

Friday, 9.7.2010

S8) Evolutionary Developmental Genomics (Didier Casane, Michel Vervoort)

Chair: Michel Vervoort

Auditorium 1A

9.00-9.25

S8.1: Max Telford (University College London, UK): What have we learned from two decades of metazoan molecular phylogenetics?

9.25-9.50

S8.2: Uwe Strähle (University of Heidelberg and Karlsruhe Institute of Technology, Germany): Evolution of the regulatory network controlling the differentiation of interneurons in the ventral spinal cord

9.50-10.15

S8.3: Axel Meyer (University of Konstanz, Germany): Next generation sequencing and comparative genomics of extremely young species of crater lake cichlids of Nicaragua.

10.15-10.40

S8.4: Didier Casane (Université Paris Diderot, France): Evolution of Hox gene clusters in gnathostomes: new insights from a survey of a shark (*Scyliorhinus canicula*) transcriptome

11.10-11.35

S8.5: David E.K. Ferrier (University of St Andrews, UK): Evolution of animal genomes from a homeobox gene perspective

11.35-12.00

S8.6: Nicolas Lartillot (Université de Montréal, Canada): Molecular evolution, and the evolution of phenotypic and life-history traits.

12.00-12.25

S8.7: Sylvie Mazan (Université Pierre et Marie Curie, France): Origin of extra-embryonic tissues in jawed vertebrates: insights from the dogfish

12.25-12.50

S8.8: Guillaume Balavoine (Université Paris Diderot, France): Evolution of segmentation in metazoans

S9) Developmental Mechanisms of Evolutionary Change in Nervous Systems (Georg Striedter)

Chair: Georg Striedter

Auditorium 4C

9.00-9.25

S9.1: Markus Friedrich (Wayne State University, USA): The fungus beetle genus *Ptomaphagus*: a new model to explore the neurodevelopmental basis of cave adaptation

9.25-9.50

S9.2: Sophie Creuzet (Institut de Neurobiologie, Gif sur Yvette, France): The advent of the neural crest, a driving force in forebrain evolution

9.50-10.15

S9.3: Gerhard Schlosser (National University of Ireland, Galway, Ireland): How to make sense out of skin - Development and evolution of vertebrate cranial placodes

10.15-10.40

S9.4: Yoshiyuki Yamamoto (University College London, UK): Cavefish eye degeneration. Can we rescue their sight?

11.10-11.35

S9.5: Barbara Finlay (Cornell University, USA): Night and day, large and small: developmental structure supporting common visual system variations in mammalian evolution

11.35-12.00

S9.6: J. Todd Strelman (Georgia Institute of Technology, USA): Brain diversity develops at the boundaries

12.00-12.25

S9.7: Georg Striedter (University of California Irvine, USA): Diverse developmental strategies for changing brain size and brain proportions in birds

12.25-12.50

S9.8: Loreta Medina (University of Lleida, Spain): Histogenetic subdivisions and origin of forebrain complexity and diversity in vertebrates

S10) Genetic and Developmental Basis of the Evolution of Complex Traits (Joan Richtsmeier, Chris Klingenberg)

Chair: Joan Richtsmeier, Chris Klingenberg

Auditorium 2A

9.00-9.25

S10.1: Scott Gilbert (Swarthmore College, USA): Epigenetic and genetic sources of selectable variation

9.25-9.50

S10.2: José María Gómez*, Francisco Perfectti (University of Granada, Spain): Evolution of complex traits: Natural selection on *Erysimum* flower shape

9.50-10.15

S10.3: Vincent Debat* (Museum National d'Histoire Naturelle, Paris, France), Derek Roff (University of California, Riverside, USA), Chris Klingenberg (University of Manchester, UK): Effects of temperature on the structure of the G matrix of insect wing shape

10.15-10.40

S10.4: Paul Brakefield (University of Leiden, the Netherlands; University of Sheffield, UK): Butterfly radiations and their exploration of morphospace

11.10-11.35

S10.5: David W. Stock*, Sharon R. Aigler (University of Colorado, USA): Is loss of complex traits reversible? An example from the zebrafish dentition

11.35-12.00

S10.6: Sophie Montuire*, Rémi Laffont and Elodie Renvoisé (University of Burgundy, France): Time scale in Evo-Devo and macroevolutionary model

12.00-12.25

S10.7: Ken Weiss*, Brian Lambert, Neus Martinez-Abadias, Chris Percival, Kazuhiko Kawasaki, Anne Buchanan, Tim Ryan, Joan Richtsmeier (Pennsylvania State University, USA): An integrated systems approach to craniofacial development

12.25-12.50

S10.8: Katie Parkinson, Neil Buttery, Jason Wolf and Chris Thompson* (University of Manchester, UK; University of Bath, UK): Defining a simple genetic basis underlying complex social behaviour

M7) Mechanisms Generating Flower Diversity (Sabine Zachgo)

Chair: Sabine Zachgo

Auditorium 5C

9.00-9.25

M7.1: Brendan Davies (University of Leeds, UK): Natural variation at a single amino acid alters the ability of a MADS-box transcription factor to specify male and female organ identity.

9.25-9.50

M7.2: Ronald Koes (VU-University Amsterdam, Netherlands): Genetic alterations underlying the diversification of inflorescence architectures

9.50-10.15

M7.3: Elena Kramer (Harvard University, USA): Genomic level views of novel floral organ morphology

10.15-10.40

M7.4: Paula Elomaa (University of Helsinki, Finland): Regulation of flower type identity in *Gerbera hybrida* (Asteraceae)

M8) Evolution of Stomata and Stomatal Physiology (David Beerling, Julie Gray)

Chair: David Beerling, Julie Gray

Auditorium 5C

11.10-11.35

M8.1: Elizabeth M. Ruzala*, A. Hetherington (University of Bristol, UK): The evolution of stomatal function

11.35-12.00

M8.2: Peter Franks (University of Sidney/Sheffield, UK): Evolution of stomatal size

12.00-12.25

M8.3: Caspar Chater (University of Sheffield, UK): Stomatal ABA signalling conserved across 450 million years of land plant evolution

12.25-12.50

M8.4: John Raven (University of Dundee): What can fossils tell us?

Keynote speaker 4

Chair: Didier Casane

Auditorium 1A

14.20-15.00

Philippe Janvier (Museum National d'Histoire Naturelle, Paris, France): Breaking through the mineral barrier: Early fossil vertebrate anatomy in the light of new technologies

C13) Evolution of Cis-Regulation

Chair: Matt Ronshaugen

Auditorium 1A

15.10-15.25

C13.1 Peter Dearden (University of Otago): The enhancer of split complex, evolution of a genomic regulatory domain.

15.25-15.40

C13.2 Jordi Garcia-Fernandez (Dep. Genetics and IBUB, Universitat de Barcelona): Deep conservation of regulatory elements in eumetazoa

15.40-15.55

C13.3 Stefan Pauls (Systems Biology NIMR): Evolution of a vertebrate lens enhancer from an invertebrate regulatory sequence

C14) Evolution and Generative Laws of Morphogenesis

Chair: Robert Cerny

Auditorium 4C

15.10-15.25

C14.1 Lev Belousov (Moscow State University): From developmental constraints to generative rules

15.25-15.40

C14.2 Estelle Hirsinger (Institut Pasteur): Architecture of a developmental process, the elongation in amphioxus

15.40-15.55

C14.3 Evgenia Kornikova (Lomonosov Moscow State University): A role of mechano-geometry in tissue differentiation during xenopus laevis early development and its evolutionary applications

C15) Evolution of Vertebrate Musculoskeletal Development

Chair: Lennart Olsson

Auditorium 2A

15.10-15.25

C15.1 Matt Friedman (University of Oxford): Great transformations: integrating development and palaeontology to illuminate the evolution of cranial innovations in fishes

15.25-15.40

C15.2 Anna Keyte (Duke University): Developmental origins of precocial forelimbs in marsupial neonates: a new view on limb field placement

15.40-15.55

C15.3 Jennifer Schmidt (Institut für Spezielle Zoologie): Functional knockdown of Foxn3 leads to distorted development of muscles and skeletal elements in the head of *Xenopus laevis* tadpoles

C16) Developmental Variability and Evolution

Chair: Marie-Anne Felix

Auditorium 5C

15.10-15.25

C16.1 Ian Corfe (University of Helsinki): Discovering developmental signals in phylogenetic dental data - from micro- to macro-evolutionary variability

15.25-15.40

C16.2 Kathryn Kavanagh (University of Massachusetts Dartmouth): Developmental variation and evolution of size proportions in fingers and toes

15.40-15.55

C16.3 Philipp Mitteroecker (University of Vienna): A developmental perspective on the evolution of phenotypic variability: studying the ontogenetic trajectory of the phenotypic covariance matrix

C17) Evolutionary Developmental Genomics

Chair: Sylvie Mazan

Auditorium 1A

16.25-16.40

C17.1 Frederic Bastian (University of Lausanne): Fate of gene expression after duplication in teleost fishes

16.40-16.55

C17.2 Stephanie Bertrand (CNRS UMR3355 Laboratoire Arago): Amphioxus reveals the evolution of FGF signalling in chordates

16.55-17.10

C17.3 Eve Gazave (UMR 6540 – DIMAR Station marine d'Endoume): Origin and evolution of the Notch signalling pathway: an overview from eukaryotic genomes

17.10-17.25

C17.4 Manuel Irimia (University of Barcelona): Origin and evolution of NOVA splicing networks in vertebrates and other metazoans

17.25-17.40

C17.5 Shigehiro Kuraku (University of Konstanz): What are cyclostomes, genomically speaking?

17.40-17.55

C17.6 Morgane Thomas-Chollier (Max Planck Institute for Molecular Genetics): New insights into the origin and evolution of Hox and ParaHox genes

C18) Developmental Mechanisms of Evolutionary Change in Nervous Systems

Chair: Sylvie Retaux

Auditorium 4C

16.25-16.40

C18.1 Julien Behague (Institut Jacques Monod, UMR 7592 CNRS): Molecular analysis of the peripheral nervous system of the annelid platynereis provide insights into the origin of the chordate neural tube

16.40-16.55

C18.2 Thomas Butts (King's College London): The evolution of the vertebrate cerebellum

16.55-17.10

C18.3 Joakim Eriksson (University of London): The development of the nervous system in onychophorans and its implications for the arthropod ground-pattern of neurogenesis.

17.10-17.25

C18.4 Nathan Kenny (University of Otago) :Old fashioned thinking: neural receptors in a basal lophotrochozoan, the rotifer *Brachionus plicatilis*

17.25-17.40

C18.5 Karen Pottin (CNRS): Interfering with midline signalling in blind cavefish rescues retina development

17.40-17.55

C18.6 Ikuo Suzuki (National Institute of Genetics, Japan): Conservation of developmental mechanisms in evolutionarily divergent pallial structures

C19) Genetic and Developmental Basis of the Evolution of Complex Traits

Chair: Paul Brakefield

Auditorium 2A

16.25-16.40

C19.1 Antje Fischer (EMBL Heidelberg): Mesoderm and muscle development in *Platynereis* – insights from a lophotrochozoan

16.40-16.55

C19.2 Nelly Gidaszewski (Museum National d'Histoire Naturelle): Plasticity and macroevolution: how temperature affects wing diversity

16.55-17.10

C19.3 Arnaud Le Rouzic (CNRS): The changes of genetic architectures during adaptation: insights from artificial-selection experiments

17.10-17.25

C19.4 John P. Masly (University of Southern California): The genetics of rapidly evolving genital morphology in *Drosophila*

17.25-17.40

C19.5 Sabrina Renaud (CNRS University Lyon 1): Occluding teeth as an integrated but evolvable system: molar shape in insular house mice

17.40-17.55

C19.6 Irma Varela (Leiden University): Breaking an evolutionary and developmental constraint in mammals. On sloths, manatees and homeotic mutations

C20) Establishing New Model Systems in Evo-Devo

Chair: Wallace Arthur

Auditorium 5C

16.25-16.40

C20.1 Abderrahman Khila (McGill University): Semi-aquatic bugs as natural systems for the study of animal diversity

16.40-16.55

C20.2 Rosannah McCartney (Otago University): The evolution of caste development in the honey bee

16.55-17.10

C20.3 Inga Nissen (Heinrich-Heine-Universitaet Duesseldorf): The evolution and function of the sex determination pathway in honeybees

17.10-17.25

C20.4 Florian Raible (Max F. Perutz Laboratories): The establishment of regulatory genomic tools in *Platynereis dumerilii*

17.25-17.40

C20.5 Ildiko Somorjai (Universitat de Barcelona): Extensive regeneration ability in amphioxus (*Branchiostoma lanceolatum*) provides insight into the evolution of chordate regeneration processes.

17.40-17.55

C20.6 Hiroshi Suga (Barcelona Science Park): Origin of multicellularity: establishing new model systems of the pre-metazoan Opithokonta