



Integrating Systems Biology: From Networks to Mechanisms to Models

EMBO WORKSHOP



We have moved our website to embl.org/events. The content below is no longer being updated.

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

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Day 1 - Sunday 15 April 2018

Time

11:00 - 12:30	Arrival and Registration
12:30 - 12:45	Opening remarks

Time

12:45 - 13:30	Keynote speaker: Protein-metabolite networks Anne-Claude Gavin, EMBL Heidelberg, Germany
13:30 - 17:00	Session 1: Structure to Function Chair: Sandra Orchard, EMBL-EBI
13:30 - 14:00	A network biology approach to novel therapeutic strategies Patrick Aloy, IRB Barcelona, Spain
14:00 - 14:30	Quantitative mapping of human protein-protein interactions in health and disease Erich Wanker, Max Delbrück Center for Molecular Medicine, Germany
14:30 - 15:00	Coffee Break & Meet the Invited Speakers: Anne-Claude Gavin, Patrick Aloy, Erich Wanker
15:00 - 15:30	Characterizing the human proteostasis network with quantitative proteomics approaches Mikko Taipale, University of Toronto, Canada
15:30 - 16:00	Modeling peripheral protein-membrane interactions Nathalie Reuter, University of Bergen, Norway
16:00 - 16:15	Evolutionary dynamics of herpesvirus protein domains Anderson Brito, Imperial College London, United Kingdom
16:15 - 16:30	Identifying Cancer Driver Genes from Enrichment of Somatic Nonsynonymous Mutations at Protein Interaction Interfaces Kivilcim Ozturk, University of California San Diego, USA
16:30 - 16:45	Towards a reference map of the human protein interactome Katja Luck, Dana-Farber Cancer Institute, Harvard Medical School
16:45- 17:00	Flash Talks Bushra Dohai #50 / Fabian Fröhlich #52 / Chiara B.M. Platania #80 / Sophia Rudolf #86 / Márton Simon #88
17:00 - 18:30	Poster Session (odd numbers) with beer and snacks
18:30 - 20:00	Dinner in the Canteen
20:00 - 21:30	After Dinner Drinks in the ATC Rooftop Lounge

Day 2 - Monday 16 April 2018

Time

Time

08:15 - 09:00	Keynote: Rob Russell University of Heidelberg, Germany
09:00 - 12:00	Session 2: Network to Phenotype Mapping Chair: Anne-Claude Gavin, EMBL Heidelberg
09:00 - 09:30	Using transcriptional networks to understand breast cancer risk Kerstin Meyer, Sanger Institute, United Kingdom
09:30 - 10:00	Modelling cell cell interaction networks in muscle regeneration Gianni Cesareni, University of Rome Tor Vergata, Italy
10:00 - 10:30	Talk title to be announced Pedro Beltrao, EMBL-EBI, UK
10:30 - 11:15	Coffee Break & Meet the Invited Speakers: Mikko Taipale, Nathalie Reuter, Rob Russell, Kerstin Meyer, Gianni Cesareni
11:15 - 11:30	S2B (Double Specific Betweenness): a novel cross-disease network analysis method applied to motor neuron degeneration Marina L. Garcia-Vaquero, BioISI– Biosystems & Integrative Sciences Institute, Portugal
11:30 - 11:45	From network to phenotype: understanding the wiring of a stress-induced transcriptional network in Arabidopsis. Lisa Van den Broeck, VIB-PSB, Belgium
11:45 - 12:00	Systems pharmacology dissection of cell-specific cholesterol regulation mechanisms reveals large pharmacodynamic variability Peter Blattmann, ETH Zurich, Switzerland
12:00 - 13:30	Lunch in the ATC Foyer
13:30 - 17:30	Session 3: Network Dynamics & Modelling Chair: Sorina C. Popescu, Mississippi State University
13:30 - 14:00	From networks-based integration of omics data to dynamic logic models for improving cancer treatment Julio Saez-Rodriguez, RWTH Aachen University, Germany
14:00 - 14:30	Phosphoproteomics data derived context specific signalling networks Evangelia Petsalaki, EMBL-EBI Hinxton, United Kingdom
14:30 - 15:00	Phenotyping Single Cell Derived Tumor Spheroids by Time Resolved Imaging Roland Eils, DKFZ, Germany

Time

- 15:00 - 15:30 **Coffee Break & Meet the Invited Speakers:** Julio Saez-Rodriguez, Evangelia Petsalaki, Roland Eils
- 15:30 - 16:00 **Executable Cell Biology: From Mechanistic Insights to New Avenues for Cancer Therapy**
Jasmin Fisher, University of Cambridge, United Kingdom
- 16:00 - 16:30 **Mapping DNA damage-dependent protein interactions via conditional Barcode Fusion Genetics-Yeast Two-Hybrid**
Dae-Kyum Kim, University of Toronto, Canada
- 16:30- 16:45 **From networks to mechanisms: A dynamic and functional characterization of the cell polarity interaction network in yeast**
Nils Johnsson, Ulm University, Germany
- 16:45 - 17:00 **Time-resolved Global and Chromatin Proteomics during Herpes Simplex Virus (HSV-1) Infection**
Katarzyna Kulej, University of Pennsylvania, USA
- 17:00 - 17:15 **Adaptive rewiring of protein-protein interactions and signal flow in the EGFR signaling network by mutant RAS**
David Lynn, South Australian Health & Medical Research Institute, Australia
- 17:15 - 17:30 **Flash Talks**
Amphun Chaiboonchoe #44 / Sucharita Dey #48 / Johannes Hettich #56 / Rory Osborne #74 / Jonathan Woodsmith #94
- 17:30 - 19:00 **Poster Session (even numbers) with beer and snacks**
- 19:00 - 21:00 **Conference dinner in the Canteen**
- 21:00 - 00:00 **Party in the ATC Foyer**

Day 3 - Tuesday 17 April 2018

Time

- 08:15 -09:00 **Career Workshop**
- 09:00-19:00 **Session 4: Integrative Network Approaches**
Chair: Luis Serrano, Centre for Genomic Regulation
- 09:00 - 09:30 **Applications of the Mammalian Membrane Two-Hybrid (MaMTH) Assay for Identification of Novel Cancer Targets & Therapeutics**
Igor Stagljar, University of Toronto, Donnelly Centre, Canada

Time

- 09:30 - 10:00 **Transcription networks regulating cardiac development and triggering cardiac diseases and function**
Silke Rickert-Sperling, Charité - Universitätsmedizin Berlin, Germany
- 10:00 - 10:30 **Molecular determinants of dominant negative mutations in protein complexes**
Joseph Marsh, University of Edinburgh, United Kingdom
- 10:30 - 11:00 **Coffee Break & Meet the Invited Speakers:** Jasmin Fisher, Dae-Kyum Kim, Igor Stagljar, Silke Sperling, Joseph Marsh
- 11:00 - 11:15 **Learning and Memory in Intra-Cellular Signaling Network : The Role of the MAPK Cascade**
Mitra Tanmay, The Institute of Mathematical Sciences, India
- 11:15 - 11:30 **Integrating proteomic networks with genetic coessentiality to analyze mammalian protein complexes**
Joshua Pan, Dana-Farber Cancer Institute, USA
- 11:30 - 11:45 **An extracellular network of Arabidopsis leucine-rich repeat receptor kinases controls plant development and defenses**
Elwira Smakowska-Luzan, Gregor Mendel Institute (GMI), Austria
- 11:45 - 12:00 **A synthetic-systems approach to the host-parasite interface: immunomodulation by parasitic nematodes**
Joseph Koussa, New York University, USA
- 12:00 - 13:30 **Lunch in the ATC Foyer**
- 13:30 - 17:00 **Session 5: Network Mapping**
Chair: Pascal Falter-Braun, Helmholtz-Zentrum München, Germany
- 13:30 - 14:00 **Mapping the polarity interactome**
Mike Boxem, Utrecht University, The Netherlands
- 14:00 - 14:30 **Enabling systems understanding through data integration & network-based visual analytics**
Jianguo (Jeff) Xia, McGill University, Canada
- 14:30 - 15:00 **Evolution and dynamics in protein networks from integration of interfaces and copy numbers**
Margaret Johnson, Johns Hopkins University, USA
- 15:00 - 15:30 **Coffee Break & Meet the Invited Speakers:** Mike Boxem, Jianguo Xia, Margaret Johnson, Luis Serrano
- 15:30 - 16:15 **Keynote speaker: Luis Serrano**
Centre for Genomic Regulation, Spain

Time

16:15 - 16:30	Points of crosstalk and signal transduction from a systematic experimental phytohormone network map Melina Altmann, Helmholtz-Zentrum München, Germany
16:30 - 16:45	A protein interaction approach to human kinase phosphorylation networks Ulrich Stelzl, University of Graz, Austria
16:45 - 17:00	Coordinating high-detail molecular interaction curation through the IntAct database Pablo Porras Millán, EMBL-EBI, United Kingdom
17:00 - 17:15	Closing Remarks and Poster Prize