

## International workshop

# Advancing traits and trade-offs in mechanistic vegetation models across scales

November 14-16, 2022

Institute of Plant Science and Microbiology, Ohnhorststr. 18, 22609 Hamburg

Room: 2.506

Universität Hamburg, Germany

### Programme

#### Sunday, 13.11.

19:30 – Icebreaker (Teigfabrik Ottensen, Bahrenfelder Str. 53 Hamburg)

#### Monday, 14.11.

##### 9:15 – Welcome & Introduction

Philipp Porada

Universität Hamburg, Germany

##### 9:30 – SESSION I: Trait-based selection in vegetation models

##### **Jaideep Joshi** (*via Zoom*)

International Institute for Applied Systems Analysis, Austria

University of Bern, Switzerland

*Plant-FATE – Predicting the adaptive responses of biodiverse plant communities using functional-trait evolution*

##### **Pin-hsin Hu**

Max Planck-Institute for Meteorology, Germany

*Exploration of the role of plant functional diversity on ecosystem function and climate*

##### **Sebastian Fiedler**

University of Göttingen, Germany

*Plant functional trait selection for improving ecosystem functioning in different abiotic contexts*

##### 11:00 – COFFEE BREAK

### **11:30 – SESSION I part 2**

#### **Andreas Huth**

Helmholtz Centre for Environmental Research (UFZ), Germany

*Biomass and productivity of the Amazon - linking remote sensing and vegetation modelling*

#### **Franziska Taubert**

Helmholtz Centre for Environmental Research (UFZ), Germany

*The role of management and environment on plant functional diversity in GRASSMIND: german-wide simulations and digital twin developments (via Zoom)*

#### **Mateus Dantas de Paula**

Senckenberg Biodiversity and Climate Research Centre (BIK-F), Germany

*Including root traits and the fungal collaboration gradient in a dynamic trait-based vegetation model*

### **13:00 – LUNCH BREAK**

### **14:00 – SESSION I part 3**

#### **David Lapola**

University of Campinas, Brasil

*Using a trait-based vegetation model for understanding the future of the Amazon forest under climate change (via Zoom)*

#### **João Paulo Darela Filho**

UNESP, Brasil

*Applications of the CAETÉ model (via Zoom)*

#### **Philipp Porada**

Universität Hamburg, Germany

*Implications of physiological trade-offs for the selection of traits in non-vascular vegetation from local to global scale*

### **15:30 – COFFEE BREAK**

### **16:00 – SESSION II: Trade-offs in models and in reality**

#### **Stephen Wirth**

Potsdam Institute for Climate Impact Research (PIK), Germany

*Connecting CSR-Theory and LPJmL 5.3: Ecosystem functions of three grassland sites under different resource limitations*

**Annemarie Eckes-Shephard**

Lund University, Sweden

*Global simulations of functional trait diversity in plant hydraulic strategies (via Zoom)*

**Phillip Papastefanou**

Lund University, Sweden

*Plant hydraulic traits and interactions in LPJ-GUESS*

**Rüdiger Grote**

Karlsruhe Institute of Technology, Germany

*Various options for size dependent feedback responses to drought, what triggers growth and survival? (via Zoom)*

**18:00 – END OF SESSIONS**

**19:30 – WORKSHOP DINNER** (Braugasthaus Altes Mädchen, Lagerstraße 28B Hamburg)

**Tuesday, 15.11.**

**9:00 – SESSION II part 2**

**Simon Scheiter**

Senckenberg Biodiversity and Climate Research Centre, Germany

*Can we use trait patterns simulated by aDGVM2 to delimit biomes? (via Zoom)*

**Kerstin Pierick**

University of Göttingen, Germany

"Coordination of above- and belowground functional traits of tree species in the tropical Andes"

**Quan Pan**

Ghent University, Belgium

*Redundant traits and informative traits from the sensitivity of plant trait network*

**Imke Petersen**

Universität Hamburg, Germany

*Nutrient limitation of photosynthetic capacity and respiration of lichens and mosses*

**11:00 – COFFEE BREAK**

**11:30 – SESSION III: Moving forward process representation in vegetation models**

**Sönke Zaehle**

Max Planck-Institute for Biogeochemistry, Germany  
*The QUINCY model in ICON-Land (via Zoom)*

**Johannes Vogel**

Freie Universität Berlin, Germany  
*Modelling forest responses towards droughts in Berlin-Brandenburg*

**Melanie Brunn**

University of Landau, Germany  
*Relation of root exudation to photosynthesis and net ecosystem exchange under drought*

**13:00 – LUNCH BREAK**

**14:00 – SESSION III part 2**

**Anis Mahmud Khokon**

University of Hamburg, Germany  
*Importance of the ectomycorrhizal fungal traits in tree nitrogen nutrition*

**Gabriela Sophia (via Zoom)**

Max Planck-Institute for Biogeochemistry, Germany  
*Disentangling abiotic and biotic drivers of plant nutrient resorption efficiencies at global scale*

**Amit Kumar**

Leuphana University Lüneburg, Germany  
*Root trait responses of barley to soil microbial life*

**15:30 – COFFEE BREAK**

**16:00 – SESSION III part 3**

**Marta Magnani**

Institute of Geoscience and Earth Resources (CNR), Italy  
*The role of plant traits in shaping fire prone communities across the World*

**Félicien Meunier**

Ghent University, Belgium

*The impact of structural parasitism on tropical forests: lessons learned from the implementation of a liana plant functional type in a vegetation model*

**17:00 – OPEN DISCUSSION: What is missing in current vegetation models?**

**18:30 – END OF DISCUSSION**

**19:30 – DINNER** (Hatari, Eulenstraße 77 Hamburg)

**Wednesday, 16.11.**

**9:00 – SESSION IV: Strategies for model evaluation**

**Nuno Carvalhais**

Max Planck-Institute for Biogeochemistry, Germany

*Challenges in model-data integration: linking individual based models with observations*

**Jens Kattge**

Max Planck-Institute for Biogeochemistry, Germany

*Recent advancements in plant trait data (via Zoom)*

**Billur Bektas (via Zoom)**

Laboratoire d'Ecologie Alpine, Grenoble, France

*Coupling warming experiments and trait-based vegetation models: Many promises and some challenges*

**10:30 – COFFEE BREAK**

**11:00 – SESSION IV part 2**

**Yunyao Ma**

Universität Hamburg, Germany

*Quantifying the impacts of competition on functional assembly of non-vascular communities using a process-based model*

**Martin Thurner**

Senckenberg Biodiversity and Climate Research Centre (BIK-F), Germany

*Controls of N concentration in leaves, branches, stems and roots of boreal and temperate trees*

**12:00 – LUNCH BREAK**

**13:00 – OPEN DISCUSSION II: Which direction(s) to take in advancing models?**

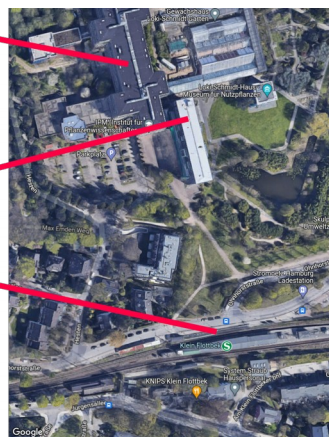
**15:00 – END OF WORKSHOP**

*How to get to the conference room:*

**Institute of Plant Science  
and Microbiology**

**Conference room**

**S-Bahn Station  
Klein Flottbek**



*For your stay:*

**Hotel Schmidt**  
Reventlowstraße 60  
22605 Hamburg

<https://www.hotel-schmidt.de>