Biotic interactions and their role in ecosystem-climate feedbacks

Sunday, 14 May 2023 - Wednesday, 17 May 2023

Institute of Plant Science and Microbiology

Scientific Programme

Biotic interactions and their role in ecosystem-climate feedbacks

Sunday, 14 May 2023

Arrival in Hamburg

5 - 5.15 p.m. Welcome address

5.15 - 6 p.m. **Opening plenary talk**
Helmut Hillebrand (Oldenburg, Germany): *"Biotic interactions, metacommunities and ecosystem functioning at the land-sea interface"*

6 - 8 p.m. Welcome reception / icebreaker

Monday, 15 May 2023

9:00 – 10:30 a.m. **Session 1: Microbial interactions & ecosystems functions**
Jennifer A. Rudgers (Albuquerque, USA): *"Microbially mediated recovery from drought: A tale of two grasslands"*
Johannes Rousk (Lund, Sweden): *"The microbial control of biogeochemistry in warming soils"*
Benton Taylor: *"The symbiotic spectrum of plant-microbe mutualisms and the future of forest carbon storage"*

10.30 - 11.00 a.m. Coffee break

11:00 – 12:30 **Session 2: Terrestrial & marine ecosystem ecology**
Martina Doblin (Sydney, Australia): *"Microscale interactions influence the ocean's biological carbon pump"*
Paul Miller (Lund, Sweden): "*Potential climate feedbacks inferred from modelled vegetation change and interactions in high-latitude ecosystems*"
Ellen Dorrepaal (Umeå, Sweden): "*Expanding our understanding of plant-soil-microbe interactions in arctic ecosystems: redefining seasonality?*"

12.30 - 2 p.m. Lunch break

2 - 3.30 p.m. **Session 3: Animals & biogeochemistry**
Nico Eisenhauer (Leipzig, Germany): *"Multitrophic communities and energy fluxes in a changing world"*
Shawn Leroux (St John's, Canada): *"Mechanistic models linking biotic interactions to the carbon cycle"*
Thomas Hickler (Frankfurt, Germany): "*The role of ungulate grazers in carbon cycle dynamics*"

3.30 - 4.30 p.m. Coffee break with poster session 1

4.30 - 5.30 p.m. Discussion groups - Interdisciplinary crosstalk (in parallel)
A: How to link marine & terrestrial ecosystem ecology?
B: How to use analytical tools to study effects of biotic interactions on the climate system?

5.30 - 6.00 p.m. Group reporting and panel discussion

Tuesday, 16 May 2023

09.30 -10.30 a.m. **Session 4: Carbon cycling in ecosystems**
Andreas Richter (Vienna, Austria): "*Microbial growth drives carbon and nutrient cycling in soil*"
Neil Saintilan (Sydney, Australia): *"The upper limits of tidal wetland adjustment to sea-level rise"*

10.30 - 11.30 a.m. Coffee break with poster session 2

11.30 - 1 p.m. **Session 5: Possible future directions**
Alga Zuccaro (Cologne, Germany): *"Reductionist Approaches to a Molecular Understanding of Plant Microbiota Functions"*
Thomas Pugh (Lund, Sweden): *"Developing model-based hypotheses of plant functional trait distributions across the world's forests"*
Kai Jensen (Hamburg, Germany): *"Some knowns and many unknowns: How do biotic interactions affect ecosystem-climate feedbacks?"*

1 - 2 p.m. Lunch break

2.00 - 2.30 p.m.
Alexandra Z. Worden (Kiel, Germany): "*Factoring in microbial interactions to understanding the marine carbon cycle*"

2.30 - 3.30 p.m.

Discussion groups - Interdisciplinary crosstalk (in parallel)

C: How to experimentally explore effects of biotic interactions on the climate system?
D: How to combine insights from molecular biology & ecosystem science?

3.30 - 4.30 p.m. Coffee break

4.30 - 5.00 p.m. Group reporting and panel discussion

5.00 - 5.30 p.m. Panel discussion on future directions for research

7 - 9 p.m. Conference dinner

Wednesday, 17 May 2023

9 am to 5 pm **Fieldtrip to research sites** (Elbe Estuary & North Sea coast)

Poster Session I 15.05.23

Poster session II 16.05.23