

Diversity and Evolution in Cell Biology

Montanyà Hotel & Lodge, Catalonia, Spain

24 – 27 June 2024

Programme

Day 1: Monday 24 June

- 12:00** **Registration opens**
- 12:30 – 13:50** **Lunch**
- 14:00 – 14:15** **Welcome**
- Session I**
- Chair: Monica Bettencourt Dias** Instituto Gulbenkian de Ciência, Portugal
- 14:15 – 14:35** **Rebecca Heald** University of California, Berkeley, USA
Mechanisms of biological size control and scaling in frogs
- 14:45 – 15:05** **EMBO Young Investigator Lecture: Omayya Dudin** EPFL, Switzerland
Exploring multicellular developmental diversity using expansion microscopy
- 15:15 – 15:25** **Josean Reyes Rivera** University of California, Berkeley, USA
Choanoeca flexa: an emerging model for eco- and evo-cell biology
- 15:30 – 15:40** **Kyojiro Ikeda** University of Vienna, Austria
Dynamic microvilli sculpt nanometric features of bristles
- 15:45 – 16:25** **Coffee break**
- 16:30 – 16:50** **Greg Jedd** Temasek Life Sciences Laboratory, Singapore
Physiology and evolutionary genetics of adaptive cellular traits in understudied eukaryotic taxa
- 17:00 – 17:10** **Luis Javier Galindo** University of Oxford, UK
A link between swimming behaviour and cytology in the zoospores of chytrid fungi
- 17:15 – 17:25** **Christopher Toret** University of Geneva, Switzerland
Lessons from *Fonticula alba* open a door to understand collective invasion and unculturable organisms
- 17:30 – 18:30** **Free time**
- 18:30 – 19:30** **Speed networking and pre-dinner drinks**
- 19:30** **Dinner**

Day 2: Tuesday 25 June

08:30 – 09:00 **Careers at a glance**

Session II

Chair: Elena Taverna Human Technopole, Italy

09:00 – 09:20 **Courtney Schroeder** University of Texas Southwestern, USA
Evolutionary diversification of cytoskeletal proteins for tissue-specialized roles

09:30 – 09:40 **Jenna Perry** The University of North Carolina at Chapel Hill, USA
Opisthokont septins contain functional transmembrane domains

09:45 – 09:55 **Florian Wollweber** ETH Zurich, Switzerland
Multi-scale imaging of an Asgard archaeon illuminates the origin of the eukaryotic cytoskeleton

10:00 – 10:10 **Katrina Velle** University of Massachusetts Dartmouth, USA
Naegleria amoebae use conserved mechanisms to crawl in diverse environments

10:15 – 10:55 **Coffee break and posters**

11:00 – 11:20 **Meg Titus** University of Minnesota, USA
Diverse mechanisms of myosin-based filipodia formation

11:30 – 11:50 **Aoife Heaslip** University of Connecticut, USA
Dynamic actin networks facilitate cargo transport in *Toxoplasma gondii*

12:00 – 12:10 **Ambre Noly** Centre de Recherche en Biologie cellulaire de Montpellier, France
Adaptation and ecological roles of fission yeasts in plant-pollinator interactions

12:15 – 12:25 **Helder Maiato** iS3, Portugal
Spindle-assembly checkpoint signaling in Indian muntjac cells with only 3 chromosome pairs

12:30 – 13:50 **Lunch**

Session III

Chair: Aaron Turkewitz The University of Chicago, USA

14:00 – 14:20 **Scott Dawson** University of California, Davis, USA
Giardia's ventral disc illuminates the evolution of microtubule organelle form and function

14:30 – 14:50 **Lilian Fritz-Laylin** University of Massachusetts, Amherst, USA
The diversification of cytoskeletal networks as a driver of eukaryotic evolution

15:00 – 15:10 **Ivan Radin** University of Minnesota, USA
Using cross-lineage comparative studies to elucidate the evolutionary history of subcellular localization and function in the PIEZO mechanosensitive ion channel family

15:15 – 15:25 **Carmen Faso** University of Bern, Switzerland
Unique parasitic organelles at the crossroads of endocytic and exocytic protein trafficking

15:30 – 15:40 **Group photo**

- 15:40 – 16:10** **Coffee break and posters**
- 16:15 – 16:35** **Holly Goodson** University of Notre Dame, USA
Intracellular transport and cell motility in red algae
- 16:45 – 17:05** **Mukund Thattai** NCBS, Tata Institute of Fundamental Research, India
Regulatory and evolutionary landscape of eukaryotic vesicle traffic
- 17:15 – 17:25** **Marko Kaksonen** University of Geneva, Switzerland
Evolutionary cell biology of clathrin-mediated endocytosis in dikarya fungi
- 17:30 – 18:00** **Poster flash talks**
- 18:00 – 19:30** **Poster session 1 and pre-dinner drinks**
- 19:30** **Dinner**

Day 3: Wednesday 26 June

Session IV

Chair: Alfonso Fernández-Álvarez Instituto de Biología Funcional y Genómica, Spain

- 08:30 – 08:50** **Wallace Marshall** University of California, San Francisco, USA
Pattern formation and regeneration in *Stentor coeruleus*
- 09:00 – 09:20** **Liedewij Laan** Delft University of Technology, The Netherlands
Self-organization and complexity in the evolution of fungal cell polarity
- 09:30 – 09:40** **Inés Fournon-Berodia** University of Bergen, Norway
Ancient epithelial remodelling program during starvation-induced body-shrinkage in a sea anemone
- 09:45 – 09:55** **Ian Boys** The University of Utah, USA
An alternative evolutionary path to the restriction of flaviviruses in iguanas
- 10:00 – 10:40** **Coffee break and posters**
- 10:45 – 11:05** **Snezhka Oliferenko** The Francis Crick Institute, UK
Exploiting divergent biology of two fission yeasts to understand membrane function
- 11:15 – 11:35** **Courtney Stairs** Lund University, Sweden
Oxygen is overrated: respiratory chains in anaerobic mitochondria
- 11:45 – 11:55** **Steve Cho** The University of Utah, USA
Directed evolution of an inchoate ESCRT-dependent immune function
- 12:00 – 12:10** **Ellen Nisbet** University of Nottingham, UK
Losing photosynthesis: which genes go first?
- 12:15 – 13:30** **Lunch**
- 13:30 – 16:00** **Free time**
- 16:00 – 16:25** **Coffee break and posters**

Session V

Chair: Stefania Castagnetti Laboratoire de Biologie du Développement, France

- 16:30 – 16:50** **Bungo Akiyoshi** University of Edinburgh, UK
Evolutionary cell biology of chromosome segregation

- 17:00 – 17:20** **Gautam Dey** European Molecular Biology Laboratory, Germany
Mitotic rewiring on evolutionary timescales
- 17:30 – 17:40** **Orna Cohen-Fix** National Institute of Diabetes and Digestive and Kidney Diseases, USA
The centrosome as a membrane-associated organelle
- 17:45 – 17:55** **Jolien van Hooff** Wageningen University & Research, The Netherlands
Shaping up genomes: prokaryotic roots and eukaryotic diversification of SMC complexes
- 18:00 – 18:30** **Poster flash talks**
- 18:30 – 20:00** **Poster session 2 and pre-dinner drinks**
- 20:00** **Dinner**

Day 4: Thursday 27 June

Session VI

Chair: Dom Helmlinger Centre de Recherche en Biologie cellulaire de Montpellier, France

- 09:00 – 09:20** **Laura Eme** Université Paris-Saclay, France
Genomic surprises from microbial eukaryotes
- 09:30 – 09:50** **Anna Karnkowska** University of Warsaw, Poland
Crossing the line: transition from endosymbiont to organelle
- 10:00 – 10:10** **Benjamin Jenkins** University of Cambridge, UK
Immune-like glycan sensing determines host control of a nascent photosymbiosis
- 10:15 – 10:25** **Anay Kumar Maurya** Heinrich Heine University Duesseldorf, Germany
A newly evolved dynamin-like host protein controls the division of the endosymbiont in the trypanosomatid *Angomonas deanei*
- 10:30 – 10:55** **Coffee break**
- 11:00 – 11:20** **Thomas Richards** University of Oxford, UK
The functional biology of membrane permeability over the tree of life
- 11:30 – 11:40** **Mohammed Talib Tawfeeq** VIB, Belgium
A genome-wide screen for genetic buffering genes in *Saccharomyces cerevisiae*
- 11:45 – 11:55** **Charuhansini Kulkarni** National Centre for Biological Sciences, India
Mechanical adaptations facilitate freeze-thaw tolerance in *Saccharomyces cerevisiae*
- 12:00 – 12:20** **Eugene Koonin** National Institutes of Health, USA
The origin of eukaryotes: the game of endosymbiosis
- 12:30** **Closing remarks**
- 12:45** **Lunch and depart**