



Jeff Gore, MIT

Jeff Gore applies physics to living systems. His research focuses on how interactions between individuals determine the form, function, and emergent dynamics of microbial communities.

Eva Nowack, University of Düsseldorf

Eva Nowack investigates the molecular mechanisms that underlie the evolution of a eukaryotic organelle from an endosymbiotic bacterium, using the photosynthetic amoeba *Paulinella chromatophora* and the symbiont-harboring trypanosomatid *Angomonas deanei*.

Oded Rechavi, Tel-Aviv University

Oded Rechavi discovered mechanisms that enable nematodes to transmit small RNAs between generations. Heretically, these mechanisms enable inheritance of environmental responses and direct the progeny's physiology, behavior, and perhaps even evolution.



LIVING SYSTEMS

MAX PLANCK INSTITUTE FOR DEVELOPMENTAL BIOLOGY

15th – 16th OCTOBER 2019

MAX-PLANCK-HAUS, AUDITORIUM,
MAX-PLANCK-RING 6, 72076 TÜBINGEN



MAX-PLANCK-GESELLSCHAFT



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Invited Speakers:

Cameron Currie, University of Wisconsin

Cameron Currie studies the microbial ecology and evolution of complex interspecies interactions, including the paradigmatic fungus-growing ant quadripartite symbiosis.

Annika Guse, Heidelberg University

Annika Guse studies how symbiotic associations enable organisms to adopt new ecological roles, using coral-algal endosymbiosis to learn how two distinct cells coordinate their functions to adapt to the environment and persist throughout time.

Elaine Hsiao, UCLA

Inspired by the interplay between microbes and the human nervous system, Elaine Hsiao mines the microbiota for modulators of neuroactive molecules, investigating how microbiota-immune interactions impact neurodevelopment and examining how changes in the microbiome influence neurological diseases.

Program:

Tuesday, October 15th

Session I - Chair: Ruth E. Ley

1:30 p.m. Welcome

1:35 p.m. Oded Rechavi - *Rethinking inheritance*

2:30 p.m. - 2:45 p.m. Coffee break

2:45 p.m. Annika Guse - *Symbiosis – adaptation to the environment across scales and through times*

3:45 p.m. - 4:00 p.m. Coffee break

4:00 p.m. Cameron Currie - *The rock & roll of ancient agriculture and antibiotic use in ants*

Wednesday, October 16th

Session II - Chair: Detlef Weigel

8:30 a.m. Eva Nowack - *Endosymbioses and the evolution of novel organelles*

9:30 a.m. - 9:45 a.m. Coffee break

9:45 a.m. Jeff Gore - *Building microbial communities from the bottom up*

10:45 a.m. - 11:00 a.m. Coffee break

11:00 a.m. Elaine Hsiao - *Uncovering mechanisms for microbiome interactions with the nervous system*