SHAPING LIFE 2

7 - 9 APRIL 2021
ONLINE CONFERENCE

STEM CELLS & ORGANOIDs
MECHANICS & SELF-ORGANIZATION
NEURO-DEVELOPMENT
ENVIRONMENTAL IMPACT ON DEVELOPMENT
DEVELOPMENTAL PATHOLOGIES
EVO-DEVO & EMERGING MODELS
TOOLS & TECHNOLOGIES

KEYNOTE SPEAKERS
Alfonso Martinez Arias - Cambridge, UK
Cassandra Extavour - Boston Cambridge, USA

INVITED SPEAKERS
Paola Arlotta - Cambridge, USA • Enrico Coen - Norwich, UK • Angela Hay - Cologne, Germany
Denis Jabaudon - Geneva, Switzerland • François Leulier - Lyon, France • Taija Makinen - Uppsala, Sweden
Andrea Pauli - Vienna, Austria • Stefan Preibisch - Ashburn, USA

SCIENTIFIC COMMITTEE
Sophie Chauvet - Claudio Cortes - Laurent Fasano - Françoise Helmbacher
Nuno Luis - Cédric Maurange - Benjamin Prud’homme - Frank Schnorrer

GENERAL ORGANIZATION & REGISTRATION
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WORKSHOPS
Chairpersons: Benjamin Prud’homme, Frank Schnorrer

10:00 – 11:00am ERC Info session:
Basics and changes under Horizon Europe
Mariam Benjdia, ERC LS3 panel coordinator,
Jérôme Gros, Consolidator grantee, Patrick Lemaire, Panel member

11:00 – 12:00am New formats of publishing & reviewing
Katherine Brown, Company of Biologists,
Sara Monaco, Review Commons

01:30 – 01:40pm Opening of the Online Conference

01:40 – 02:25pm Keynote Speaker:
Deconstructing embryos towards
a new understanding of animal development
Alfonso Martinez-Arias, Cambridge University, Cambridge, UK

STEM CELLS & ORGANOIDs
Chairperson: Cédric Maurange

02:30 – 03:05pm Understanding human brain development:
From embryos to organoids
Paola Arlotta, Harvard University, USA

03:05 – 03:20pm Murine cranial neural crest precursors
reawaken pluripotency programs
Antoine Zalc, Stanford University, USA

03:20 – 03:35pm Gastruloids and chimeric embryo approaches
to understand eye developmental defects in
cavefish Astyanax mexicanus
Jorge Torres-Paz, Institut des Neurosciences Paris-Saclay, France
03:35 - 03:50pm Collagen network stability regulates morphogenesis and fate maintenance in the suture stem cell niche
Jacqueline Tabler, MPI-CBG, Germany

03:50 - 04:05pm How cardiac contractions control hematopoiesis in Drosophila: the role of Piezo and Yap
Yushun Tian, CBI, Toulouse, France

04:05 - 04:30pm Break and visit of the partner’s virtual stands in Gather.town

MECHANICS & SELF-ORGANIZATION I
Chairperson: Nuno Luis

04:30 - 05:05pm Orienting growth and morphogenesis
Enrico Coen, John Innes Center, Norwich, UK

05:05 - 05:20pm The mechano-hydraulic control of growth
Lessons from plants
Yuchen Long, ENS Lyon, Lyon, France

05:20 - 05:35pm Caspase regulate the onset of extrusion through the downregulation of an apical microtubule mesh
Alexis Villars, Institut Pasteur, Paris, France

05:35 - 05:50pm Mechanics of human compaction
Julie Firmin, Institut Curie, Paris, France

05:50 - 06:05pm Dynamics of anteroposterior axis establishment in a mammalian embryo-like system
Kerim Anlas, EMBL Barcelona, Spain

06:05pm « Sunset on the beach » in Gather.town
ENVIRONMENTAL IMPACT ON DEVELOPMENT
Chairperson: Sophie Chauvet

09:00 - 09:35am **Microbial influence on linear growth promotion**
François Leulier, Institut de Génomique Fonctionnelle de Lyon, France

09:35 - 09:50am **Epigenetic control of brain wiring: Role of axonal miRNAs in fetal alcohol spectrum disorders (FASD)**
Mike Altounian, IBDM, Marseille, France

MECHANICS & SELF-ORGANIZATION II
Chairperson: Claudio Cortes

09:50 - 10:25am **Small proteins with big roles - From cell migration to species-specific fertilization**
Andrea Pauli, Institute of Molecular Pathology, Vienna, Austria

10:25 - 10:40am **Formation of polarized contractile interfaces by self-organized Toll-8/Cirl GPCR asymmetry**
Jules Lavalou, IBDM, Marseille, France

10:40 – 11:10am **Break and visit of the partner’s virtual stands in Gather.town**

11:10 - 11:25am **Cytokinesis contributes to renal epithelial tubule morphogenesis in vivo by controlling lumen size**
Audrey Douanier, CRBM, Montpellier, France

11:25 - 11:40am **Multi-scale mechanical self-organisation in human iPSC-derived myofibers**
Qiyan Mao, IBDM, Marseille, France

11:40 - 11:55am **Role of tissue geometry in epithelial folding**
Aurélien Villedieu, Institut Curie, Paris, France

11:55 - 12:10am **Turning plant cells into soap bubbles: FERONIA and microtubules independently contribute to mechanical feedback and turn plants from passive to active material**
Alice Malivert, ENS Lyon, Lyon, France
THURSDAY, APRIL 8th

12:10 - 01:30pm Lunch break, let’s meet in Gather.town and at the partner’s virtual stands

01:30 - 03:30pm POSTER SESSION #1 in Gather.town

TOOLS & TECHNOLOGIES
Chairperson : Frank Schnorrer

03:30 - 04:05pm Reconstructing tera-byte sized light and electron microscopy datasets
Stefan Preibisch, Janelia Research Campus, Ashburn, USA

04:05 - 04:20pm Imaging translation dynamics in live embryos reveals spatial heterogeneities
Maëlle Bellec, IGMM, Montpellier, France

04:20 - 04:35pm ELEPHANT: Tracking cell lineages in 3D by incremental deep learning
Ko Sugawara, IGFL, Lyon, France

04:35 - 04:50pm Microproteins, or smORF peptides, constitute a reservoir of novel developmental regulators
Jennifer Zanet, CBI, Toulouse, France

04:50 - 05:05pm Sponsor talk: Gain a multidimensional view of cellular differentiation and development with single cell and spatial solutions

05:05 - 05:20pm Break and visit of the partner’s virtual stands in Gather.town

05:20 - 05:35pm Tribute to Hervé Moreau

05:35 - 06:05pm SFBD PhD Prize
Pattern formation through cell movement in Xenopus embryonic skin
Alexandre Chuyen, IBDM, Marseille, France

06:05pm Happy Hour in Gather.town
ISDN SYMPOSIUM: NEURO-DEVELOPMENT  
Chairperson: Laurent Fasano

09:00 - 09:35am Ontogenic expansion of birthdate diversity in the central nervous system  
Denis Jabaudon, University of Geneva, Geneva, Switzerland

09:35 - 09:50am Mechanisms of glial cell specification in the mammalian neurogenic niche by DNA replication regulators  
Gonzalo Ortiz Álvarez, IBENS, Paris, France

09:50 - 10:05am Temporal order of neural progenitor division controls neural connectivity  
Sophie Louvet-Vallee, Sorbonne Univ., LBD-IBPS, Paris, France

10:05 - 10:20am A SMAD1/5-YAP signalling module drives radial glia self-amplification and growth of the developing cerebral cortex  
Gwenaël Le Dréau, The Vision Institut, Paris, France

10:20 - 10:35am The vertebrate specific VENTX/NANOG gene empowers neural crest with ectomesenchyme potential  
Anne-Hélène Monsoro-Burq, Institut Curie Research Division, Paris, France

10:35 - 10:55am Break and visit of the partner’s virtual stands in Gather.town

DEVELOPMENTAL PATHOLOGIES  
Chairperson: Françoise Helmbacher

10:55 - 11:30am Organ-specific mechanisms of lymphatic vascular development and disease  
Taija Makinen, Uppsala University, Uppsala, Sweden
11:30 - 11:45am Transient nodal signalling in left precursors coordinates opposed asymmetries shaping the heart loop
Audrey Desgrange, Pasteur & Imagine Inst. Paris, France

11:45 - 12:00am Role of Lmna in cardiomyocyte development, maturation and homeostasis
Laetitia Bouchard, MMG, Marseille, France

12:00 - 12:15pm Studying neuronal network genesis to understand neurodegenerative diseases: role of VPS35, a sub-unity of the retromer
Micaela Roque, IBDM, Marseille, France

12:15 - 12:30pm Identification of key actors of malignancy downstream of the RAS-ERK oncogenic pathway thanks to an in vivo model in the neural tube of the chicken embryo
Marie Claire Delfini, IBDM, Marseille, France

12:30 - 01:30pm Lunch break, let’s meet in Gather.town and at the partner’s virtual stands

01:30 - 03:15pm POSTER SESSION #2 in Gather.town

EVO-DEVO & EMERGING MODELS
Chairperson: Benjamin Prud’homme

03:30 - 04:05pm Evolution of explosive fruit
Angela Hay, MPI for Plant Breeding Research, Köln, Germany

04:05 - 04:20pm Choanoflagellates and the origin of animal morphogenesis
Thibaut Brunet, UC Berkeley, USA

04:20 - 04:35pm Vasal budding: characterization of a new form of non-embryonic development in the colonial ascidian Polyandrocarpa zorritensis
Marta Scelzo, LBDV, Villefranche-sur-Mer, France
FRIDAY, APRIL 9th

EVO-DEVO & EMERGING MODELS
Chairperson: Benjamin Prud’homme

04:35 – 04:50pm Grid patterning on the embryonic lamina of the brown alga Saccharina latissima
Ioannis Theodorou, SBR, Sorbonne University, France

04:50 – 5:05pm Comparative anatomy of the limb neuromuscular system
Maëva Luxey, DUW Zoology, Basel, Switzerland

05:05 – 05:50pm Keynote Speaker
The Shape Within: Potential relationships between egg and embryo size and shape
Cassandra Extavour, Harvard University, Cambridge, USA

05:50pm Closing Remarks