

Chairperson: Uwe Sonnewald

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| 09:00-09:45 | Keynote Lecture Giles Oldroyd “Improving sustainable productivity through microbial associations” |
| 09:45-10:10 | Lecture Katharina Markmann “Systemic control of symbiotic competence through mobile miRNAs” |
| 10:00-10:25 | Lecture Alexandra CU Furch “Phytoplasmas create zombie plants with 50 shades of green“ |
| 10:25-10:40 | Short Talk Leonie Kraska “Establishment of the xylem pole endodermis and passage cells - a tale of developmental teamwork across time” |
| 10:40-11:00 | Coffee Break |

Session VI: Vascular differentiation is key

Chairperson: Elisabeth Truernit

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| 11:00-11:25 | Lecture Lothar Kalmbach “Phloem differentiation - from single cell transcriptomics to sieve element function” |
| 11:25-11:50 | Lecture Laura Ragni “Coordination, Regulation and Specificity of Lateral Meristems” |
| 11:50-12:05 | Short Talk Léa Jacquier “Symplastic connections in differentiated Arabidopsis roots” |
| 12:05-12:20 | Short Talk Ji-Yun Kim “Understanding the identity, function, and development of cells involved in phloem loading” |
| 13:00-14:00 | Lunch |

Session VII: Interspecific plant-plant connections

Chairperson: Kirsten ten Tusscher

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| 14:00-14:25 | Lecture Kirsten Krause “Nutrient selectivity of parasitic dodders and its implication for transport pathways” |
| 14:25-14:50 | Lecture Markus Albert “Host Resistance mechanisms in plant-plant interactions” |
| 14:50-15:15 | Lecture Koh Aoki “Trans-species symplastic communication in the complex of parasitic and host plants” |
| 15:15-15:30 | Short Talk Youngsuk Lee “Investigation of stem vasculature genes associated with cold tolerance and the potential mobile mRNAs in grafted apple |
| 15:30-15:45 | Short Talk Maleen Hartenstein “Apoplastic and symplastic nutrition strategies of <i>Cuscuta reflexa</i> ” |
| 15:45-16:00 | Coffee break |

Session VIII: Breaking new grounds

Chairperson: Michael Knoblauch

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| 16:00-16:45 | Keynote lecture Howard A. Stone “Understanding Phloem Micro Fluidics ” |
| 16:45-17:10 | Lecture Karen J. Kloth “Unraveling aphid-phloem interactions” |
| 17:10-17:25 | Short Talk Juan Losada “ Geometrical variation of the xylem and the phloem associates with hydraulic function under water scarcity in polyploid trees” |
| 17:25-17:40 | Short Talk Ralf Metzner “Harnessing the power of 11C-labelling and Positron Emission Tomography (PET) for investigating Phloem velocities above and belowground” |
| 17:40-18:00 | Spotlight Talks (three presentations, 5 minutes each) |
| 18:10 | Group Foto |
| 18:30-20:00 | Dinner |
| 20:00-21:30 | Poster Session |

Wednesday, July 20th

Session IX: Bill´s playlist

Chairperson: Andrew Groover

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| 09:00-09:45 | Keynote Lecture Ron Mittler “Key mediators of rapid systemic signals” |
| 09:45-10:10 | Lecture Sandrine Ruffel “Regulatory Network behind Systemic Nitrogen Signaling” |
| 10:00-10:25 | Lecture Byung-Kook Ham “Role of vascular system in nutrient-stress signaling” |
| 10:25-10:40 | Short Talk Stephane Blanc „A multicellular way of life for a multipartite virus“ |
| 10:40-11:00 | Coffee Break |

Session X: Calcium-Electric Signaling 1

Chairperson: Richard Morris

- 11:00-11:25 Lecture **Ingo Dreyer** “Mechanistic insights into electrical signaling in plants“
- 11:25-11:50 Lecture **Myriam Charpentier** “Calcium signaling in legume root endosymbioses”
- 11:50-12:05 Short Talk **Annalisa Bellandi** „Transmission of calcium waves in plants is mediated by apoplastic diffusion and bulk flow of amino acids”
- 12:05-12:20 Short Talk **Steffen Ostendorp** “RNA binding and assembly of a newly characterized phloem RNA binding protein”
- 12:30-14:00 Lunch
- 14:00 -15:00 **PVB board meeting**

Free Afternoon, Sight Seeing

No Dinner

Thursday, July 21st

Session XI: Calcium-Electric Signaling 2

Chairperson: Rainer Hedrich

- 09:00-09:45 Keynote Lecture **Ted Farmer** “Phloem-xylem interaction in wound-response electrical signalling”
- 09:45-10:10 Lecture **Masatsugu Toyota** “Calcium-based rapid defense movements in Mimosa pudica”
- 10:10-10:35 Lecture **Ines Kreuzer** “Calcium decoding of long distance signaling”
- 10:35-11:00 Coffee Break

Session XII: Leaf shape meets vascular function

Chairperson: Yrjo Helariutta

- 11:00-11:45 Keynote Lecture **Miltos Tsiantis** “Leaf Shape Diversity: From Genetic Modules to Computational Models”
- 11:45-12:10 Lecture **Elisabeth Truernit** „Forward and reverse: What can we learn about the phloem from the OCTOPUS gene family?”
- 12:10-12:35 Lecture **Scott McAdam** “How stomatal evolution has shaped the evolution of xylem“
- 12:35-12:50 Short Talk **Christopher Vincent** Leaf carbon fixation, export, and transport in citrus trees exhibit highly buffered responses to source-sink dynamics
- 13:00-14:00 Lunch

Session XIII: Aspects of Phloem Development

Chairperson: Salome Prat

- 14:00-14:25 Lecture **Sylvie Dinant** “The interplay of apoplastic and symplastic transport in sugar loading and phloem transport”
- 14:25-14:50 Lecture **Ricardo Rodriguez Trevino** “Sucrose effect on root phloem development”
- 14:50-15:05 Short Talk **Viktoriya V. Vasina** “Sieve tube proteomics reveal differentiation of their endomembrane system”
- 15:05-15:20 Short Talk **Shamik Mazumdar** “EVG1 regulates vascular development and regeneration in response to stress”
- 15:20-15:35 Short Talk **Yann Salmon** “Phloem response to drought stress in saplings of four boreal tree species”
- 15:35-16:00 Coffee break

Session XIV: In silico plant

Chairperson: Aart J.E.van Bel

- 16:00-16:25 Lecture **Richard Morris** “How plants broadcast their pain”

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| 16:25-16:50 | Lecture Kirsten ten Tusscher “Fragmented fates: Resolving the protophloem gap phenotype enigma” |
| 16:50-17:05 | Short Talk Tomas Bohr “Sugar flow in conifer needles: Stagnation, sieve tube grouping and anisotropy of transfusion tissue” |
| 17:05-17:20 | Short Talk Alexander Schulz “Breaking the limits of live vascular imaging by micro x-ray computed tomography” |
| 17:20-18:00 | Closing Remarks |
| 18:30-20:00 | BBQ |
| 20:00-21:30 | Poster Session |

Friday, July 22nd

Farewell and Departure