

Program

Wednesday 14 November

Opening Remarks by Harukazu Nakamura

Session 1 *Recent advances in avian genomics and genetics*

Chair: Dave Burt

14:00-15:00 S-1-1 *Plenary: 48 avian genomes*

Erich Jarvis (Neurobiology, Duke University, USA)

15:00-15:20 S-1-2 *Gene expression profiling and DNA methylation status of avian primordial germ cell*

Hyun-Jun Jang, Young Min Kim, Hong Jo Lee, Tae Sub Park, Jeong Mook Lim, Jae Yong Han (Seoul National University, Korea)

15:20-15:40 S-1-3 *Twenty-seven enhancers and additional enhancer candidates for Sox2 regulation are distributed within a 200 kb region of the chicken genome*

Hisato Kondoh (Osaka University, Japan)

15:40-16:00 S-1-4 *The Role of Long Noncoding RNAs in Regulating Chicken Limb Patterning*

Matthew G. Schwartz (Harvard Medical School, USA)

16:00-16:30 COFFEE BREAK

16:30-16:50 S-1-5 *eChickAtlas: a comparative 3D atlas of gene expression during chick and mouse development.*

Frances Wong (Roslin Institute/Edinburgh University, UK)

16:50-17:10 S-1-6 *FANTOM5 – mapping promoters in mouse, man and now chickens using single molecule sequencing*

AI Forester (RIKEN, Omics Science Center (OSC) Yokohama Institute, Japan)

17:10-17:30 S-1-7 *Avian resources in Ensembl*

Steve Searle (The Wellcome Trust Sanger Institute, UK)

17:30-17:50 S-1-8 *Chicken genome update and consortia for RNAseq, SNPs and more ...*

Dave Burt (Roslin Institute/Edinburgh University, UK)

18:00 **OPENING MIXER**

Thursday 15 November

9:00 **Keynote lecture** *A new look at the evolution of dinosaurs to modern birds*

Makoto Manabe (National Science Museum, Japan)

Session 2 *Birds and evolution*

Chair: Cheng-Ming Chuong and Mikiko Tanaka

10:00-10:30 S-2-1 *Feather as a model for organ regeneration and Evo-Devo study*

Cheng-Ming Chuong (Department of Pathology, University of Southern California)

10:30-11:00 S-2-2 *Evolution of feathers and wing digits: Paleontological evidence*

Xing Xu (Institute of Vertebrate Paleontology & Paleoanthropology, Chinese Academy of Sciences)

11:00-11:30 S-2-3 *Developmental and evolutionary aspects of avian-specific traits in limb skeletal pattern*

Koji Tamura (Graduate School of Life Sciences, Tohoku University):

11:30-11:50 S-2-4 *The Origin and Development of the Sternum: Examining the Role of Tbx5 in Mammalian and Avian Sternum Formation*

Sorrel Bickley (National Institute of Medical Research, UK)

11:50-12:10 S-2-5 *Neocortical neurogenesis is not really "neo": a new evolutionary model derived from a comparative study of the chick pallial development*

Ikuo K. Suzuki (ULB); Brussels, Belgium

12:10-12:30 S-2-6 *Evolution and development of limbs*

Mikiko Tanaka (Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)

12:30-14:00 Lunch Break

14:00-15:00 **Lab/Poster Intros**

Session 3 *Organogenesis*

Chair: Raj Ladher

15:00-15:20 S-3-1 *BMP-induced Cux2 activity suppress Notch signalling and neurogenesis in the olfactory epithelium*

Lena Gunhaga (Umea University, Sweden)

15:20-15:35 S-3-2 *The avian paratympanic organ develops from a previously undiscovered sensory placode*

Paul O'Neill (RIKEN CDB, Japan)

15:35-15:50 S-3-3 *Differential signaling directs distinct aspects of trigeminal ganglion development*

Claire Canning (Institute of Medical Biology, Singapore)

15:50-16:05 S-3-4 *Differential regulation of Hes5 and Hey1 in Inner Ear Development*

Jelena Petrovic (Univesitait Pompeu Fabra, Spain)

16:05-16:20 S-3-5 *Exploring the Transcriptional Landscape of Cranial and Trunk Neural Crest Cells*

Marcos Sawada Simões-Costa (California Institute of Technology, USA)

16:20-16:40 S-3-6 *Mechanisms that regulate morphology the mid and upper face*

Ralph Marcucio

16:40-17:00 S-3-6 *The occipital lateral plate mesoderm – a novel source for vertebrate neck musculature*

Ketan Patel (University of Reading)

17:00-17:30 COFFEE BREAK

Session 4 Cutting, pasting and painting

Chair: Peter Farlie

17:30-18:00 S-4-1 *Deciphering the vertebrate cephalogenesis with the quail-chick system*

Sophie Cruzet

18:00-18:30 S-4-2 *Cut to the chase: tracking the interactions of donor and host cells in avian chimeras*

Richard Schneider (University of California San Francisco, USA)

18:30-19:00 S-4-3 *The use of RCAS retroviral vectors for global or restricted gene expression in chicken embryos*

Luke Lambeth (Murdoch Childrens Research Institute, Australia)

S-4-4 *Long term, inducible gene loss of function in the chick embryo*

Christophe Marcelle (Monash University, Australia)

19:30- **POSTERS [Post your posters all through 15th to 17th.**

Your day of presentation is indicated in your abstract

Friday 16 November

9:00 **Keynote lecture** *Recent advances in our understanding of avian sex determination*

Craig Smith (Murdoch Childrens Research Institute, Australia)

Session 5 Stem cells and early development

Chair: Bertrand Pain

10:00-10:25 S-5-1 *Germ line competency of chicken embryonic stem cells to produce genetically modified chickens*

Mikiharu Nakano (Nagoya University)

10:25-10:50 S-5-2 *Characterising the zebra finch blastodermal cells*

Siu-Shan Mak (RIKEN CDB, Japan)

10:50-11:08 S-5-3 *Search for New Organisers*

Clair Anderson (University College London, UK)

11:08-11:26 S-5-4 *Decoupling of amniote gastrulation and streak formation reveals a morphogenetic unity in vertebrate mesoderm induction*

Cantas Alev (RIKEN CDB, Japan)

11:26-11:44 S-5-5 *Forkhead box N4 (FoxN4) triggers context-dependent differentiation in the developing chick retina and neural tube*

Boije H ShiraziFard (Uppsala University, Sweden)

11:44-12:02 S-5-6 *Actin nucleators in regulating axonal pathfinding and traction forces in growth cones*

Abhishek Sahasrabudhe (IISER, India)

12:02-12:20 S-5-7 *Combinatorial BMP and FGF Signaling Drive Development of the First and Second Heart Fields*

Alexander S Bobbs (University of Arizona, USA)

12:30-14:00 Lunch Break

Session 6 PGC: propagation, handling and uses

Chair: Tamao Ono

14:00-14:24 S-6-1 *Handling and Uses of Avian Primordial Germ Cells for Avian Model Development*

Jae Yong Han (Seoul National University)

14:24-14:48 S-6-2 *Avian Stem Cells & PGCs for Developmental Manipulation*

Hiroshi Kagami (Shinshu University)

14:48-15:12 S-6-3 *Sex Determination of Chicken Germ Cells*

Takahiro Tagami (NILGS, Japan)

15:12-15:36 S-6-4 *Chicken Germplasm Preservation using Primordial Germ Cells*

Yoshiaki Nakamura (NIBB, Japan)

15:36-16:00 S-6-5 *Pattern of calcium oscillation during fertilization and egg development in quail*

Shusei Mizushima (Shizuoka University, Japan)

16:00-17:00 **Lab/Poster Intros**

Session 7 Using birds to understand disease

Chair: Don Newgreen

17:00-17:25 S-7-1 *Using avians to study congenital heart defects*

Mary Hutson (Duke University, USA)

17:25-17:50 S-7-2 *Using the chick to study cancer cell plasticity and invasion*

Paul Kulesa (Stowers Institute for Medical Research, USA)

17:50-18:15 S-7-3 *Advances in live imaging of macrophage development and function during embryonic development*

Adam Balic (Roslin Institute, UK)

18:15-18:30 S-7-4 *Aves at the wavefront: development and developmental diseases of the Enteric Nervous System*

Don Newgreen (Murdoch Childrens Research Institute, Australia)

18:30-18:45 S-7-5 *Growth factor-loaded microparticles to promote the natural healing process of bone*

Hassan Rashidi (University of Nottingham, UK)

18:45-19:00 S-7-6 *Shh gene expression is altered during early embryogenesis in ventral body wall defect in the chick model*

Naho Fujiwara (University College Dublin, Ireland)

19:00-19:15 S-7-7 *Changes in the bipotential fate of tail organizer cells leads to caudal axis truncation*

Susan C. Chapman (Clemson University)

19:15-19:30 S-7-8 *GABAA/B receptor antagonist reverses the effect of prenatal morphine exposure on one-trial passive avoidance task and morphine susceptibility in day-old chicks*

Nan Sui (Institute of Psychology, CAS, China)

19:30- **POSTERS [Post your posters all through 15th to 17th.**

Saturday 17 November

9:00 **Keynote lecture** *Germline transgenesis of chicken*

Shinji Iijima (Nagoya University, Japan)

Session 8 Gene delivery and transgenesis

Chair: Masanori Uchikawa and Yuki Sato

10:00-10:23 S-8-1 *Conditional knockdown of target gene expression: Tet-on of transcription of double strand RNA*

Xubin Hou (Niigata University, Japan)

10:23-10:46 S-8-2 *The modified Cornish pasty method: a new tool for early avian embryo studies*

Hiroki Nagai (RIKEN CDB, Japan)

10:46-11:09 S-8-3 *Primordial Germ Cells Transmigrate from Blood Stream to Gonad in Avian Embryos: Novel Behavior Revealed by Live-imaging Analyses*

Daisuke Saito (NAIST, Japan)

11:09-11:21 break

11:21-11:44 S-8-4 *Functional analyses of Equarin during chick lens development*

Xiaohong Song (Kumamoto University, Japan)

11:44-12:07 S-8-5 *The efficient transgene delivery for stable genomic integration and expression in chicken*

Tae Sub Park (Seoul National University, Korea)

12:07-12:30 S-8-6 *The Form and Function of Embryogenesis*

Rusty Lansford (Caltech, USA)

12:30-14:00 LUNCH BREAK

Session 9 Neurobiology and Behavior

Chair: Masaru Nakamoto

14:00-14:30 S-9-1 *Recent genoarchitectonic contributions to avian neuroanatomy*

Luis Puelles (University of Murcia, Spain)

14:30-15:00 S-9-2 *Diencephalic regionalization: the dream begins*

Salvador Martinez (University of Miguel Hernandez, Spain)

15:00-15:30 S-9-3 *FGF regulates the competence of neural progenitor cells to differentiate into the floor plate*

Noriaki Sasai (NIMR, UK)

15:30-16:00 S-9-4 *Neural coding of syntactic vocal signals*

Dai Watanabe (Kyoto University, Japan)

16:00-16:30 S-9-5 *Imprinting behavior in chicks: an excellent model for the study of juvenile learning and*

memory

Hiroko Ohki-Hamazaki (Kitazato University, Japan)

16:30-17:00 COFFEE BREAK

Session 10 *Using birds for cell biology*

Chairs: Chaya Kalcheim, Guojun Sheng

17:00-17:25 S-10-1 *Involvement of Notch-mediated lateral inhibition and subsequent planar cell migration of Delta1-expressing cells in avian otic placode formation*

Yoshio Wakamatsu (Tohoku University, Japan)

17:25-17:50 S-10-2 *A dynamic code of dorsal neural tube genes regulates the segregation between neurogenic and melanogenic neural crest cells*

Chaya Kalcheim (Hebrew University, Israel)

17:50-18:08 S-10-3 *Phenotypic heterogeneity of the neural fold and its implication for the origin of ectomesenchyme*

Raymond Lee (Institute of Molecular and Cell Biology, Singapore)

10 min break

18:18-18:36 S-10-4 *CLASP-mediated microtubule anchoring promotes the cellbasement membrane interaction through dystroglycan in gastrulation EMT*

Yukiko Nakaya (RIKEN CDB, Japan)

18:36-18:54 S-10-5 *Antagonistic BMP-TGF- β interactions with the apicobasal polarity pathway regulate midbrain neural tube closure*

Seema Agarwala (University of Texas at Austin, USA)

18:54-19:12 S-10-6 *Decoding the transcriptional code that governs circuit formation of hindbrain interneurons*

Dalit Sela-Donenfeld (Hebrew University, Israel)

19:12-19:30 S-10-7 *Dynamic tissue rearrangement driving early heart tube formation and looping*

Hinako Kidokoro (University of Utah)

19:30- **POSTERS [Post your posters all through 15th to 17th.**

Sunday 18 November

FREE MORNING

New Venue: Hotel Rubura Ozan

13:00 **Keynote lecture** *Patterning of the vertebrate embryo axis*

Olivier Pourquié (IGBMC, France)

Session 11 Live cell imaging (JST session)

Chair: Yoshiko Takahashi and Takayuki Suzuki

14:00-14:15 S-11-1 *Time-lapse analyses of melanosome-transfer in the developing skin –*

Ryosuke Tadokoro (Kyoto University, Japan)

14:15-14:27 S-11-2 *CSF1 and the biology of chicken macrophages*

Carla Garcia-Morales (University of Edinburgh, UK)

14:27-14:42 S-11-3 1 *Blood vessel remodeling in living embryos: a link between blood flow and migration of endothelial cells.*

Yuta Takase (Kyoto University, Japan)

14:42-14:57 S-11-4 *The role of TALPID3 during cell signalling and early development*

Megan G. Davey (The Roslin Institute, University of Edinburgh, UK)

14:57-15:12 S-11-5 *Role of somitic filopodia in the collective morphogenesis of paraxial tissues*

Yuki Sato (Kumamoto University, JAPAN)

15:12-15:27 S-11-6 *Quantification and visualization of morphogen activity in the developing chick limb bud.*

Takayuki Suzuki (Nagoya University, Japan)

15:27-15:39 S-11-7 *Cell specific gene expression and progenitor cell tracing during embryonic development using a Cre-Lox PiggyBac system*

M. Blixt (Uppsala University, Sweden)

15:39-15:51 S-11-8 *Axis determination in the early chick embryo*

Federica Bertocchini (Institute of Biomedicine and Biotechnology of Cantabria)

16:00-16:30 COFFEE BREAK

Session 12 Avian Biodiversity and Resources (NBRP session)

Chair: Takashi Yoshimura and Olivier Pourquie

16:30-16:55 S-12-1 *Genomic sequence and analysis of Japanese quail*

Ryouka Kawahara (Tokyo University of Agriculture, Japan)

16:55-17:20 S-12-2 *Genome sequencing of multiple chicken lines reveals a rich source of genome variation*

Dave Burt (Roslin Institute, UK)

17:20-17:45 S-12-3 *The origin and evolutionary process of microchromosomes and chromosome size-dependent genomic compartmentalization in vertebrates*

Yoichi Matsuda (Nagoya University, Japan)

17:45-18:10 S-12-4 *Exploring and preserving chicken genetic resources: from domestication to biomedical models*

Michele Tixier-Boichard (INRA, France)

18:10-18:25 S-12-5 *Novel phenomenon of fowl sperm acrosome reaction: intact shedding of acrosomal cap to release acrosomal enzyme*

Muslah U. Ahammad (Kagoshima University, Japan)

18:30-19:00 **Business Meeting**

19:00- **Closing Banquet**