The Organism and its Environment

EMBL Courses and Conferences during the Coronavirus pandemic

With the onsite programme paused, many of our events are now being offered in virtual formats.

Registration is open as usual for many events, with back-up plans in place to move further courses and conferences online as necessary. Registration fees for any events affected by the COVID-19 disruption are fully refundable.

More information for participants of events at EMBL Heidelberg can be found here.

Programme

Got something to say? Tweet it! #EESOrganism

Day 1 - Sunday 1 March 2020

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<td>11:30 - 13:15</td>
<td>Registration and Lunch</td>
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<td>13:15 - 13:30</td>
<td>Opening remarks</td>
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| 13:30 - 14:30| **Keynote Speaker:**  
|              | Epistasis, the spice of life: Lessons from the study of the plant immune system  
|              | Detlef Weigel - Max Planck Institute for Developmental Biology, Germany |
| 14:30 - 18:30| **Session 1 - Small-scale evolutionary experiments: model organisms**  
|              | Chair: Detlev Arendt - EMBL Heidelberg, Germany                         |
| 14:30 - 15:00| Towards a dynamical understanding of microbial communities              
|              | Paul Rainey - Max Planck Institute for Evolutionary Biology, Germany    |
| 15:00 - 15:15| In cellulo high-resolution investigation of macromolecular events upon environmental stress  
|              | Matteo Allegretti - EMBL Heidelberg, Germany                           |
| 15:15 - 15:30| Forecasting mobilome activity and its adaptive potential in response to climate change  
|              | Pierre Baduel - École Normale Supérieure (IBENS), France               |
| 15:30 - 16:00| The role of natural transposable element insertions in environmental adaptation  
|              | Josefa González - Institute of Evolutionary Biology (CSIC-UPF), Spain   |
| 16:00 - 16:30| **Coffee break and Meet the Speakers**                                  |
| 16:30 - 17:00| Tolerance and Resistance: Eukaryotic responses of cells and populations to drug stress  
|              | Judith Berman - Tel Aviv University, Israel                             |
| 17:00 - 17:30| Watching domestication of yeast in real time                            
|              | Maitreya Dunham - University of Washington, USA                         |
| 17:30 - 17:45| Evolution of immune regulation: structure, activity, and biology of transcription factor NF-kappaB in early metazoans  
|              | Leah Williams - Boston University, USA                                   |
| 17:45 - 18:00| Specialisation and plasticity in a primitive social insect              
|              | Adolfo Alsina - Max Planck Institute for the Physics of Complex Systems, Germany |
| 18:00 - 18:30| Comparative cell biology in evolution and ecology                       
|              | Detlev Arendt - EMBL Heidelberg, Germany                               |
| 18:30 - 20:00| **Dinner**                                                              |
| 20:00 - 21:30| Welcome reception in the ATC Rooftop Lounge and poster pinning          |

**Day 2 - Monday 2 March 2020**
Time | Speaker
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09:00 - 12:30 | **Session 2 - Small-scale evolutionary experiments: model ecosystems**
Chair: Jonathan Howard, Instituto Gulbenkian de Ciência, Portugal

09:00 - 09:30 | **How legumes police their symbionts**
Lindsey Turnbull - University of Oxford, UK

09:30 - 09:45 | **Amphipod-bacterial symbioses in sulfidic caves: a new model ecosystem to study organismal adaptation to chemosynthetic environments**
Jean-François Flot - Université Libre de Bruxelles (ULB), Belgium

09:45 - 10:00 | **Evolving animal microbiomes in the anthropocene**
Ananya Jana - Indian Institute of Science, India

10:00 - 10:30 | **Following eco-evolutionary dynamics in the gut in real time**
Isabel Gordo - Instituto Gulbenkian de Ciência, Portugal

10:30 - 11:00 | **Coffee break and Meet the Speakers**

11:00 - 11:30 | **Unicellular and multicellular functions of bacterial biofilms during stress**
Knut Drescher - Max Planck Institute for Terrestrial Microbiology, Germany

11:30 - 11:45 | **Drosophila melanogaster interaction with stable gut-colonizing bacteria in wild populations**
Luis Teixeira - Instituto Gulbenkian de Ciência, Portugal

11:45 - 12:00 | **Gene amplification as a form of population-level gene expression regulation**
Isabella Tomanek - Institute of Science and Technology Austria, Austria

12:00 - 12:30 | **Perturbing synthetic gut microbial communities**
Peer Bork - EMBL Heidelberg, Germany

12:30 - 14:00 | **Lunch**

14:00 - 17:00 | **Session 3: Effects of environmental variation and stress**
Chair: Kiran Patil - EMBL Heidelberg, Germany

14:00 - 14:15 | **Impact of industrial and climate change on the Amazonian biodiversity**
Guilherme Oliveira - Vale Institute of Technology, Brazil

14:15 - 14:30 | **The life course impacts of extreme, dynamic environments in short-lived model organisms: a focus on aging**
Brandon Pearson - Columbia University, USA

14:30 - 15:00 | **Neuropeptide-mediated environmental responses in the hydrozoan Clytia**
Evelyn Houliston - French National Centre for Scientific Research and University Pierre et Marie Curie, France
15:00 - 15:30  Coffee break and Meet the Speakers

15:30 - 16:00  Rules of engagement: molecular arms races between host and viral genomes
Harmit Malik - Fred Hutchinson Cancer Research Center, USA

16:00 - 16:15  Mechanisms underlying functional innovation in the nuclear receptor superfamily
Greg Slodkowicz - MRC Laboratory of Molecular Biology, UK

16:15 - 16:30  Phenotypic enhancement and multimodality of drug resistance at the single-cell level
Miki Umetani - The University of Tokyo / RIKEN, Japan

16:30 - 17:00  What limits adaptation to complex environments?
Nick Barton - Institute of Science and Technology Austria, Austria

17:00 - 18:30  Poster Session 1

18:30 - 20:00  Dinner

20:00 - 21:30  After dinner drinks in the ATC Rooftop Lounge

Day 3 - Tuesday 3 March 2020

Time  Speaker

09:00 - 12:30  Session 4 - Adaptive responses to environmental variation
Chair: Justin Crocker - EMBL Heidelberg, Germany

09:00 - 09:30  The network of life - introgression and adaptive evolution in Lepidoptera
Chris Jiggins - University of Cambridge, UK

09:30 - 09:45  Adaptation of cellular functions to climate conditions through liquid-liquid phase separation
Christiane Iserman - University of North Carolina at Chapel Hill, USA

09:45 - 10:00  Proteome dynamics of cold-adapted species in response to warming and confounding environmental variables
Joshua Ebner - University of Basel, Switzerland

10:00 - 10:30  Drosophila glue: at the interface between pupae and the environment
Virginie Courtier-Orgogozo - French National Centre for Scientific Research - Institut Jacques Monod, France

10:30 - 11:00  Coffee break and Meet the Speakers

11:00 - 11:30  From development to deep time: Reconstructing the evolution of diversity with a phenomic approach
Anjali Goswami - Natural History Museum, UK

11:30 - 11:45  Interspecies comparative analyses reveal distinct carbohydrate-responsive systems among Drosophila species
Kaori Watanabe - Kyoto University, Japan

11:45 - 12:00  Microbes-Mechanics-Materials: A critical nexus?
Anupam Sengupta - University of Luxembourg, Luxembourg

12:00 - 12:30  Adapting to different winters: non-coding transcripts and epigenetic switching at FLC
Caroline Dean - John Innes Centre, UK

12:30 - 14:00  Lunch

14:00 - 17:00  Session 5: Population level genome changes in nature
Chair: Vincent Colot - Institut de Biologie de l’École Normale Supérieure, France

14:00 - 14:30  What keeps pathogens in check in the wild?
Anna-Liisa Laine - University of Zurich, Switzerland

14:30 - 14:45  Genomic analysis of speciation and adaptation in the Lake Malawi cichlid fish radiation
Richard Durbin - University of Cambridge, UK

14:45 - 15:00  PhenoChip: A single-cell phenomic platform for high-throughput photophysiological analyses of microalgae
Lars Behrendt - Uppsala University, Sweden

15:00 - 15:30  Context-dependent phenotype switch and historical contingency in bacterial populations
Silvia De Monte - French National Centre for Scientific Research, France

15:30 - 16:00  Coffee break and Meet the Speakers

16:00 - 16:30  Adaptations to the Arctic in marine plankton communities
Chris Bowler - Ecole Normale Supérieure, France

16:30 - 16:45  Identifying the genetic steps toward adaptation to a novel edaphic environment
Emmanuel Tergemina - Max Planck Institute for Plant Breeding Research, Germany

16:45 - 17:00  Non-random developmental variants accrue in Paramecium after forty sexual generations in nutrient-rich and selection-free conditions
Francesco Catania - University of Muenster, Germany

17:00 - 18:30  Poster Session 2

18:30 - 20:30  Gala Dinner

20:30 - 23:00  Conference reception in the ATC Rooftop Lounge
# Day 4 - Wednesday 4 March 2020

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| 09:00 - 11:45 | **Session 6 - Preparing for the future**  
  Chair: Detlef Weigel - Max Planck Institute for Developmental Biology, Germany |
| 09:00 - 09:30 | **Evaluating the effect of past environmental changes on macroevolutionary processes**  
  Hélène Morlon - CNRS Ecole Normale Supérieure, France |
| 09:30 - 09:45 | **Adaptation to the environment by endosymbiosis - A model systems’ approach**  
  Annika Guse - Heidelberg University, Germany |
| 09:45 - 10:15 | **Cancer as a selective force on the evolution of multicellular organisms**  
  Frederic Thomas - French National Centre for Scientific Research, France |
| 10:15 - 10:45 | **Coffee break and Meet the Speakers** |
| 10:45 - 11:00 | **Experimental evolution with digital organisms**  
  Moshe Khurgel - Bridgewater College, USA |
| 11:00 - 11:15 | **The stress of ecological success: Ancestral reconstructions decipher the adaptations of archaea radiating into moderate terrestrial and marine environments**  
  Christa Schleper - University of Vienna, Austria |
| 11:15 - 11:45 | **The biomass distribution on Earth**  
  Ynon Bar-On - Weizmann Institute of Science, Israel |
| 11:45 - 12:00 | **Closing Remarks and Poster Prize** |
| 12:00 | **Packed Lunch** |
| 12:10 | **Bus departure to downtown** |
| 12:20 | **Bus departure to Frankfurt Airport** |