



EMBL Limb Development and Regeneration: New Tools for a Classic Model System

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 The content below is no longer being updated.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 - Tuesday 2 July 2019

Time	Speaker
11:30-13:15	Arrival and Registration
12:30-13:00	Pre-Conference Workshop

Time	Speaker
13:15-13:30	Opening Remarks
13:30-14:30	Keynote Lecture I In vivo studies of human genome function Len Pennacchio - DOE Joint Genome Institute, USA
14:30-17:25	Session 1 - Gene Regulation Chair: Rolf Zeller
14:30-14:55	HoxA13 and HoxD13 function as pioneer factors in the developing limb Marie Kmita - McGill University, Canada
14:55-15:20	Robustness versus evolvability: Transcriptional control of the BMP antagonist Grem1 during vertebrate limb development Aimée Zuniga - University of Basel, Switzerland
15:20-15:50	Coffee break
15:50-16:15	LIMB-NET: An online simulation tool for the limb development community James Sharpe - EMBL Barcelona, Spain
16:15-16:40	Long-range gene regulation at the HoxD locus during limb development Denis Duboule - University of Geneva, Switzerland
16:40-16:55	Two Lmx1b-associated cis-regulatory modules (LARM1/2) mediate Lmx1b auto-amplification during limb dorsalization and their disruption can cause a limb-specific form of Nail-Patella syndrome Kerby Oberg - Loma Linda University, USA
16:55-17:10	Limb development through the lens of single-cell analysis Sveta Markman - Weizmann Institute of Science, Israel
17:10-17:25	GLI transcriptional repression regulates enhancer activity and chromatin accessibility in response to Hedgehog signaling Steven Vokes - University of Texas at Austin, USA
17:25-19:00	Welcome reception on PRBB Terrace

Day 2 - Wednesday 3 July 2019

Time	Speaker
09:00-12:10	Session 2 - Patterning Chair: Gary Schoenwolf

Time	Speaker
09:00-09:25	Appropriate spatial restriction of cell signalling in the developing limb: Integration of mechanical cues Paula Murphy - Trinity College Dublin, Ireland
09:25-09:50	Early Shh function and the late determination of digit identity: Temporal integration by multiple signals Susan Mackem - National Cancer Institute, USA
09:50-10:05	Meis transcription factors interpret FGF signaling gradient to convey positional information along the limb bud proximo-distal axis Irene Delgado - Centro Nacional de Investigaciones Cardiovasculares (CNIC), Spain
10:05-10:20	Differential response of the developing limb neuromuscular system to an altered autopod pattern Maëva Luxey - University of Basel, Switzerland
10:20-10:50	Coffee break
10:50-11:15	SP8-dependent regulatory network in the limb ectoderm Marian Ros - CSIC, University of Cantabria, Spain
11:15-11:40	Regulation of the formation and maintenance of limb muscle and bone tissue Malcolm Logan - King's College London, United Kingdom
11:40-11:55	Reprogramming non-limb fibroblasts into limb bud progenitor-like cells Yuji Atsuta - Harvard Medical School, USA
11:55-12:10	Molecular mechanism of segmentation of limb cartilage Amitabha Bandyopadhyay - Indian Institute of Technology Kanpur, India
12:10-14:00	Lunch
14:00-17:10	Session 3 - Patterning & Regeneration Chair: Gregg Duester
14:00-14:25	Recruiting progenitor cells during development, wound healing, and regeneration Joshua D. Currie - University of Toronto, Canada
14:25-14:50	Overcoming regenerative restrictions in mice Ken Muneoka - Texas A&M University, USA

Time	Speaker
14:50-15:05	How do axolotls memorize and regulate the patterning information in limb regeneration Akane Kawaguchi - Research Institute of Molecular Pathology (IMP), Austria
15:05-15:20	Single-cell profiling of the regenerating axolotl limb Nicholas D Leigh - Harvard University, USA
15:20-15:50	Coffee break
15:50-16:15	Maintenance of genomic integrity in proliferating blastema cells of regenerating axolotl limbs Jessica Whited - Harvard University, USA
16:15-16:40	Re-patterning and re-sizing in regeneration of vertebrate appendages Koji Tamura - Tohoku University, Japan
16:40-16:55	EGFR activation promotes regenerative capacity in mouse digit tissue Caroline Dealy - UConn Health, USA
16:55-17:10	Functional analysis for deciphering unique genetic program in newt limb regeneration Miyuki Suzuki - National Institute for Basic Biology, Japan
17:10-17:40	Flash Talk Session I Poster No: 55, 59, 63, 65, 67, 71, 85, 89, 91
17:40-19:00	Poster Session I (odd numbers)
19:00-20:00	Keynote Lecture II Limb regeneration - a non-conserved, conserved process Elly Tanaka - IMP - Research Institute of Molecular Pathology, Austria

Day 3 - Thursday 4 July 2019

Time	Speaker
09:00-12:10	Session 4 - Morphogenesis & Modelling Chair: Miguel Torres
09:00-09:25	Insights into the dynamics of limb chondrogenesis Jérôme Gros - Institut Pasteur, France

Time	Speaker
09:25-09:50	Quantitative and comparative analysis of tissue deformation dynamics during chick and <i>Xenopus</i> limb development Yoshihiro Morishita - RIKEN Center for Biosystems Dynamics Research, Japan
09:50-10:05	Sonic Hedgehog (Shh) does not act as a limb morphogen but is required to specify all digit types, including digit 1 (thumb) Jianjian Zhu - National Cancer Institute, USA
10:05-10:20	A 3D computer simulation of limb morphogenesis Miquel Marin-Riera - EMBL Barcelona, Spain
10:20-10:50	Coffee break
10:50-11:15	Biophysical approaches to morphogenesis in the mouse embryo Sevan Hopyan - University of Toronto, Canada
11:15-11:30	Modulating Wnt-dependent transcriptional processes and morphologies during mammalian organogenesis Rushikesh Sheth - University of Basel, Switzerland
11:30-11:45	Development of the pelvic girdle requires apical ectodermal ridge FGFs Christian Louis Bonatto Paese - National Cancer Institute, USA
11:45-12:00	A new role of GDF5 in regulating cell and nuclear morphology during chondrocyte differentiation Sarah Rubin - Weizmann Institute of Science, Israel
12:10-14:00	Lunch
14:00-16:55	Session 5 - Growth Chair: Elazar Zelzer
14:00-14:25	The control of tempo during embryonic development: insights from limb development Megan Davey - The University of Edinburgh, United Kingdom
14:25-14:50	Different insults to long bone growth lead to distinct scaling effects in developing mice Alberto Roselló-Díez - Monash University, Australia
14:50-15:05	3D Visualisation of the role of cell activities in joint morphogenesis Yuming Huang - Imperial College London, United Kingdom
15:05-15:20	Pectoral fin morphogenesis: From a monolayer to a 3D structure Hahn Nguyen - CNRS USR3695 BioEmergences, France

Time	Speaker
15:20-15:50	Coffee break
15:50-16:15	ECM collagens in the prenatal skeletal rudiment: How do they develop and are they mechanoregulated? Niamh Nowlan - Imperial College London, United Kingdom
16:15-16:40	Thalidomide-induced limb differences: The role of the blood vessels Neil Vargesson - University of Aberdeen, United Kingdom
16:40-16:55	Shh mediated Fgf-signaling is compartmentalized in the mesenchyme and controls limb size during salamander development Sruthi Purushothaman - University of Kentucky, USA
16:55-17:25	Flash Talk Session II Poster No: 50, 52, 58, 60, 72, 74, 90, 100, 108, 112
17:25-19:00	Poster Session II (even numbers)
19:00-22:00	Conference dinner at Marina Bay

Day 4 - Friday 5 July 2019

Time	Speaker
09:00-11:55	Session 6 - Evolution Chair: Jacques Drouin
09:00-09:25	Developmental basis of mammalian limb variation Karen E. Sears - University of California, Los Angeles, USA
09:25-09:50	What big feet you have! Development and evolution of limb skeletal proportion Kimberly Cooper - UCSD, USA
09:50-10:05	Developmental basis of limb heterochrony in the wing of the emu (<i>Dromaius novaehollandiae</i>) John Young - Harvard Medical School, USA
10:05-10:20	A developmental mechanism for metapterygial bending during the evolution of the tetrapod limb Joost Woltering - University of Konstanz, Germany
10:20	Group photo
10:20-10:45	Coffee break

Time	Speaker
10:45-11:10	HoxD13 and its targets and the evolution of vertebrate limbs Renata Freitas - IBMC, Portugal
11:10-11:25	Left-right asymmetric reduction of skeletal elements in emu wings Mikiko Tanaka - Tokyo Institute of Technology, Japan
11:25-11:40	Working material for appendage variation: Potential to form limb-like skeletal structures in zebrafish by activation of a latent patterning mechanism Brent Hawkins - Harvard Medical School/Boston Children's Hospital, USA
11:40-11:55	Dissecting the cis-regulatory robustness of Ptch1 in limb development and evolution Virginie Tissières - Centro Andaluz de Biología del Desarrollo, CSIC, Spain
11:55-12:55	Keynote Lecture III Are Hox-expressing cells musculoskeletal stem cells? Deneen M. Wellik - University of Wisconsin-Madison, USA
12:55-13:15	Poster Prize Award Ceremony and Closing Remarks