

**ITMO CELL BIOLOGY, DEVELOPMENT  
AND EVOLUTION**

**Developmental and Cell Biology of the Future**

**March 27-29<sup>th</sup>, 2019**

Auditorium Biopark  
11, rue Watt  
Paris 13<sup>e</sup>, France

**MARCH 27<sup>TH</sup>, 2019**

- ▶ 1:00 p.m.-1:30 p.m. Registration of participants
- ▶ 1:45 p.m.-2:00 p.m. **Welcome and housekeeping notes by the organizers**
- ▶ 2:00 p.m.-3:30 p.m. **Session 1: “Environmental Impact on Development and Evolution”**  
Chairs: **Geraldine WILLIAUME & Alice ROUAN**
  - ▶ 2:00 p.m.-2:30 p.m.: “On morphological asymmetries and the role of environment in Evolution”, **Vincent DEBAT**, ISYEB, Paris, France
  - ▶ 2:30 p.m.-3:30 p.m.:
    - “How lysosomal cystine export maintains autophagy during prolonged starvation”, **Zvonimir MARELJA**, Institut Imagine, Paris, France
    - “Myosin-X promotes oocyte-somatic cells communication by physical contact, contributing to oocyte developmental potential”, **Flora CROZET**, CIRB, Paris, France
    - “Natural molecular variant enhancing *C. elegans* dauer induction in response to diverse environmental cues”, **Bénédicte BILLARD**, iBV, Nice, France
- ▶ 3:30 p.m.-4:00 p.m. Coffee break
- ▶ 4:00 p.m.-5:00 p.m. **Session 2: “Single Cell Omics: a revolution for development and evolution”**  
Chairs: **Mandela PRÜNSTER & Irene AKSOY**
  - ▶ 4:00 p.m.-4:30 p.m.: “Evolution of Cell-Type Specific Regulatory Networks: Rewiring, Loss and Independent Radiations”, **Heather MARLOW**, Institut Pasteur, Paris, France
  - ▶ 4:30 p.m.-5:00 p.m.:
    - “Defining embryonic and extra-embryonic cell populations and their molecular interactions in the pig blastocyst through a single-cell transcriptomic approach”, **Hervé ACLOQUE**, GABI, Jouy-en-Josas, France
    - “Cell Lineage Differentiation in the mouse Blastocyst: The emergence of the Pluripotent Epiblast”, **Claire CHAZAUD**, GReD, Clermont-Ferrand, France
- ▶ 5:00 p.m.-6:00 p.m. **Future of Developmental Biology Keynote**  
Chair: **Irene AKSOY**  
“Mechanical control of gastrulation”, **Jerome GROS**, Institut Pasteur, Paris, France
- ▶ 6:00 p.m.-8:30 p.m. Dinner & Poster Session 1 - Mixer

▶ 9:00 a.m.-10:30 a.m. **Session 3: “Epigenomics and Genome Expression- a powerful regulator of development”**

Chairs: **Patricia ROJAS RÍOS & Amandine BERY**

▶ 9:00 a.m.-9:30 a.m.: “Functions and regulation of the 3D genome architecture in development and disease”, **François SPITZ**, Institut Pasteur, Paris, France

▶ 9:30 a.m.-10:30 a.m.:

- “Tissue-specific evolution of promoters and enhancers in mammals”, **Maša ROLLER**, EMBL, Cambridge, UK
- “Visualizing Hox-dependent regulation of autophagy at the nuclear periphery”, **Samir MERABET**, IGFL, Lyon, France
- “X-Chromosome reprogramming during embryonic development”, **Maud BORENSZTEIN**, Institut Curie, Paris, France

▶ 10:30 a.m.-11:00 a.m. **Coffee break**

▶ 11:00 a.m.-12:30 p.m. **Session 4: “Stem cell biology and organoids”**

Chairs: **Amandine BERY & Jessica BOUVIÈRE**

▶ 11:00 a.m.-11:30 a.m.: “Using Human Brain Organoids on-chip for studying development”, **Orly REINER**, Weizmann Institute, Rehovot, Israel

▶ 11:30 a.m.-12:30 p.m.:

- “Eph signaling and one carbon metabolism control the pace of neurogenesis in the developing neocortex”, **Alice DAVY**, ISC3T, Toulouse, France
- “Cerebral organoids and malformations of cortical development”, **Sarah FARCY**, Institut Curie, Paris, France
- “Generation of CD8+ and CD4+ regulatory T cells from human pluripotent stem cells”, **Lea FLIPPE**, CRTI, Nantes, France

▶ 12:30 p.m.-1:30 p.m. **Lunch & Poster Session 2**

▶ 1:30 p.m.-3:00 p.m. **Session 5: “Live-imaging and Image Processing”**

Chair: **Claudio CORTES**

▶ 1:30 p.m.-2:00 p.m.: “How many stem cells can you fit in a stem cell niche?”, **Henrik JÖNSSON**, University of Cambridge, Cambridge, UK

▶ 2:00 p.m.-3:00 p.m.:

- “Reconstruction of post implantation mouse development at the single cell level”, **Léo GUIGNARD**, Janelia Research Campus, Ashburn, USA
- “Spatiotemporal atlasing of 3D cellular parameters during leaf morphogenesis”, **Faiçal SELKA**, INRA-IJPB, Versailles, France
- “Analysing mitochondria: how can microscopy help?”, **Giulia BERTOLIN**, IGDR, Rennes, France

▶ 3:00 p.m.-4:30 p.m. **Coffee break & Poster Session 3**

- ▶ 4:30 p.m.-6:00 p.m. **Session 6: “When mechanics meet cell biology”**  
 Chairs: **Ralitza STANEVA & Ali HASHMI**
- ▶ 4:30 p.m.-5:00 p.m.: “Nuclear mechanotransduction and mechanoadaptation”, **Sara WICKSTRÖM**, Helsinki Institute of Life Science, Helsinki, Finland
- ▶ 5:00 p.m.-6:00 p.m.:
  - “Competition for space induces cell elimination through compaction-driven erk downregulation”, **Romain LEVAYER**, Institut Pasteur, Paris, France
  - “Tubular confinement regulates collective epithelial cell migration”, **Alexandros GLENTIS**, IJM, Paris, France
  - “How morphogenesis guides morphogenesis: mechanically-induced long-range coherence in embryonic ascidian epidermis”, **Bruno LEGGIO**, RDP, Lyon, France
- ▶ 6:00 p.m.-7:00 p.m. **Future of Cell Biology Keynote**  
 Chair: **Patricia ROJAS RÍOS**  
 “Integrating adhesion mechanics, polarity and tyrosine kinase receptor signaling to shape epithelial barrier”, **Carien NIESSEN**, CECAD Research Center, Cologne, Germany
- ▶ 7:00 p.m.-7:15 p.m. Prizes & Closing Remarks
- ▶ 7:30 p.m.-11:00 p.m. Dinner & Social Activities on the barge « Les Maquereaux », Quai de l’Hôtel de ville, Parc Rives de Seine, 75004 Paris

## MARCH 29<sup>TH</sup>, 2019

- ▶ 9:00 a.m.-12:00 a.m. **Round table discussion: “The Future of Cell and Developmental Biology”**
- ▶ 9:00 a.m.-9:45 a.m.: Point 1: Develop a visionary mind: what can we learn from collaborations between cell biologists and developmental biologists? Does this bring new insights to topics that were previously confined to a single discipline?  
 Chair committee: **Laure BALLY-CUIF, Anne BLANGY, Thierry GALLI, Jerome GROS, Carien NIESSEN**
- ▶ 9:45 a.m.-10:30 a.m.: Point 2: Societal discussion: How to promote our disciplines in society and among politicians?  
 Chair committee: **Thierry GALLI, Patrick LEMAIRE, Heather MARLOW**
- ▶ 10:30 a.m.-11:15 a.m.: Point 3: Training courses with multidisciplinary program  
 Chair committee: **Henrik JÖNSSON, Stéphanie MISEREY-LENKEI, Orly REINER**
- ▶ 11:15 a.m.-12:00 a.m.: Point 4: Grants/Financial support  
 Chair committee: **Laure BALLY-CUIF, Stéphanie MISEREY-LENKEI, François SPITZ, Sara WICKSTRÖM**
- ▶ 12:00 a.m. Closure