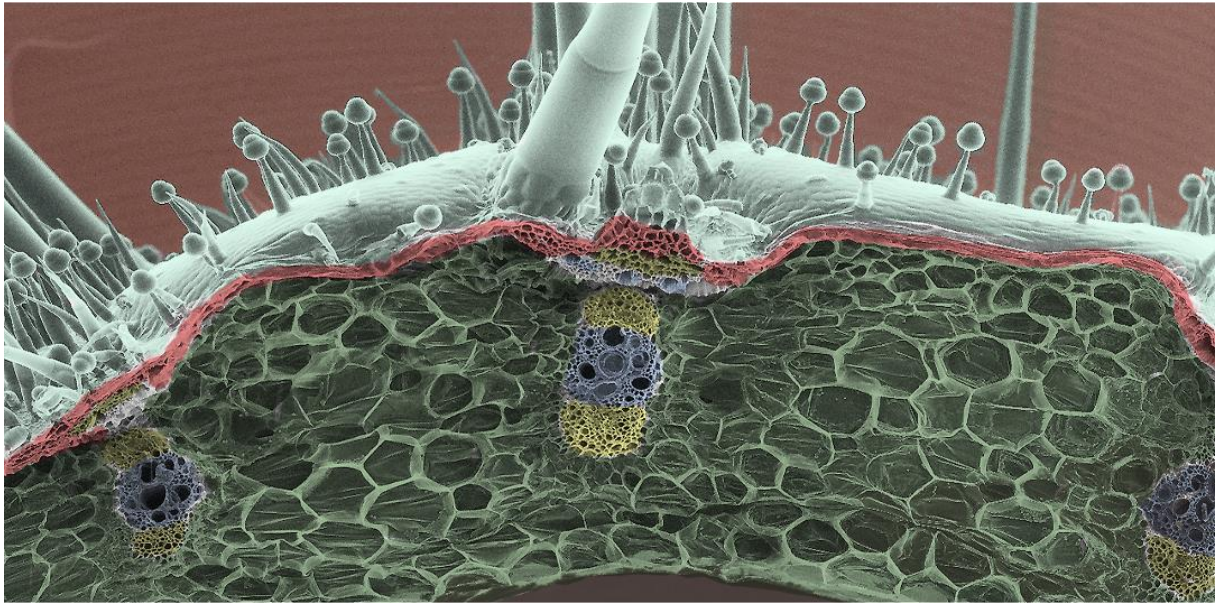


## **Provisional Program**



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

**July, 17<sup>th</sup> – 21<sup>st</sup>, 2022**

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

### **Local Organizing Committee**

Friedrich Kragler, MPI-MPP, Golm, Germany

Julia Kehr, University Hamburg, Germany

Rainer Hedrich, University Würzburg, Germany

Uwe Sonnewald, FAU, Erlangen, Germany

### **International Advisory Board**

Yong-Ling Ruan, Newcastle, Australia

Yrjo Helariutta, Cambridge, UK

Christine Beveridge, Australia

Michael Knoblauch, WSU, USA

Salome Prat, Barcelona, Spain

Sylvie Dinant, INRA Centre de Versailles-Grignon, France

Mechthild Tegeder, WSU, USA

Kaare Jensen, Copenhagen, Denmark

David Braun, USA

Tim Brodribb, Australia

Missy Holbrook, USA

Gertrud Lohaus, Germany

Yi-Fang Tsay, Academia Sinica, Taiwan

Koh Aoki, Japan

Xiangdong Fu, China

**Plant Vascular BIOLOGY 2022**  
**PROGRAM SCHEDULE**

**Sunday, July 17<sup>th</sup>**

Participant's arrival, registration, Poster set-up (all posters will be on display throughout the conference)

Welcome Reception & Evening Lecture by **William J. Lucas**

**Monday, July 18<sup>th</sup>**

**Session I: Vascular Transport - Sugars**

Chairperson: Julia Kehr

- 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 Saplaoura

- 14:00-14:25 Lecture **Mechthild Tegeder**, “Altering assimilate partitioning to improve seed yield and quality”
- 14:25-14:50. Lecture **Yi-Fang Tsay** “Phloem and xylem transport of nitrate”
- 14:50-15:15 Lecture **Xiangdong Fu** “The coordinated regulation of plant architecture and nitrogen metabolism for sustainable agriculture”
- 15:15-15:30 Short Talk **Margaret Frank** “Finding a Sol mate: molecular basis for graft-compatible combinations in the Solanaceae”
- 15:35-16:00 Coffee break

### **Session IV: Vascular Transport – When altitude matters**

Chairperson: Friedrich Kragler

- 16:00-16:25 Lecture **Andrew Groover** “Regulation of vessel traits impacting drought resistance in trees”
- 16:25-16:50 Lecture **Ari Pekka** “Cambial development: at the crossroads of signaling“
- 16:50-17:15 Lecture **Tim Brodribb** “Vascular catastrophes, do they kill leaves”
- 17:15-17:40 Short Talk **Hagar Fox** “Coupling of sugar sensing and transport in *Populus* trees under drought”
- 17:40-18:00 Spotlight Talks (three presentations, 5 minutes each)

18:30-20:00 Dinner

20:00-21:30 Poster Session

**Tuesday, July 19<sup>th</sup>**

**Session V: (When) microbes gain access**

Chairperson: Uwe Sonnewald

- 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** "Phytoplasma-plant interaction"
- 10:25-10:40 Short Talk **Leonie Kraska** "The endodermal passage cell -Just another brick in the wall?"

10:40-11:00 Coffee Break

**Session VI: Vascular differentiation is key**

Chairperson: Elisabeth Truernit

- 11:00-11:25 Lecture **Yrjo Helariutta** "Towards morphogenesis and functionality of phloem"
- 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: Uwe Sonnewald

- 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 *Cuscuta reflexa*”
- 15:45-16:00 Coffee break

## Session VIII VIII: Breaking new grounds

Chairperson: Michael Knoblauch

- 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 <sup>11</sup>C-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 20<sup>th</sup>**  
**Session IX: Bill´s playlist**  
Chairperson: **Bill Lucas**

- 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”

13:00-14:00 Lunch

14:00 -15:00 **PVB board meeting**

## Free Afternoon, Sight Seeing

No Dinner

**Thursday, July 21<sup>st</sup>**

### **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 Fuchs** "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 N.N.
- 14:50-15:05 Short Talk **Viktoriya V. Vasina** “Sieve tube proteomics reveal differentiation of their endomembrane system”
- 15:05-15:20 Short Talk N.N.
- 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”
- 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 **Aoife Hughes** “Cell-to-cell transport as a series of Narrow Escape Problems”
- 17:20-18:00 Closing Remarks & Evening Lecture by **Aart J.E. van Bel**
- 18:30-20:00 BBQ
- 20:00-21:30 Poster Session

**Friday, July 22<sup>nd</sup>**

## Farewell and Departure