## Monday, September 19

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| 10:00 - 12:00 | **Registration** | | |
| 12:00 - 12:30 | **Welcome and opening ceremony** | | |
| **Session 1: Evolutionary history** (Chair: Delzon, Sylvain) | | | |
| 12:30 - 13:00 | 1.0 | Pittermann, Jarmila | **Keynote:** Xylem attributes shaped the evolution of Eupolypod ferns |
| 13:00 - 13:15 | 1.1 | Morris, Hugh | Co-evolution of axial parenchyma and vessels in relation to water transport in woody angiosperms reveals coordinated functional adaptation to climate across biomes |
| 13:15 - 13:30 | 1.2 | Corso, Deborah | Evolution of xylem vulnerability to cavitation in cereal crops: the downside of domestication and selection in wheat (*Triticum* sp.) |
| 13:30 - 13:45 | 1.3 | Lens, Frederic | Drought triggered woodiness on islands worldwide |
| 13:45 - 14:00 | 1.4 | Bouda, Martin | Drought resistance as a primary driver of stelar evolution in early vascular plants |
| 14:00 - 14:15 | 1.5 | Guzmán-Delgado, Paula | Rehydration dynamics via aerial surfaces – a mechanistic and evolutionary approach |
| 14:15 - 15:15 | Coffee break and poster session (posters of Session 7 & 8) | | |
| **Session 2: Variability in plant hydraulic traits** (Chair: Werner, Christiane) | | | |
| 15:15 - 15:45 | 2.0 | Ramirez-Valiente, José | **Keynote:** Phenotypic plasticity of hydraulic traits in a global change context |
| 15:45 - 16:00 | 2.1 | Hammond, William | The global vulnerability of plant xylem |
| 16:00 - 16:15 | 2.2 | Gauthey, Alice | Long-term acclimation to soil moisture regulates thresholds of photosynthesis and thermoregulation capacity of *Pinus sylvestris* |
| 16:15 - 16:30 | 2.3 | Smith-Martin, Chis | Inter- and intra-specific variation among tree populations in their vulnerability to drought across a rainfall gradient in Puerto Rico |
| 16:30 - 17:00 | Coffee break | | |
| 17:00 - 17:15 | 2.4 | Andriantelomanana, Tsiky | Understanding the effects of acclimation to water deficit on the internal water storage dynamics of *Populus tremula x alba* during extreme drought |
| 17:15 - 17:30 | 2.5 | Feng, Feng | To everything there is a season, including xylem vulnerability |
| 17:30 - 17:45 | 2.6 | Hesse, Benjamin | Degree of isohydry in mature European beech and Norway spruce and strategy adjustments under repeated summer drought |
| 17:45 - 18:00 | 2.7 | Haberstroh, Simon | Hydraulic strategies of two woody Mediterranean species are dynamic |
| 19:00 - 22:00 | **Icebreaker** (Staatlicher Hofkeller Würzburg) | | |

**Tuesday, September 20**

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| **Session 3: Plant hydraulic models** (Chair: Martin-StPaul, Nicolas) | | | |
| 09:00 - 09:30 | 3.0 | Cochard, Hervé | **Keynote:** Trait-based modeling of plant hydraulics |
| 09:30 - 09:45 | 3.1 | Ruffault, Julien | Assessing the vulnerability of forest ecosystems to drought and fire with the plant-hydraulics model SurEau-Ecos |
| 09:45 - 10:00 | 3.2 | Ziegler, Camille | Interspecific variability in physiological thresholds during dehydration reveals contrasting drought-response strategies and vulnerability to hydraulic failure in rainforest tree saplings |
| 10:00 - 10:15 | 3.3 | Waite, Pierre-André | Time to die: multilevel coordinated response and desiccation time during drought of 12 temperate tree species |
| 10:15 - 10:30 | 3.4 | Bozonnet, Cyril | Modelling the cycles of winter stem pressure in walnut tree |
| 10:30 - 10:45 | 3.5 | Hildebrandt, Anke | Evaluating the plant and soil limitation to root water uptake using thermodynamics |
| 10:45 - 11:15 | Coffee break | | |
| **Session 4: Peripheral hydraulics** (Chair: Ahmed, Mutez) | | | |
| 11:15 - 11:45 | 4.0 | Hedrich, Rainer | **Keynote:** New insight in to guard cell networks controlling stomatal action |
| 11:45 - 12:00 | 4.1 | Brodribb, Timothy | Does xylem cavitation lead to foliar catastrophe? |
| 12:00 - 12:15 | 4.2 | Creek, Danielle | Leaky leaves: the importance of gmin in determining time to death in wheat under drought |
| 12:15 - 12:30 | 4.3 | Trueba, Santiago | Leaf dehydration dynamics after stomatal closure, from non-vascular plants to angiosperms |
| 12:30 - 14:00 | Lunch break | | |
| 14:00 - 14:15 | 4.4 | McAdam, Scott | The importance of stomatal closure in preventing embolism |
| 14:15 - 14:30 | 4.5 | Tonet, Vanessa | The point of non-recovery of leaf photosynthetic activity and gas exchanges is determined by the spread of cavitation in leaf minor veins |
| 14:30 - 14:45 | 4.6 | Lintunen, Anna | Tree water loss through bark in dry conditions |
| 14:45 - 15:00 | 4.7 | Mas, Eugenie | Soil drought has a more decisive impact than temperature on leaf hydraulic traits during hot droughts in temperate trees |
| 15:00 - 15:15 | 4.8 | Rodriguez-Dominguez, Celia | Root shrinkage and recovery during edaphic drought: insights from high-resolution synchrotron X-ray CT images |
| 15:15 - 15:30 | 4.9 | Bortolami, Giovanni | The potential role of root pressure on resistance to drought in tomato |
| 15:30 - 16:30 | Coffee break and poster session (posters of Session 3, 4 & 6) | | |
| **Session 5: Concepts and methods** (Chair: Mayr, Stefan) | | | |
| 16:30 - 17:00 | 5.0 | Jansen, Steven | **Keynote:** The functional significance of porous media and polar lipids for fluid transport in angiosperm xylem |
| 17:00 - 17:15 | 5.1 | Domec, Jean-Cristophe | Catastrophic Hydraulic Failure and Tipping Points in Plants |
| 17:15 - 17:30 | 5.2 | Pereira, Luciano | Dissolved gas in xylem sap is affected by water potential and temperature, but does not follow Henry's law for bulk solutions |
| 17:30 - 17:45 | 5.3 | Peters, Richard | Define the water-use strategy: A case-study on hydraulic mechanisms regulating water use of European tree species during drought |
| 17:45 - 18:00 | 5.4 | Krieger, Louis | Xylem hydraulic conductivity measurements during flow-controlled experiments suggest the presence of gas bubbles that move with the flow and accumulate at vessel ends |

**Wednesday, September 21**

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| **Session 6: Drought- and heat-induced tree mortality** (Chair: Rühr, Nadine) | | | |
| 09:00 - 09:30 | 6.0 | Grossiord, Charlotte | **Keynote:** Disentangling the impacts of atmospheric and soil droughts on forests |
| 09:30 - 09:45 | 6.2 | Wagner, Yael | If a cavitation event occurred in the forest and no one was around to measure it: the role of embolism in the survival and recovery of Aleppo pine from drought |
| 09:45 - 10:00 | 6.3 | Mantova, Marylou | Dying of thirst: when hydraulic failure leads to cell death |
| 10:00 - 10:15 | 6.4 | Gori, Antonella | Mechanisms underlying holm oak recovery after water stress: is the carbon reserves consumption unavoidable to maintain xylem hydraulic functionality? |
| 10:15 - 10:45 | Coffee break | | |
| 10:45 - 11:00 | 6.5 | Link, Roman | Mutually inclusive mechanisms of drought--induced tree mortality |
| 11:00 - 11:15 | 6.6 | Skelton, Robert | Hydraulic safety margins in South African plant communities: how close are they to the edge? |
| 11:15 - 11:30 | 6.7 | Moreno, Myriam | Mixing isohydric and anisohydric tree species increases water use but improves hydraulic safety margins during extreme drought |
| 11:30 - 11:45 | 6.8 | Bär, Andreas | When the heat was on: long-term limitations of xylem hydraulics after forest fires |
| 11:45 - 13:00 | Lunch break | | |
| **Session 7: Xylem structure and function** (Chair: Cardoso, Amanda) | | | |
| 13:00 - 13:30 | 7.0 | McElrone, Andrew | **Keynote:** Save it for a rainy day? Evaluating dynamic changes in conduit functional status relative to water storage of neighboring cells across several woody plant species |
| 13:30 - 13:45 | 7.1 | Chhajed, Shubham | Hydraulic strategies associated with water storage in woody plants across water availability gradient |
| 13:45 - 14:00 | 7.2 | Hietz, Peter | Distinguishing genetic, ontogenetic and spurious xylem adaptations to aridity |
| 14:00 - 14:15 | 7.3 | Larter, Maximilian | Xylem functional trait trade-offs and tree species responses to drought and cold stresses in NA and EU forests |
| 14:15 - 14:30 | 7.4 | Anfodillo, Tommaso | Maintaining leaf hydraulic conductance constant for constant carbon cost: the interplay of xylem traits |
| 14:30 - 14:45 | 7.5 | Petit, Giai | Two path length effects emerging from ontogenetically stable axial xylem design affect the conductance of inner sapwood rings |
| 14:45 - 15:45 | Coffee break and poster session (posters of Session 1, 2 & 5) | | |
| **Session 8: Ecosystem water fluxes** (Chair: Torres-Ruiz, José) | | | |
| 15:45 - 16:00 | 8.1 | Werner, Christiane | $2H_2O$ Pulse-Labelling traces the role of different hydraulic strategies, utilization of deep water reserves and water transport times on ecosystem drought response and recovery |
| 16:00 - 16:15 | 8.2 | Tomasella, Martina | Bedrock as a water source for trees under drought: experimental evidence and model simulations |
| 16:15 - 16:30 | 8.3 | Poyatos, Rafael | Tree water use resilience from sap flow data: towards a characterisation of tree drought responses in their temporal context |
| 16:30 - 16:45 | 8.4 | Fernández de Uña, Laura | Height-related sap-flow responses to VPD: a global-scale analysis of tree function under drought |
| 16:45 - 17:00 | **Closing ceremony** | | |
| 19:00 - 22:00 | **Conference dinner** (Bürgerspital Weinstuben) | | |

**Thursday, September 22**

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| 10:00 - 18:00 | **Excursions** | Historic City of Würzburg: Meeting 10:00 (in front of the Residenz) |
| | | Bavarian Centre for Viticulture and Horticulture: Meeting 9:00 (in front of the Residenz) |
| | | Steigerwald: Meeting 8:00 (in front of the Residenz) |