

**International Society of Developmental Biologists
17th International Congress of Developmental Biology**

**Cancun, Mexico
June 16 - 20, 2013**

**72nd Annual Meeting of the Society for Developmental Biology
VII Latin American Society of Developmental Biology Meeting
XI Congreso de la Sociedad Mexicana de Biología del Desarrollo**

PROGRAM

***Scientific Program Committee:* Vivian Irish (SDB President), Claudio Stern (ISDB President), José Xavier Neto (LASDB President), Adriana Garay (SMBD President) and Juan Riesgo Escovar (SMBD)**

***Organizing Committee:* Mario Zurita (SMBD), Ida Chow (SDB), Stefan Schultze-Merker (ISDB)**

Updated June 12, 2013

International Society of Developmental Biologists 17th International Congress of Developmental Biology

jointly with

Society for Developmental Biology 72nd Annual Meeting
Latin American Society for Developmental Biology 7th International Meeting
IX Congreso de la Sociedad Mexicana de Biología del Desarrollo

Cancún Convention Center, Cancún, México

June 16-20, 2013

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Scientific Program Committee: Vivian Irish (SDB President), Claudio Stern (ISDB President), José Xavier Neto (LASDB President), Adriana Garay (SMBD President) and Juan Riesgo Escovar (SMBD)

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Program Abstract Number in *Italics*.

Full abstracts are published on the Congress website: <http://www.inb.unam.mx/isdb/index.html>

Saturday, June 15

8:30 – 22:00 **Satellite Symposium** (independently organized) Hyatt Regency - Estrellas B
Making and Breaking the Left-Right Axis: Laterality in Development and Disease
Co-organizers: Marnie Halpern (Carnegie Institution for Science, USA) and Oliver Hobert (Columbia U, USA)
For final program please go to website: <http://www.sdbonline.org/2013Mtg/SDB2013SatSymp.pdf>

Sunday, June 16

8:00 – 12:00 **Satellite Symposium** Hyatt Regency – Estrellas B
Continuation

12:00 – 18:00 ICDB Registration Cancun Convention Center (CCC) Ground Floor Foyer
12:00 – 18:00 Poster Session I and All Exhibitors – Set Up Gran Cancun 1, 2 & 3. CCC 3rd floor

14:30 – 18:30 **Presidential Symposium** Gran Cancun 5, A & 4. CCC 3rd floor
On Growth and Form Sponsored by *Developmental Dynamics* and *genesis*, Wiley

14:30 – 14:40 Opening Introductions (by society presidents): José Xavier Neto (LASDB), Adriana Garay (SMBD), Vivian Irish (SDB), Claudio Stern (ISDB)
Chair: Vivian Irish

14:40 – 15:20 **Alejandro Sanchez Alvarado** (Stowers, USA). *On planarian regeneration and stem cells*
15:20 – 16:00 **Celeste Nelson** (Princeton, USA). *Role of biomechanics in tissue growth*
16:00 – 16:40 **Elly Tanaka** (CRTD, Germany). *Evolutionary changes in the cellular sources for limb regeneration*

16:40 – 17:10 Coffee break at Exhibits Gran Cancun 1, 2 & 3. CCC 3rd floor
Chair: Claudio Stern

17:10 – 17:50 **I** **The EMBO Lecture - Elliot Meyerowitz** (Caltech, USA).
Mechanical force controls chemical signals in creating plant pattern

17:50 – 18:30 **James Sharpe** (CRG, Spain). *Correct 3D shaping of the vertebrate limb*

18:30 – 20:00 Dinner on your own

20:00 – 22:00 **Poster Session I and Welcome Reception** Gran Cancun 1, 2 & 3. CCC 3rd floor
Poster themes: Education – Transcription and gene regulation – Growth control – Germ cells, gametogenesis and fertilization – Morphogenesis – Genome level approaches

20:00 – 21:00 Odd Number Poster Board Authors Presentation
 21:00 – 22:00 Even Number Poster Board Authors Presentation
Please see poster assignments at the end of the Congress Program.

Monday, June 17

8:00 – 18:00 ICDB Registration Foyer. CCC 3rd floor

8:30 – 14:00 Poster Session I viewing Gran Cancun 1, 2 & 3. CCC 3rd floor

8:30 – 10:30 **Plenary Session 1** Gran Cancun 5, A & 4. CCC 3rd floor
 Chair: Eddy DeRobertis

8:30 – 9:00 **John Gurdon** (Cambridge, UK). *Nuclear transplantation and developmental biology*

9:00 – 9:30 **Angela Nieto** (Inst. Neuroc. Alicante, Spain). *Epithelial plasticity in embryonic development and metastatic colonization*

9:30 – 10:00 **2 Peter Holland**, Ferdinand Marletaz, Laura Ferguson, Jordi Papas, (Oxford, UK), Fei Xu (Chinese Academy of Science, China), Willie Taylor (NIMR, UK), Pete Olson (Nat Hist Museum London, UK). *Unusual patterns of Hox cluster evolution*

10:00 – 10:30 Coffee break at Exhibits Gran Cancun 1, 2 & 3. CCC 3rd floor

10:30 – 12:30 **Concurrent Sessions 1**

1.1 Molecules to cells – Epigenetics and Chromatin Structure Gran Cancun 4. CCC 3rd floor
 Chair: Elly Tanaka

10:30 – 11:00 **Jean Philippe Vielle-Calzada** (CINVESTAV, Mexico). *Epigenetic control of apomixis in plants: Learning from sexual experience*

11:00 – 11:15 **3 Megan Jane Wilson** (Univ. of Otago, New Zealand). *Regulation of gene expression by RNA polymerase II promoter pausing during mouse embryonic development*

11:15 – 11:30 **451 Tim Thomas**, Andrew Kueh, Anne Voss (Inst. of Medical Research, Australia). *The lysine acetyltransferase HBO1 is essential for maintaining the poised chromatin state of neural stem cells*

11:30 – 12:00 **5 Alvaro Rada Iglesias** (Univ. of Cologne, Germany). *Characterization of human developmental enhancers: from whole genomes to single SNPs*

12:00 – 12:15 **6 Alistair Boettiger**, Xiaowei Zhuang (Harvard, USA). *Super-resolution imaging of regulatory chromatin dynamics in developing embryos*

12:15 – 12:30 **7 Marie Kmita** (IRCM, Canada). *HoxA genes regulation in developing limbs: From long-range control to cross-regulation*

1.2 Cells to organs – Tissue Formation Gran Cancun A. CCC 3rd floor
 Chair: Patrick Lemaire

10:30 – 11:00 **8 Matteo Rauzi**, Uros Krzic, Timothy Saunders, Lars Hufnagel, **Maria Leptin** (EMBO, Germany). *Cell shape and morphogenesis: sub cellular and supra-cellular mechanisms*

11:00 – 11:15 **9 George Gentsch**, Nick Owens, Stephen Martin, Michael Gilchrist, James Smith (NIMR, UK). *Functionally co-operating T-box transcription factors define neuro-mesodermal bipotency during vertebrate axial elongation*

11:15 – 11:30 **10 Alain Vincent**, Hadi Boukhatmi, Laurence Dubois, Mathilde De Taffin, Jean-Louis Frenedo, Laetitia Bataillé, Michèle Crozatier (CNRS - Univ. de Toulouse, France). *Transcriptional coding of muscle identity in Drosophila*

11:30 – 12:00 **Guillermo Oliver** (St. Jude Children's Research Hospital, USA). *Transcriptional control of lymphatic vasculature development*

12:00 – 12:15 **11 Dibyendu Dutta**, Thomas Marose, Calli Merkel, **Thomas Carroll** (UT Southwestern Med. Ctr., USA). *Beta-catenin expression in Wolffian ducts is essential for Müllerian duct development during female sexual differentiation*

12:15 – 12:30 **12 Philippa H. Francis-West**, Sana Zakaria (King's College London, UK); Yaopan Mao (Rutgers,

USA); Anna Kuta, Robert Hindges, Sarah Guthrie (King's College London, UK); Kenneth Irvine (Rutgers, USA). *Fat-PCP regulation of neuronal migration*

1.3 Organs to organisms – Models of Human Diseases

Gran Cancun 5. CCC 3rd floor

Chair: Christophe Marcelle

10:30 – 11:00 EMBO Young Investigator Lecture - Bruno Reversade (Inst. of Med. Biol., Singapore).

Anti-ageing proline, Because you're worth it!

11:00 – 11:15 **13** **Semil P. Choksi**, Deepak Babu (IMCB, Singapore); Malgorzata Szczepaniak, Rim Hjejj (Univ. Hosp. Muenster, Germany); Doreen Lau, Xianwen Yu (IMCB, Singapore); Petra Pennekamp, Claudius Werner, Niki T. Loges (Univ. Hosp. Muenster, Germany); Karsten Häffner (Univ. Hosp. Freiburg, Germany); Shunzhen Chen, Kangli Noel Wong (IMCB, Singapore); Gerard Dougherty (Univ. Hosp. Muenster, Germany); Ronald Roepman (Radboud Univ., Netherlands); Heymut Omran (Univ. Hosp. Muenster, Germany); Sudipto Roy (IMCB, Singapore). *Systematic discovery of novel cilia and ciliopathy genes through functional genomics in the zebrafish*

11:15 – 11:30 **14** **Mai Har Sham**, Carly Leung, Mei Zhang, Hon Man Sit (U Hong Kong, China). *Sox10 regulates enteric neural crest cell migration in the developing gut*

11:30 – 12:00 **Eldad Tzahor** (Weizmann Inst, Israel). *More surprises in head muscle development*

12:00 – 12:15 **15** **Lindsay Marjoram**, Michel Bagnat (Duke, USA). *Epigenetic regulation of intestinal inflammation in zebrafish*

12:15 – 12:30 **16** **Debora Sinner**, John Snowball, Richard Lang, Jeff Whitsett (Cincinnati Children's Med. Ctr., USA). *Paracrine endodermal signaling promotes tracheal cartilage development*

12:30 – 14:00 Lunch on your own

12:30 – 13:30 Latin American Society for Developmental Biology Board Meeting

NEW

Tulum. CCC 2nd floor

14:00 – 16:00 Poster Session I – Tear Down

Gran Cancun 1, 2 & 3. CCC 3rd floor

14:00 – 16:00 **Concurrent Sessions 2**

2.1 Molecules to cells – Transcriptional Control

Gran Cancun 4. CCC 3rd floor

Chair: Hisato Kondoh

14:00 – 14:30 **594** Romaric Bouveret, Mirana Ramialison, Reena Singh, Nicole Schonrock (Victor Chang Cardiac Res. Inst., Australia); Antoine Bondu (U Libre de Bruxelles, Belgium); Li Xin, Gavin Chapman, Sally L. Dunwoodie (Victor Chang Cardiac Res. Inst., Australia); Cedric Blanpain (U Libre de Bruxelles, Belgium); **Richard P. Harvey** (Victor Chang Cardiac Res. Inst., Australia). *Cardiac gene regulatory networks in health and disease*

14:30 – 14:45 **17** **Justin Crocker**, David Stern (HHMI Janelia, USA). *TALE-mediated modulation of transcriptional enhancers*

14:45 – 15:00 **18** **Jongmin Nam** (Rutgers, USA). *Reunion after more than 700 million years of separation: fish transcription factors met sea urchin DNAs*

15:00 – 15:30 **99** **Alex Schier** (Harvard, USA). *Nodal morphogen interpretation*

15:30 – 15:45 **19** **Scott Barolo** (U Michigan, USA). *The weak shall lead the strong: The role of transcription factor binding affinity in morphogen gradient responses and enhancer evolution*

15:45 – 16:00 **20** **Stefan de Folter**, Víctor M. Zúñiga-Mayo, J. Irepan Reyes-Olalde, Paulina Lozano-Sotomayor, Daniela Ramos-Cruz, Jeanneth Pablo-Villa, Humberto Herrera-Umbaldo, Mariana Sotelo-Silveira, Ricardo Chavez-Montes, Rocio Escobar-Guzmán, Karla González-Aguilera (LANGEBIO, CINVESTAV-IPN, Mexico); Nayelli Marsch-Martínez (CINVESTAV-IPN, Mexico). *Transcriptional and protein-protein networks in gynoecium and fruit development in Arabidopsis*

2.2 Cells to organs – Cell-cell Signaling and Induction

Gran Cancun A. CCC 3rd floor

Chair: Nancy Papalopulu

14:00 – 14:30 **Eddy DeRobertis** (UCLA, USA). *Embryonic induction by the BMP/Chordin morphogen gradient*

14:30 – 14:45 **21** **Krzysztof B. Wicher**, Maria Skamagki, Agnieszka Jedrusik (Gurdon Inst., UK); Sujoy Ganguly

- (U of Cambridge, UK); Magdalena Zernicka-Goetz, (Gurdon Inst., UK). *Asymmetric localization and segregation of Cdx2 transcripts at the 8-cell stage facilitates development of pluripotent cell lineage of mouse embryos*
- 14:45 – 15:00 **22** **Yoshio Wakamatsu**, Noriko Osumi, Hiroko Shida (Tohoku U, Japan). *Involvement of Notch-mediated lateral inhibition and subsequent planar cell migration of Delta1-expressing cells in avian otic placode formation*
- 15:00 – 15:30 **23** James Dutko, Megumi Hashiguchi, Joe Zinski, **Mary Mullins** (U Penn, USA). *BMP signaling in dorsoventral axial patterning*
- 15:30 – 15:45 **24** **Martin I. Garcia-Castro** (Yale, USA). *Specification of avian neural crest prior to gastrulation*
- 15:45 – 16:00 **25** **Aimée Zuniga**, Emanuele Pignatti, Frédéric Laurent, Sumit Jaiwal, Javier Lopez-Rios, Rolf Zeller (U of Basel, Switzerland). *Integrating BMP and SHH signalling with the regulation of the chromosomal landscape of the BMP antagonist GREM1*

2.3 Organs to organisms – Growth Control

Gran Cancun 5. CCC 3rd floor

Chair: Phil Ingham

- 14:00 – 14:30 **James Briscoe** (NIMR, UK). *Hedgehog signaling and neural tube patterning*
- 14:30 – 14:45 **26** **Abraham Fainsod**, Avi Leibovich, Hadas Leibovich-Kot (Hebrew U, Israel); Danny Ben-Zvi, Naama Barkai (Weizmann Inst of Science, Israel). *ADMP scales the BMP gradient through enlargement and restriction of the organizer*
- 14:45 – 15:00 **27** **Amrita Das** (UT Southwestern, USA). *Stromal-epithelial crosstalk regulates nephron progenitor cell fate*
- 15:00 – 15:30 **Christophe Marcelle** (Monash U, Australia). *Muscle growth and morphogenesis in vertebrates*
- 15:30 – 15:45 **28** **Kenneth Irvine**, Venu Reddy, Gongping Sun, Veronica Codelia (HHMI/Rutgers, USA). *Regulation of Hippo signaling by MAPK pathways*
- 15:45 – 16:00 **350** **Peng-Fei Xu**, Karine Ferri, Christine Thisse, Bernard Thisse (University of Virginia, USA). *Building a Vertebrate Embryo Using a Combination of Morphogenetic Gradients.*

16:00 – 16:30 Coffee break at Exhibits Gran Cancun 1, 2 & 3. CCC 3rd floor

16:00 – 19:00 Poster Session II – Set Up Gran Cancun 1, 2 & 3. CCC 3rd floor

16:30 – 18:30 **ISDB Harrison Medal Lecture** Gran Cancun 5, A & 4. CCC 3rd floor

Chair: Claudio Stern

16:30 – 17:30 **Janet Rossant** (Sick Children Hosp, Canada). *Embryos and stem cells: Developing together*

17:30 – 18:30 ISDB Harrison Medalists awards

18:30 – 20:00 Dinner on your own

20:00 – 22:00 **Poster Session II** Gran Cancun 1, 2 & 3. CCC 3rd floor

Poster themes: Development and evolution – Cell-cell signaling – Morphogen gradients and patterning – Organogenesis – Tissue regeneration – Oncogenesis

20:00 – 21:00 Odd Number Poster Board Authors Presentation

21:00 – 22:00 Even Number Poster Board Authors Presentation

Please see poster assignments in the end of the Congress Program.

Tuesday, June 18

8:00 – 18:00 ICDB Registration Foyer. CCC 3rd floor

8:30 – 14:00 Poster Session II viewing Gran Cancun 1, 2 & 3. CCC 3rd floor

8:30 – 10:30 **Education Symposium** Sponsored by SDB Gran Cancun 5 & A. CCC 3rd floor

Embryological Responses to Environmental Challenges - A Contemporary Teaching Approach

8:30 – 8:45 **Scott Gilbert** (Swarthmore, USA; U Helsinki, Finland). *Toxic environments: How economic development challenges biological development*

- 8:45 – 9:15 **30** **Michael Barresi** (Smith, USA). *From deep water to deep learning: Modeling the teratogenic impacts of the Deepwater Horizon oil spill*
- 9:15 – 9:45 **31** **Tyrone Hayes** (UC Berkeley, USA). *From silent spring to silent night: A tale of toads and men*
- 9:45 – 10:15 **32** **Diana Darnell** (U Arizona, USA). *How can you use environmental issues to make Dev Bio relevant to today's students*
- 10:15 – 10:30 Audience discussion
- 8:30 – 10:30 **Round table** Gran Cancun 4. CCC 3rd floor
Succeeding in research in a competitive environment: lessons from the Masters
Facilitator: Claudio Stern (UCL, UK)
Panelists: Marianne Bronner (Caltech, USA), Eddy De Robertis (UCLA, USA), Maria Leptin (EMBO, Germany), Janet Rossant (U Toronto, Canada), Masatoshi Takeichi (RIKEN, Japan)
- 10:30 – 11:00 Coffee break at Exhibits Gran Cancun 1, 2 & 3. CCC 3rd floor
- 11:00 – 13:00 **Concurrent Sessions 3**
- 3.1 Molecules to cells – Non-coding RNA, Post-translational Control** Gran Cancun 4. CCC 3rd floor
Chair: Alex Schier
- 11:00 – 11:30 **33** Ramiro Rodriguez, Juan Debernardi, Uciel Chorostecki, Carla Schommer, **Javier Palatnik** (Inst. Biol. Molec. y Cel. de Rosario, Argentina). *Control of leaf size and shape by microRNAs in plants*
- 11:30 – 11:45 **34** **Laura S. Gammill**, Corinne L. Fairchild, Joseph P. Conway (U Minnesota, USA). *Tetraspanin18 maintains Cadherin6B protein to antagonize cranial neural crest epithelial to mesenchymal transition*
- 11:45 – 12:00 **35** Phillip Grote, Lars Wittler (Max Plunck Inst for Molec. Genetics, Germany); David Hendrix (MIT, USA); Frederic Koch, **Bernhard Herrmann** (MPI Molec Genet., Germany). *The tissue-specific lncRNA Fendrr is an essential regulator of heart and body wall development in the mouse*
- 12:00 – 12:30 **Nancy Papalopulu** (U Manchester, UK). *mir-9 controls ultradian oscillations of gene expression in neural progenitors*
- 12:30 – 12:45 **36** **L. Daniel Ríos-Barrera**, Juan R. Riesgo-Escovar (UNAM, Mexico). *Identification of a non-coding RNA as a negative regulator of JNK signaling during Drosophila dorsal closure*
- 12:45 – 13:00 **37** **Labib Rouhana**, Jennifer Weiss, Phillip Newmark (U IL at Urbana-Champaign, USA). *Regulation of histone mRNA by PIWI homologs in planarian stem cells*
- 3.2 Cells to organs – Neural Development** Gran Cancun A. CCC 3rd floor
Chair: Marianne Bronner
- 11:00 – 11:30 **38** **Philipp Keller** (HHMI- Janelia, USA). *System level reconstruction of brain development and function with light-sheet microscopy*
- 11:30 – 11:45 **39** **Inés Carrera**, Nikolaos Stefanakis, Oliver Hobert (Columbia, USA). *Regulatory logic of pan-neuronal gene expression*
- 11:45 – 12:00 **40** **Béatrice Durand**, Hugo Juraver-Geslin (IBENS/CNRS, France); José Luis Gómez-Skarmeta (CSIC/ Univ Pablo de Olavide, Spain) *Coexpression of the homeogenes barhl2, otx2 and irx3 specifies the identity and properties of the Mid-Diencephalic Organizer*
- 12:00 – 12:30 **Johan Ericson** (Karolinska Inst., Sweden). *Cell diversity in the CNS*
- 12:30 – 12:45 **41** **Ankur Saxena**, Marianne Bronner (Caltech, USA). *Dual placode/neural crest origin of olfactory sensory neurons*
- 12:45 – 13:00 **42** **Mary Green**, Richard Wingate (King's College of London, UK). *The roles of Atoh1 in the developing cerebellum under the influence of multiple organisers*
- 3.3 Organs to organisms – Emerging Model Systems** Gran Cancun 5. CCC 3rd floor
Chair: Detlev Arendt
- 11:00 – 11:30 **43** **Shigeru Kuratani** (RIKEN, Japan); Hiroshi Nagashima (Niigata U, Japan); Naoki Irie (RIKEN, Japan). *Evolutionary origin of the turtle body plan from genomic, anatomical and developmental perspectives*
- 11:30 – 11:45 **320** **Michael Layden**, Mark Martindale, (Whitney Lab for Marine Bioscience, USA). *Bidirectional*

Notch-Delta signaling in Nematostella vectensis suggests that Delta activation is a key component to this signaling pathway in animals

- 11:45 – 12:00 **45** **Stephan Schneider**, Benjamin Bastin, Margaret Pruitt, Edward Letcher, Hsien-chao Chou (Iowa St U, USA). *Transcriptional inputs and outputs of reiterative beta-catenin switches in a spiral-cleaving embryo*
- 12:00 – 12:30 **Patrick Lemaire** (CNRS, France). *Making similar tunicate embryos with divergent genomes*
- 12:30 – 12:45 **46** **Robert Drewell** (Harvey Mudd College, USA). *Investigating genomic imprinting in the honeybee methylome*
- 12:45 – 13:00 **47** **Nanette M. Nascone-Yoder**, Mandy Womble, Cris Ledon-Rettig, Adam Davis, Mike Dush (North Carolina St U, USA). *Budgett's frog: a new vertebrate model for morphogenesis at multiple biological scales*
- 13:00 – 14:00 Lunch on your own
- 13:00 – 14:30 ISDB Board meeting **New location →** Tulum, CCC 2nd floor
- 14:00 – 16:00 **Education Discussion Session** Sponsored by SDB Gran Cancun 5. CCC 3rd floor
Scientist to Teacher Initiative
Discussants: Sally G. Shuler (WISE Consortium, USA), William Anderson (Harvard, USA)
- 14:00 – 16:00 Poster Session II – Tear Down Gran Cancun 1, 2 & 3. CCC 3rd floor
- Free afternoon / evening

Wednesday, June 19

- 8:00 – 18:00 ICDB Registration Foyer. CCC 3rd floor
- 8:00 – 10:00 Poster Session III – Set Up Gran Cancun 1, 2 & 3. CCC 3rd floor
- 9:00 – 10:00 **LASDB Prize Lecture** Gran Cancun 5, A & 4. CCC 3rd floor
Chair: José Xavier Neto
Roberto Mayor (University College London, UK). *Neural crest migration: mesenchymal and collective behavior*
- 10:00 – 10:30 Coffee break at Exhibits Gran Cancun 1, 2 & 3. CCC 3rd floor
- 10:00 – 20:00 Poster Session III viewing Gran Cancun 1, 2 & 3. CCC 3rd floor
- 10:30 – 12:30 **Concurrent Sessions 4**
- 4.1 Molecules to cells – Gene Regulatory Networks** Gran Cancun 4. CCC 3rd floor
Chair: Kathy Cheah
- 10:30 – 11:00 **48** **Isabelle Peter**, Eric Davidson (Caltech, USA). *Modeling regulatory systems for sea urchin development*
- 11:00 – 11:15 **49** **Veronica Frances Hinman**, Brenna McMauley (Carnegie Mellon, USA). *A gene regulatory network for endomesodermal specification in a basal deuterostome*
- 11:15 – 11:30 **50** **Maneeshi Prasad**, (Northwestern, USA). *Gene regulatory network of neural crest development*
- 11:30 – 11:45 **51** **Edward Eivers**, Marlyn Rios, Abigail Aleman, Daniel Lee, Matthew Juarez, Keristineh Vartanpour (CSU Los Angeles, USA). *The phosphorylation state of Drosophila Mad determines its choice between BMP and Wingless signaling*
- 11:45 – 12:00 **52** **Steven Vokes**, Qiang Li, Jordan Lewandowski, Marian Powell, Seung Hee Cho, Jacqueline Norrie (UT Austin, USA). *Gli activators and repressors regulate distinct transcriptional responses through a common cis regulatory module that is required for robust repression of Gremlin*

- 12:00 – 12:15 **53** **Filipa Alves** (Gulbenkian Inst, Portugal). *Modelling and classifying variation in butterfly wings*
- 12:15 – 12:30 **153** **Hisato Kondoh**, Kazunari Matsuda, Tatsuya Takemoto (Osaka U, Japan) *Importance of inhibitory mechanisms for deriving specific somatic lineages from the epiblast*
- 4.2 Cells to organs – Cell Migration** Gran Cancun A. CCC 3rd floor
Chair: Anna-Katerina Hadjantonakis
- 10:30 – 11:00 **Yoshiko Takahashi** (Kyoto U, Japan). *Morphogenesis of neural crest cells*
- 11:00 – 11:15 **54** **Peter Lwigale**, Chelsea McKenna (Rice, USA). *Angioblast migration and vascularization of the embryonic cornea are inhibited by lens-derived Semaphorin3A signaling*
- 11:15 – 11:30 **55** **Miguel Concha**, German Reig, Carolina Figueroa, Valeria Larenas, Steffen Hartel (U Chile, Chile). *An E-cadherin mediated piggyback mechanism drives tissue spreading during epiboly*
- 11:30 – 11:45 **56** **Paul M. Kulesa** (Stowers, USA); Frances Lefcort (Montana St U, USA); Jennifer C. Kasemeier-Kulesa, (Stowers, USA). *Dorsal migration and formation of the secondary chain of sympathetic ganglia*
- 11:45– 12:00 **57** **Sandra Zimmerman**, Celeste Berg (U Washington, USA). *Regulation of cell migration during dorsal appendage morphogenesis*
- 12:00 – 12:15 **58** **Alvaro Glavic**, Vicente Cataldo (U Chile, Chile). *p-53 related protein kinase (PRPK) is required for lamellipodia formation and proper cell shape maintenance in Drosophila hemocytes*
- 12:15 – 12:30 **521** **Megan Martik**, David McClay (Duke, USA) *Mechanisms of primordial germ cell migration in the sea urchin, Lytechinus variegatus*
- 4.3 Organs to Organisms – Evolution and Development** Gran Cancun 5. CCC 3rd floor
Chair: Shigeru Kuratani
- 10:30 – 11:00 **Detlev Arendt** (EMBL, Germany). *Evolution of the nervous system in Bilateria*
- 11:00 – 11:15 **59** **Rolf Zeller** (U Basel, Switzerland); Amandine Duchesne (Jouy en Josas, France); Sepziale Dario (Basel, Switzerland); Guillaume Andrey (Lausanne, Switzerland); Erkan Uenal, Christian Basel (Basel, Switzerland); Benoit Robert (Paris, France); Carol Wicking (Brisbane, Australia); Denis Duboule (Lausanne, Switzerland); Javier Lopez-Rios (Basel, Switzerland). *Alterations in Ptch1 Cis-regulation underlie loss of antero-posterior identity and digit reductions in bovine limbs*
- 11:15 – 11:30 **60** **Dorit Hockman** (U Cambridge, UK); Alan Burns (Univ College London Inst of Child Health, UK); Alessandro Mongera (Max-Planck Institut für Entwicklungsbiologie, Germany); Shannon Fisher (U Pennsylvania, USA); Knapik, Ela (Vanderbilt, USA); Robert Kelsh (U of Bath, UK); Clare Baker (U Cambridge, UK). *The development and evolution of Oxygen-sensing cells*
- 11:30 – 12:00 **593** **Martin Cohn** (U Florida, USA). *Development and evolution of vertebrate external genitalia*
- 12:00 – 12:15 **61** **Barbara A. Ambrose**, Alejandra Vasco, Tynisha Smalls, Robbin Moran (NY Botanical Garden, USA). *The evolution and development of leaves in lycophytes and ferns*
- 12:15 – 12:30 **62** **Billie J. Swalla** (U Washington, USA); Elijah Lowe (Michigan St U, USA); Max Maliska, Ceri Weber (U Washington, USA); Kanchan Pavangadkar, C. Titus Brown (Michigan St U, USA). *Transcriptome sequencing reveals heterochronic shift of Chordate gene networks in Molgulid Ascidians*
- 12:30 – 13:00 LASDB General Assembly **NEW** Tulum, CCC 2nd floor
- 13:00 – 14:00 **Technical Tutorial** Tulum, CCC 2nd floor
A New Imaging Tool for Developmental Biology - Light Sheet Fluorescence Microscopy
Scott Olenych, Carl Zeiss Microscopy GmbH, Germany **Speaker change**
- 12:30 – 14:00 Lunch on your own
- 14:00 – 16:00 **Concurrent Sessions 5**
- 5.1 Molecules to cells – Cell Shape and Cytoskeleton** Gran Cancun 4. CCC 3rd floor
Chair: Juan Riesgo Escovar
- 14:00 – 14:30 **Maithreyi Narasimha** (TIFR, India). *Cellular reorganization during morphogenesis*
- 14:30 – 14:45 **29** **Anna Kicheva**, Ana Ribeiro, Helena Perez Valle, James Briscoe (NIMR, UK). *Coordination of patterning and growth in the spinal cord*
- 14:45 – 15:00 **64** **Magdalena Zernicka-Goetz**, Ivan Bedzhov (Gurdon Inst, UK). *Pluripotency versus*

- 15:00 – 15:30 **65** *differentiation during the first cell fate decision in the mouse embryo*
Olivier Hamant (U de Lyon, France). *Mechanical signals at the shoot apical meristem and the robustness of plant morphogenesis*
- 15:30 – 15:45 **66** *Planar Cell Polarity directs Septin-mediated compartmentalization of cortical actomyosin*
Asako Shindo, John Wallingford (UT Austin, USA).
- 15:45 – 16:00 **67** *The dynamic puzzle of cell shape and polarity in plant morphogenesis*
Yara Elena Sanchez Corrales, Matthew Hartley (John Innes Ctr, UK); Jop van Rooij (Utrecht U, Netherland); Enrico Coen, Stan Marée, Verónica Grieneisen, (John Innes Ctr, UK).

5.2 Cells to organs – Organogenesis

Gran Cancun A. CCC 3rd floor

Chair: José Xavier Neto

- 14:00 – 14:30 **68** *Sp6 and Sp8 transcription factors are necessary mediators of WNT/ β -Catenin function in the limb ectoderm*
Marian Ros, Endika Haro, Irene Delgado (U de Cantabria, Spain); Yoshihiko Yamada (NIH, USA); Ahmed Mansouri (MPI for Biophysical Chemistry, Germany); Kerby Oberg (Loma Linda U, USA).
- 14:30 – 14:45 **69** *Coordinating organogenesis: Insights from the Drosophila eye*
Tiffany Cook, Mark Charlton-Perkins, John Mast (Cincinnati Children's Hosp., USA); Elke Buschbeck (UCincinnati, USA).
- 14:45 – 15:00 **70** *A nervous embrace: WNT signaling initiates the neuronal-epithelial communication essential for submandibular gland organogenesis*
Wendy Knosp (NIDCR/NIH, USA); Sarah Knox, Gail Martin (UCSF, USA); Matthew Hoffman (NIDCR/NIH, USA).
- 15:00 – 15:30 **71** *Rewriting concepts on the ontogeny of bone cells*
Kathy Cheah (U Hong Kong, China).
- 15:30 – 15:45 **71** *The fate and behavior of Ret-expressing tip cells in kidney development*
Paul N. Riccio (Columbia, USA); Hideki Enomoto (RIKEN, Japan); Frank Costantini (Columbia, USA).
- 15:45 – 16:00 **72** *The role of Pitx2c and Par3/aPKC in Left/Right asymmetric gut curvature*
Adam Davis, Nanette Nascone-Yoder (North Carolina St U, USA).

5.3 Organs to organisms – Environment and Development

Gran Cancun 5. CCC 3rd floor

Chair: Miguel Concha

- 14:00 – 14:30 **452** *Gene- environment impacts on embryo morphogenesis*
Sally Dunwoodie (Victor Chang Res Inst, Australia).
- 14:30 – 14:45 **73** *Pax3 and Pax7 regulate cranial neural crest cell growth and maintenance through an unexpected environmental stress response pathway*
Antoine Zalc, Revital Rattenbach, Frédéric Relaix (UPMC-Paris, France).
- 14:45 – 15:00 **74** *The molecular basis of development and diversification of beetle horns*
Teiya Kijimoto, Armin Moczek (Indiana U, USA).
- 15:00 – 15:30 **452** *Variation underlying morphological evolution*
Cliff Tabin (Harvard, USA).
- 15:30 – 15:45 **452** *AMPK (AMP-activated kinase) buffers adverse transgenerational consequences on growth and reproduction following a single exposure to nutrient stress in C. elegans.*
Richard Roy, Emilie Demoinet (McGill U, Canada).
- 15:45 – 16:00 **497** *mef2ca controls the choice to make ligaments versus bones.*
Jamie Nichols, Charles Kimmel (U Oregon, USA).

16:00 – 16:30 Coffee break at Exhibits

Gran Cancun 1, 2 & 3. CCC 3rd floor

16:30 – 18:30 **SDB Award Lectures**

Gran Cancun 5, A & 4. CCC 3rd floor

Chair: Vivian Irish

- 16:30 – 17:10 **76** *Viktor Hamburger Outstanding Educator Prize. Changing the way we teach: how we should and why we must!*
Bill Wood (U Colorado-Boulder, USA).
- 17:10 – 17:50 **Edwin G. Conklin Medal. Riding the crest!**
Marianne Bronner (Caltech, USA).
- 17:50 – 18:30 **Developmental Biology-SDB Lifetime Achievement Award. The limb and I. The evolution of the study of limb development.**
John Fallon (U Wisconsin-Madison, USA).

18:30 – 20:00 Dinner on your own

20:00 – 22:00 **Poster Session III**

Gran Cancun 1, 2 & 3. CCC 3rd floor

Poster themes: Intracellular signaling pathways – Epigenetic control of development – Cell type Specification – Cell migration and guidance – Stem cells – Systems approaches – Mathematical modeling approaches – Cell adhesion and polarity – Senescence, apoptosis and death – Environmental effects on development – Emerging technologies

20:00 – 21:00

Odd Number Poster Board Authors Presentation

21:00 – 22:00

Even Number Poster Board Authors Presentation

Please see poster assignments in the end of the Congress Program.

Thursday, June 20

8:00 – 18:00	ICDB Registration	Foyer. CCC 3 rd floor
8:00 – 10:00	Poster Session III – Tear Down	Gran Cancun 1, 2 & 3. CCC 3 rd floor
8:30 – 10:00	Plenary Session 2 Chair: Peter Holland	Gran Cancun 5, A & 4. CCC 3 rd floor
8:30 – 9:00	Martin Chalfie (Columbia U, USA). TBA	
9:00 – 9:30	Patricia Beldade (Inst. Gulbenkian, Portugal). <i>The genetic and developmental basis of phenotypic variation</i>	
9:30 – 10:00	Ben Scheres (U Utrecht, The Netherlands). <i>Arabidopsis root development</i>	
10:00 – 10:30	Coffee break at Exhibits	Gran Cancun 1, 2 & 3. CCC 3 rd floor
10:00 – 12:00	Best Student Poster Competition Finalists – Set Up	Gran Cancun 1, 2 & 3. CCC 3 rd floor
10:30 – 12:30	Concurrent Sessions 6	
6.1	Molecules to cells – Signal Transduction	Gran Cancun 4. CCC 3 rd floor
	Chair: Stefan Schulte-Merker	
10:30 – 11:00	77 Michael Schubert (Lab Biol Dev de Villefranche sur Mer, France). <i>Evolutionary origin and functional diversification of retinoid signaling in development</i>	
11:00 – 11:15	78 Juan Miguel Escobar-Restrepo , Andrea Haag, Peter Gutierrez, Alessandra Bühler (U of Zurich, Switzerland); Maéva Langouët (Paris Descartes U, France); David Kradolfer (Swedish U of Agricultural Sciences, Sweden); Erika Fröhli, Christina Herrmann, Alex Hajnal, (U of Zurich, Switzerland). <i>In vivo receptor localization and expression screen identifies a novel mechanism of EGFR regulation through Ezrin/Radixin/Moesin proteins</i>	
11:15 – 11:30	79 Iryna Shnitsar , Miriam Barrios-Rodiles, Mikhail Bashkurov, Eduardo Aguiar, Laurence Pelletier (Mount Sinai Hospital, Canada); Rudolf Winklbauer (U of Toronto, Canada); Jeffrey Wrana (Mount Sinai Hospital, Canada). <i>The role of PTEN in the regulation of ciliogenesis</i>	
11:30 – 12:00	80 Phil Ingham (IMCB, Singapore). <i>Mechanisms and roles of Hedgehog signaling in the Zebrafish</i>	
12:00 – 12:15	81 Magdalena Cardenas-Rodriguez , Florencia Irigoín (Inst. Pasteur de Montevideo, Uruguay); Daniel P.S Osborn (Univ College London, UK); Cecilia Gascue (Inst. Pasteur de Montevideo, Uruguay); Nicholas Katsanis (Duke, USA); Philip L. Beales (Univ College London, UK); Jose L. Badano (Inst. Pasteur de Montevideo, Uruguay). <i>CCDC28B is a novel protein involved in ciliogenesis that modulates mTORC2 function and interacts with SIN1 to control cilia length</i>	
12:15 – 12:30	82 Dominic Maier , Shuofei Cheng, David Hipfner (IRCM, Canada). <i>Molecular Mechanism of Gprk2-dependent Smoothed regulation in Drosophila</i>	
6.2	Cells to organs – Stem Cells, Regeneration	Gran Cancun A. CCC 3 rd floor
	Chair: Magdalena Zernicka-Goetz	
10:30 – 11:00	Juan Larrain (PUC, Chile). <i>Spinal cord regeneration in Xenopus</i>	
11:00 – 11:15	83 Ed Laufer , Salma Begum, Alex Goldberg, Alex Paul (Columbia, USA). <i>Identification and regulation of adrenocortical stem cells</i>	
11:15 – 11:30	84 Saori L. Haigo (UCSF, USA); Aida Rodrigo-Albors, Akira Tazaki, Elly M. Tanaka (DFG Ctr.	

for Regenerative Therapies Dresden, Germany); Jeremy F. Reiter (UCSF, USA). *Early insights into the morphogenesis of the activated zone for regeneration or repair in the axolotl and in the mouse*

- 11:30 – 12:00 **85** **Anna Katerina Hadjantonakis** (Sloan Kettering Inst., USA). *Guts and gastrulation: cell dynamics and the morphogenesis of the early mouse embryo*
- 12:00 – 12:15 **86** Estefania Lozano-Velasco, Alejandra Contreras, Daniel Vallejo, Ana Soriano, Diego Franco, **Amelia Aránega Jimenez** (U Jaen, Spain). *Pitx2 regulates proliferation in skeletal muscle cells and modulates muscle regeneration*
- 12:15 – 12:30 **87** Shoshoni Caine, **Kelly McLaughlin** (Tufts, USA). *Renal repair post mechanical injury in *Xenopus laevis* tadpoles*

6.3 Organs to organisms – Morphogenesis

Gran Cancun 5. CCC 3rd floor

Chair: Yoshiko Takahashi

- 10:30 – 11:00 **David McClay** (Duke, USA). *Molecular controls governing morphogenesis of the sea urchin embryo*
- 11:00 – 11:15 **88** **Ajay Chitnis**, Damian Dalle Nogare, Katherine Somers, Swetha Rao (NICHD/NIH, USA). *A synergistic role for chemokine and FGF signaling in directing collective migration of the lateral line primordium- insights from models and experiments*
- 11:15 – 11:30 **89** **Christa Merzdorf**, Daniel Van Antwerp, Kelly Christensen (Montana State, USA). *Aquaporin3b is required during neural tube closure and gastrulation*
- 11:30 – 12:00 **Antonio Jacinto** (IMM-U Lisboa, Portugal). *Tissue morphogenesis and repair*
- 12:00 – 12:15 **90** **Takefumi Kondo**, Shigeo Hayashi (RIKEN, Japan). *Mitotic cell rounding accelerates invagination of the *Drosophila* tracheal placode*
- 12:15 – 12:30 **91** **Natalia Czerniak**, Arturo D'Angelo (CRG, Spain); Julien Colombelli (IRB, Spain); Jerome Solon (CRG, Spain) *Actomyosin cables and tissue fusion promote epidermal spreading during *Drosophila* head involution*

12:30 – 13:00 SDB Business Meeting **NEW** Tulum, CCC 2nd floor

12:30 – 14:00 Lunch on your own

12:30 – 16:00 Best Student Poster Competition Finalists - Viewing Gran Cancun 1, 2 & 3. CCC 3rd floor

14:00 – 15:45 Concurrent Sessions 7

7.1 Molecules to cells – Plasticity, Apoptosis and Cell Death

Gran Cancun 4. CCC 3rd floor

Chair: Mario Zurita

- 14:00 – 14:30 **92** **Rosa Navarro**, Laura Láscarez-Lagunas, Carlos Silva-García, Tzventanka Dinkova (UNAM, Mexico). *The *C. elegans* RB protein LIN-35 induces germ cell apoptosis under starvation conditions*
- 14:30 – 14:45 **93** **Christopher P. Dillon** (St. Jude Children's Res Hosp, USA); Andrew Overst (Seattle, USA); Ricardo Weinlich, Laura Janke, Douglas Green (St. Jude Children's Res Hosp, USA). *Caspase-8 regulates hematopoiesis at two distinct stages during embryonic development*
- 14:45 – 15:00 **94** **Tsung-Yuan Hsu**, Hsiao-Han Hsieh (National Taiwan U, Taiwan). *Characterization of integrin function in specific cells for cell-corpses engulfment in *Caenorhabditis elegans**
- 15:00 – 15:30 **Alfredo Varela-Echavarría** (UNAM, Mexico). *Ascending midbrain dopaminergic axons require descending GAD65 axon fascicles for normal pathfinding*
- 15:30 – 15:45 **95** **Ana Maria Macias**, Gimena Fussero, Carolina Arias, Marcelo Zacharonok (U Nacional de Cordoba, Argentina). *Morphogenetic apoptosis/ compensatory proliferation at the borders of DPP expression in the genital disc of *Drosophila**

7.2 Cells to organs – Long Range Signaling, Pattern Formation

Gran Cancun A. CCC 3rd floor

Chair: Angela Nieto

- 14:00 – 14:30 **96** **Andy Groves** (Baylor Coll Med, USA). *"Audio, Video Disco" - Establishing the cellular pattern of the Organ of Corti*
- 14:30 – 14:45 **97** **Stéphane Noselli** (Inst. Signal. Dev. Biol. & Cancer Res., France); Jean-Baptiste Coutelis, Charles Geminard, Nicanor Gonzalez-Morales (Inst. de Biologie Valrose, France). *Role of*

abdominal-B and Planar Cell Polarity in controlling Left-Right asymmetry establishment and morphogenesis in Drosophila

- 14:45 – 15:00 **98** **Cynthia Bradham**, Finnegan Hewitt, Michael Piacentino, Christy Li, Jia Yu, Evan Bardot, David Lee, Hajerah Hameeduddin, Arlene Reyna, Oliver Chung, James Chaves, Patrick Ferrell, Ian Murray, Matthew Tse, Ah Ra Cho, Amanda Core, Jasmin Coulomb-Huntington (Boston U, USA); Albert Poustka (Max-Planck Inst. Molec Genet, Germany). *A gradient of sulfated proteoglycans is required for dorsal-ventral skeletal patterning in sea urchin embryos*
- 15:00 – 15:15 **100** **Florence L. Marlow**, Amanda Heim, Odelya Hartung, Sophie Rothhämel, Andreas Jenny (Albert Einstein Coll. Med., USA). *Bucky ball interacts with RNA binding proteins to pattern the oocyte and follicle cells in zebrafish*
- 15:15 – 15:30 **325** **Jaime Rivera-Perez**, Giovane Tortelote, Tingting Huang (UMass, USA); Maki Wakamiya (UT-Galveston, USA); Anna-Katerina Hadjantonakis (Sloan Kettering Institute, USA); Richard Behringer (MD Anderson-UT Houston, USA). *Axial specification in mice is controlled by an extra-embryonic Wnt3 signaling event*

7.3 Organs to organisms – Systems Approaches

Gran Cancun 5. CCC 3rd floor

Chair: James Sharpe

- 14:00 – 14:30 **Angela DePace** (Harvard, USA). *Mechanism and evolution of gene expression in Drosophila embryos*
- 14:30 – 14:45 **101** **Marcos Nahmad**, Arthur Lander (UC Irvine, USA). *Target-specific robustness to Hedgehog production levels in the Drosophila wing disc*
- 14:45 – 15:00 **102** **Jacqueline Dresch**, Daniel Bork, Adam Brown (Harvey Mudd, USA); Chichia Chiu, David Arnosti (Michigan St U, USA); Robert Drewell (Harvey Mudd, USA). *Deciphering the cis-regulatory grammar behind enhancer architecture using a dynamic mathematical model*
- 15:00 – 15:30 **103** **Luis Covarrubias**, José-Manuel Baizabal (IBT- UNAM, Mexico); Omar Collazo-Navarrete (IFC-UNAM, Mexico); Celina García (IBT- UNAM, Mexico); Magdalena Guerra-Crespo, (IFC-UNAM, Mexico), Gilda Guerrero-Flores (IBT-UNAM, Mexico); Maya-Espinosa, Guadalupe (IFC-UNAM, Mexico); Jorge Landgrave-Gómez, Niurka Trujillo-Paredes, Concepción Valencia (IBT-UNAM, Mexico). *Regulation of neural precursor cell plasticity during neuronal dopaminergic differentiation in the mouse midbrain*
- 15:30 – 15:45 **104** **Naoki Irie** (RIKEN, Japan); Guojie Zhang (Shenzhen, China), Shigeru Kuratani (RIKEN, Japan). *Vertebrate phylotypic period as a source of basic body plan*

16:00 – 17:00 Best Student Poster Competition – Tear Down

Gran Cancun 1, 2 & 3. CCC 3rd floor

19:00 – 23:00 **Closing reception, Awards banquet and Entertainment**

Gran Cancun 5, A & 4. CCC 3rd floor

Friday, June 21

Departure

8:00 – 15:00 SDB Board Meeting

Hyatt Regency – Arena

ACKNOWLEDGMENTS

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Exhibitors: Abcam plc, Carl Zeiss, CONACYT, *Developmental Biology and Mechanisms of Development* – Elsevier, *Developmental Dynamics*, eMouseAtlas, FASEB-MARC, Gene Tools, LLC, Intavis, National Institutes of Health (NIH), International Society of Developmental Biologists (ISDB), Latin American Society for Developmental Biology (LASDB), Nikon, National Science Foundation (NSF), Pentair Aquatic Eco-Systems, RIKEN Center for Developmental Biology, Royal Society Publishing, Sinauer Associates, Inc., Sociedad Mexicana de Biología del Desarrollo (SMBD), Society for Developmental Biology (SDB), St. Jude Children's Research Hospital, TECNIPLAST, The Company of Biologists, Wiley

POSTER SESSION ASSIGNMENTS

Poster Sessions and Exhibits are held in Gran Cancun 1, 2 & 3, Cancun Convention Center 3rd floor.

Program Abstract Number in ***Italics Bold***

Poster Board Numbers in **Bold**

Poster dimensions: Vertical display, 90 cm wide X 120 cm high

Double-sided adhesive tape will be provided on site.

Full abstracts are posted on ICDB website: <http://www.inb.unam.mx/isdb/index.html>

Poster Session I

Sunday, June 16, 20:00-22:00 h

Author presentation: Odd poster board numbers: 20:00-21:00 h

Even poster board numbers: 21:00-22:00 h

Additional viewing, without author presentation: Mon, June 17, 8:30-14:00 h

Set-up: Sun, June 16, 12:00-18:00 h

Tear down: Mon, June 17, 14:00-16:00 h

Poster themes: Education – Transcription and gene regulation – Growth control – Germ cells, gametogenesis and fertilization – Morphogenesis – Genome level approaches – Induction

Education

- 105 B1** withdrawn
- 106 B2** *Developing a research-based molecular biology course for freshman students.* Merzdorf, Christa (MSU - Bozeman, USA)
- 107 B3** *Evolution of vertebrate animal design, from the top down.* Thorn, Judith M. (Knox College, USA)
- 108 B4** *Exploiting Nematode Diversity to Teach Advanced Techniques in Bioinformatics, Molecular Evolution and Fluorescence and Electron Microscopy.* Howell, Carina Howell (Lock Haven University, USA)
- 109 B5** *The History of Biology and Medicine in Britain: A Study Abroad Course at Central Michigan University.* Hertzler, Philip Lamar; Swanson, Bradley (Central Michigan Univ, USA)

Transcription and Gene Regulation

- 110 B6** *Regulation of the Meis2 homeobox gene.* Barrett, Cody; Nelson, Kyle; Zerucha, Ted (Appalachian State University, USA)
- 111 B7** *Identification and embryonic expression of a highly conserved Meis-linked gene.* Williams, Zachary Scott; Cochrane Anna; Carpenter, Brandon; Graham, Brantley; Zerucha, Ted (Appalachian State University, USA)
- 112 B8** *Dual activator and repressor roles for NKX2-5 in heart development.* Dupays, Laurent; Shang, Catherine; Wilson, Robert; Kotecha, Surendra; Towers, Norma; Mohun, Timothy (London, UK)
- 113 B9** *Regulatory specificity of different Sox transcription factors during neuro- and gliogenesis.* Klum, Susanne (KI, USA); Zaouter, Cecile (Solna, Sweden); Ramsköld, Daniel; Bergsland, Maria (Stockholm, Sweden)
- 114 B10** *Investigating direct targets of mSOX3 in neural progenitor cells.* McAninch, Dale (University of Adelaide, Australia); Rogers, Nick; Thomas, Paul (Adelaide, Australia)
- 115 B11** *SOX9 directly modulates cell cycle regulators during post-EMT heart valve development.* Garside, Victoria C.; Cullum, Rebecca; Hoodless, Pamela (BC Cancer Agency, Terry Fox Labs, Canada)
- 116 B12** *Modulation of SoxE function in the Neural Crest by the SoxD family protein, Sox5.* Nordin, Kara Marie (Northwestern University, USA)
- 117 B13** *The Levels of Sox21 Alter its Function in Neurogenesis.* Whittington, Niteace C.; Cunningham, Doreen; Casey, Elena Silva (Georgetown University, USA)
- 118 B14** *Transcriptional Elongation is Important in the Regulation of Neural Crest Development.* Hatch, Victoria; Ford, Chris; Barber, Amanda; Tomlinson, Matt; Wheeler, Grant (Norwich, UK)
- 119 B15** *MiRNA regulators of prickly pear fruit development.* Rosas Cárdenas, Flor de Fatima (Langebío, CINVESTAV-IPN, Mexico); Cruz Hernandez, Andres (Universidad Autónoma de Querétaro, Mexico); Marsch Martinez, Nayelli (Cinvestav-IPN, Mexico); de Folter, Stefan (Langebío, CINVESTAV-IPN, Mexico)
- 120 B16** *Role of miRNAs in Drosophila melanogaster during development and under stress.* Narvaez Padilla, Veronica, (UAEM, USA); Sanchez Diaz, Ivan; Peregrina Garcia, Jose Emmanuel; Reynaud, Enrique (Instituto de Biotecnología, UNAM, Cuernavaca, Mexico)
- 121 B17** *Shared cis-regulatory modules regulate transcription of evolutionarily conserved and bidirectionally transcribed miRNA-opsin gene pairs in the medaka retina.* Daido, Yutaka; Kusakabe, Takehiro G. (Kobe, Japan)
- 122 B18** *microRNAs expression during the development of the external ear in mouse.* Juárez Figueroa, Ulises; Torres Maldonado, Leda (Instituto Nacional de Pediatría, Mexico); García Segura, Laura; Miranda Rios, Juan (Instituto de

- Investigaciones Biomédicas, UNAM, Mexico); Frias Vazquez, Sara (Instituto Nacional de Pediatría/Instituto de Investigaciones Biomédicas, UNAM, Mexico)
- 123 B19 ***Several Hedgehog responsive enhancers contribute to patched expression.*** Lorberbaum, David S.; Ramos, Andrea; Barolo, Scott (University of Michigan, Ann Arbor, MI, USA)
- 124 B20 ***Analysis of the space/time sonic hedgehog expression using luciferase as a dynamic reporter.*** Bastidas-Ponce, Aimée; Covarrubias, Luis; Wood, Christopher (Instituto de Biotecnología-UNAM, Mexico)
- 125 B21 ***The transcriptional regulatory logic of Sonic Hedgehog target genes in the mouse limb.*** Lewandowski, Jordan; Powell, Marian (University of Texas at Austin, USA); Ji, Hongkai (Johns Hopkins Bloomberg School of Public Health, USA); Vokes, Steven (University of Texas at Austin, USA)
- 126 B22 ***Characterization of Spry2 Cis-Acting Elements Responsive to FGF Signals.*** Zhang, Ying Zhang; Lewandoski, Mark (National Cancer Institute, USA)
- 127 B23 ***Mechanisms of Tbx4 action on hindlimb development.*** Luxey, Maëva (IRCM, Canada); Nemeč, Stephen; Drouin, Jacques (Montreal, Canada)
- 128 B24 ***Hoxa5 Function in Organogenesis is Controlled by a Complex Regulatory Network Involving YY1 Transcription Factor.*** Berube-Simard, Felix-Antoine; Olivier, Boucherat; Jeannotte, Lucie (CRC-HDQ, Canada)
- 129 B25 ***Protein-protein interaction of Antp/Scr Homeodomains in the genetic control of development in D. melanogaster.*** Elizondo-Rodríguez, F. Salomé; Reséndez-Pérez, Diana (FCB-UANL, Mexico)
- 130 B26 ***Protein-protein interaction of Antennapedia with TFIIE-β in Drosophila melanogaster.*** Altamirano Torres, Claudia Dalila; Reséndez-Pérez, Diana; Cárdenas-Chávez, Diana L.; Elizondo-Rodríguez, F. Salomé (FCB-UANL, San Nicolás de los Garza, Mexico)
- 131 B27 ***Dynamic of p8 and p52 during early embryonic development and spermatogenesis of Drosophila melanogaster.,*** Mandy; Cruz, Grisel; Zurita, Mario (Instituto de Biotecnología (UNAM), Mexico)
- 132 B28 ***Paused Pol II Coordinates Tissue Morphogenesis in the Drosophila Embryo.*** Bothma, Jacques; Lagha, Mounia; Juarez Esposito, Emilia; Ng, Samuel (Univ of California-Berkeley, USA); Stefanik, Laura (Philadelphia, USA); Tsui, Chiahao (Univ of California-Berkeley, USA); Johnston, Jeffrey; Chen, Kai (Stowers Institute for Medical Research, USA); Gilmour, David (Philadelphia, USA); Zeitlinger, Julia (Stowers Institute for Medical Research, USA); Levine, Michael (Univ of California-Berkeley, USA)
- 133 B29 ***Cis-acting transcriptional repression establishes a sharp boundary in chordate embryos.*** Imai, Kaoru; Daido, Yutaka; Kusakabe, Takehiro; Satou, Yutaka (Kyoto, Japan)
- 134 B30 ***Role of the MADS-box gene AGL19 in the cellular homeostasis of Arabidopsis thaliana root: its cellular and molecular functions and epigenetic regulation.*** Hernández Marroquín, Víctor Rogelio; Garay Arroyo, Adriana (Instituto de Ecología, UNAM, Mexico)
- 135 B31 ***The SWI2/SNF2 Chromatin Remodeling Factor CHR9 Regulates Floral Meristem Identity in Cooperation with LEAFY.*** Lamb, Rebecca S.; Kovach, Jeffrey; Habina, Matthew; Siriwardana, Nirodhini (Ohio State University, USA)
- 136 B32 ***Paternal contributions to early embryogenesis of Arabidopsis thaliana: A functional genetic approach.*** Del Toro, Gerardo Del Toro; García-Aguilar, Marcelina; Gillmor, Stewart (CINVESTAV-IPN, Mexico)
- 137 B33 ***Expression of Aminopeptidase N Genes During Sea Urchin Development.*** Ingersoll, Eric P.; Drab, Diana L. (Penn State, USA)
- 138 B34 ***Repulsive guidance molecules expression pattern during chicken embryogenesis suggested new roles for these molecules during notochord formation, somitogenesis and myogenesis.*** Jorge, Erika; Ahmed, Mohi (Mount Sinai School of Medicine, USA); Bothe, Ingo (Sloan Kettering Institute, USA); Coutinho, Luiz (Universidade de São Paulo, Brazil); Dietrich, Susanne (University of Portsmouth, UK)
- 139 B35 ***The transcription factor cScratch2 is an early marker for post-mitotic neural precursors.*** Vieceli, Felipe; Kanno, Tatiane (Universidade de São Paulo, Brazil); Simões-Costa, Marcos; Bronner, Marianne (California Institute of Technology, USA); Yan, Irene (Universidade de São Paulo, Brazil)
- 140 B36 ***Cell-type specific analysis of chromatin modifications at the Drosophila shavenbaby gene.*** Preger-Ben Noon, Ella; Preger-Ben; Lemire, Andrew; Stern, David (Howard Hughes Medical Institute, USA)
- 141 B37 ***Zac1 controls cell cycle exit of neural progenitors through direct regulation of cyclin-dependent kinase inhibitor expression along the entire rostrocaudal axis of the developing central nervous system.*** Rraklli, Vilma (Ludwig Institute For Cancer Research, Sweden)
- 142 B38 ***Transcription regulation of anterior hypothalamic development.*** Mahmud, Abdullah Al (University of Montreal, Canada); Michaud, Jacques (CHU Sainte Justine, Canada)
- 143 B39 ***Do disruptions of a ZIC2 Non-coding Conserved Element cause Holoprosencephaly?*** Barratt, Kristen S. (The Australian National University, Australia); Hu, Ping (National Human Genome Research Institute, USA); Garrett, Lisa (Transgenic Core Facility, NIH, USA); Roessler, Erich; Muenke, Maximillian (National Human Genome Research Institute, NIH, USA); Arkell, Ruth (The Australian National University, Australia)
- 144 B40 ***A novel approach to study modulators of Wnt/beta-catenin pathway using Wnt reporter transgenic Xenopus and tailored-TALENs mutagenesis.*** Tran, Hong Thi; Van Imschoot, Griet; Van Roy, Frans; Vleminckx, Kris (Ghent University, Belgium)

- 145 B41 *Ets-1 is an Essential Regulatory Factor of Neural Crest Formation in Xenopus.* Geary, Lauren (Northwestern University, USA)
- 146 B42 *Tgfb3 signals through Twist1 and then Snail1 to down regulate E-cadherin expression during epithelial-mesenchymal transition (EMT) in the palate.* Svoboda, Kathy K. (Texas A&M Univ Baylor College of Dentistry, USA); Yu, Wenli (University of California-San Francisco, USA); Ruest, L-Bruno (Texas A&M Baylor College of Dentistry, Dallas, USA)
- 147 B43 *The Transcriptional Regulation of Muscle Development in Drosophila melanogaster.* Brunetti, Tonya; Duong, Sandy; Cripps, Richard (University of New Mexico, USA)
- 148 B44 withdrawn
- 149 B45 *Alteration of MMP9 and TIMP1 expression by high glucose in mouse blastocysts is dependent on oxidative stress.* Sánchez Santos, Alajandra; Martínez Hernández, María Guadalupe; Baiza Gutman, Luis Arturo (FES Iztacala, UNAM, Mexico)
- 150 B46 *Spalt major directly regulates seven-up expression in Drosophila oenocytes.* Ryan, Kathryn M.; Mason, Grace; Cripps, Richard (University of New Mexico, USA)
- 151 B47 *A Genetic and Chemical Genetic Approach to Study Cell Fate Decisions via JAK/STAT Attenuation.* Monahan, Amanda J.; Seley-Radtke, Katherine; Starz-Gaiano, Michelle (Univ of Maryland-Baltimore, USA)
- 152 B48 *Comparative transgenic analysis of enhancers near the human and mouse short-stature genes SHOX and Shox2.* Cobb, John A.; Rosin, Jessica; Abassah-Oppong, Samuel (University of Calgary, Canada)
- 153 B49 **Move to short talk Concurrent Session 4.1**
- 154 B50 *Single-cell RNA-Seq reveals dynamic, random monoallelic gene expression in mammalian cells.* Deng, Qiaolin, (Sweden), Ramsköld, Daniel; Reinius, Björn; Sandberg, Rickard (Stockholm, Sweden)
- 155 B51 *Molecular mechanisms underlying sex determination and reprogramming in the mouse.* Sekido, Ryohei; Lovell-Badge, Robin (MRC National Institute for Medical Research, UK)
- 156 B52 *Systematic Identification of Ftz and Ftz-F1 Responsive Target Genes and Their Enhancers.* Field, Amanda; Anderson, Ray; Xiang, Jie; Pick, Leslie (College Park, USA)
- 157 B53 *E74A overexpression induces BhC4-1-lacZ expression in the salivary gland of transgenic Drosophila.* Monesi, Nadia (FCFRP-USP, Brazil); de F. Oliveira, Lucas; G. Sanchez, Danilo (Ribeirao Preto, Brazil)
- 158 B54 *Quantitative and simultaneous determination of the transcriptional dynamics of two promoters at single cell level by bioluminescent reporters.* Fuentes-Jiménez, Daniel (Instituto de Biotecnología, Mexico); Ohmiya, Yoshihiro (Biomedical Research Institute, Japan); Covarrubias, Luis; Wood, Christopher D. (Instituto de Biotecnología, Mexico)
- 159 B55 *Characterization of murine KLF10 5'-flanking region.* Lee, Woon Kyu; Kim, Dong Hwa; Jang, Hae Jung; Jung, Jae Hun (Inha University, Korea)
- 160 B56 *Identification of Ryk target genes in regulating Xenopus gastrulation.* Shin, Eun-Young; Park, Edmond Changkyun; Kim, Gun-Hwa (Korea Basic Science Institute, Korea)

Growth Control

- 161 B57 *Identification of cellular and molecular mechanisms regulated by Sonic Hedgehog/Gli2 signaling during cerebellum development.* Wojcinski, Alexandre; Joyner, Alexandra (Sloan-Kettering Institute, USA)
- 162 B58 *The retina influences Wnt signaling and growth in the optic tectum.* Rouse, Hannah (University College London, UK), Cervený, Kara (Reed College, USA); Wilson, Steve (London, UK)
- 163 B59 *Size regulation of dorsal root ganglia occurs in axolotls with an undersupply or an oversupply of neural crest.* Zarzosa, Ana Lucia; Grassme, Kathrin; Taniguchi, Yuka; Tanaka, Elly; Epperlein, Hans-Henning (TU Dresden, Germany)
- 164 B60 Withdrawn
- 165 B61 *JAIBA, a class II HD-ZIP transcription factor involved in the regulation of meristematic activity and important for correct gynoecium and fruit development in Arabidopsis.* Zuñiga, Victor; Marsch Martinez, Nayelli; de Folter, Stefan (LANGEBIO, CINVESTAV-IPN, Mexico)
- 166 B62 Withdrawn
- 167 B63 *A transfer RNAs (tRNAs) post-transcriptional modification and cell growth in Drosophila.* Rojas, Diego; Glavic, Alvaro (University of Chile, Santiago, Chile)

Germ Cells, Gametogenesis and Fertilization

- 168 B64 *Characteristic patterns of the incorporation of BrdU during DNA replication in different cells of the seminiferous epithelium of the rat.* Ortiz, Rosario; Muñoz, Israel; Echeverría, Olga; Vazquez-Nin, Gerardo (Universidad Nacional Autonoma de Mexico, Mexico)
- 169 B65 *Immunodetection of SYCP1 and SYCP3 during the first spermatogenic wave Wistar rat.* Valenzuela, Yunuen; Ortiz, Rosario; Echeverría, Olga; Vazquez-Nin, Gerardo (Universidad Nacional Autonoma de Mexico, Mexico)

- 170 B66 ***Cell death in atretic granulosa cells.*** Escobar, Maria; Vazquez-Nin, Gerardo; Casasa, Sofia; Garcia, Gethsemany; Echeverría, Olga (Universidad Nacional Autonoma de Mexico, Mexico)
- 171 B67 ***TACC3 is a crucial protein for bovine oocyte meiosis.*** Mahdipour, Mahdi; Leitoguinho, Ana Rita; Zacarias, Ricardo; Luteijn, Maartje; Van Tol, Helena; Ketting, Rene; Roelen, Bernard (Utrecht, Netherlands)
- 172 B68 ***Morphologic and molecular markers indicate developmental maturation-competence of mouse and human oocytes.*** Levi, Mattan (Tel Aviv University, Israel); Shulman, Adrian; Ghetler, Yehudith (IVF Unit, Meir Medical Center, Israel); Shalgi, Ruth (Tel Aviv University, Israel)
- 173 B69 ***Oct4 is a useful marker for understanding PGC migration in *Monodelphis domestica*.*** Wright, Amelia; Cruz, Yolanda (Oberlin College, USA)
- 174 B70 ***Oct60 is involved in the PGC formation as a germplasm component.*** Morichika, Keisuke; Shimada, Keigo (Rikkyo University, Japan); Kubo, Hideo (Tokyo Metropolitan Institute of Medical Science, Japan); Kinoshita, Tsutomu (Rikkyo University, Japan)
- 175 B71 ***Paracrine signalling as intraovarian regulator during *Xenopus laevis* oogenesis.*** Serrano, Maria de los Angeles; Luque, Melchor Emilio; Sánchez, Sara Serafina (INSIBIO - CONICET, Argentina)
- 176 B72 ***Effects of glyphosate on structure and SF-1 expression in ovaries of zebrafish *Danio rerio*.*** Ammar, Dib; Armiliato, Neide; Nazari, Evelise; Nezzi, Luciane; Straliootto, Marcos; Müller, Yara (Universidade Federal de Santa Catarina, Florianópolis, Brazil)
- 177 B73 ***Dynamic expression patterns of *RaVasa* during oogenesis and early embryonic development in *Rhynchosciara americana*.*** Rezende-Teixeira, Paula; Machado-Santelli, Glaucia (Universidade de São Paulo, Brazil)
- 178 B74 ***A Transcriptome Analysis of Animal and Vegetal Half-Embryos of the Penaeid Shrimp *Marsupenaeus japonicus*.*** Hertzler, Philip Lamar (Central Michigan Univ, USA); Trewin, Carolyn; McWilliam, Sean; Sellars, Melony (CSIRO, Australia)
- 179 B75 ***Comprehensive screening of sexualization-induced genes in planarian.*** Matsumoto, Midori; Ueda, Kento; Takagi, Souta (Keio University, Japan); Yoshitake, Kazutoshi; Gojyobori, Takashi (National Institute of Genetics, Japan)
- 180 B76 ***Meiotic chromosome behavior in the triploid planarian: Function of *rad51* homolog in gametogenesis.*** Chinone, Ayako; Matsumoto, Midori (Keio University, Japan)

Morphogenesis

- 181 B77 ***Claudins are essential regulators of morphogenesis.*** Ryan, Aimee K. (McGill University / RI-MUHC, Canada), Baumholtz, Amanda; Collins, Michelle; Simard, Annie; Khairallah, Halim (McGill University, Montreal, Canada); El Andalousi, Jasmine; Gupta, Indra (RI-MUHC, Montreal, Canada)
- 182 B78 ***Asymmetric division of luminal cells drives normal and *ErbB2* induced epithelial stratification.*** Huebner, Robert J. (Johns Hopkins School of Medicine, USA), Lechler, Terry (Durham, NC, USA); Ewald, Andrew J. (Johns Hopkins Medical School Baltimore, USA)
- 183 B79 ****Sox9* regulates branching morphogenesis during lung development.*** Rockich, Briana; Nagy, Melinda; Hyrcaj, Steven; Baker, Nicholas; Wellik, Deneen; Spence, Jason (University of Michigan, USA)
- 184 B80 ****Wnt9b* regulates directed cell movement during kidney tubule diameter establishment.*** Carroll, Thomas J.; Pan, Xinchao; Schnell, Ulrike; Karner, Courtney (UT Southwestern Med Ctr, USA)
- 185 B81 ***A Novel Non-cholinergic role for Acetylcholinesterase in Gut Morphogenesis.*** Pickett, Melissa Anne; Nascone-Yoder, Nanette (North Carolina State University, USA)
- 186 B82 ****C-Jun N-terminal Kinase (JNK)* maintains tissue integrity during cell rearrangement in the gut.*** Dush, Mike; Nascone-Yoder, Nanette (North Carolina State University, USA)
- 187 B83 ***Integration of L-R *Pitx2* transcription and *Wnt* signaling provides a mechanism for asymmetric gut morphogenesis.*** Kurpios, Natasza A.; Welsh, Ian; Afonso-Parra, Catalina; Gludish, David; Thomsen, Michael (Cornell University, USA); Bai, Yan; Martin, James (Baylor, USA)
- 188 B84 ***Polarized collective cell movements drive antero-posterior folding to form the avian hindgut.*** Nerurkar, Nandan; Tabin, Cliff (Harvard Medical School, USA)
- 189 B85 ***Gut morphogenesis involves changes in cell shape that require *ZFP568* and *Hand1*.*** Ulmer, Barbel Maria; Garcia-Garcia, Maria J. (Cornell University, USA)
- 190 B86 ****ADAMTS9* is a highly conserved protease crucial for gastrulation, left-right symmetry, neurulation, craniofacial development and intrauterine growth.*** Nandadasa, Sumeda; Nelson, Courtney; Somerville, Robert; Apte, Suneel (Cleveland Clinic Lerner Research Institute, USA)
- 191 B87 ****chem*, a *E3 ubiquitin ligase*, is required for cell polarity and dorsal closure in *Drosophila melanogaster*.*** Zamudio-Arroyo, José Manuel; Riesgo-Escovar, Juan R. (UNAM, Mexico)
- 192 B88 ***A moving zone of actomyosin contractility drives epidermal zippering and neural tube closure in ascidian embryos.*** Hashimoto, Hidehiko; Robin, François; Sherrard, Kristin; Munro, Edwin (University of Chicago, USA)
- 193 B89 ***The Claudin Family of Tight Junction Proteins Plays a Role in the Morphogenetic Movements that Drive Neural Tube Closure in Chick.*** Baumholtz, Amanda; Simard, Annie; Collins, Michelle; Ryan, Aimee (McGill University, Canada)
- 194 B90 ***Control of apical constriction by dynamic calcium signaling during *Xenopus* neural tube closure.*** Suzuki, Makoto, (National Institute for Basic Biology, Japan); Hara, Yusuke; Sato, Masanao; Nagai, Takeharu (The Institute

- of Scientific and Industrial Research, Japan); Campbell, Robert (University of Alberta, Canada); Ueno, Naoto (National Institute for Basic Biology, Japan)
- 195 B91 ***Coordination of mitosis and morphogenesis: Role of a prolonged G2 phase during chordate neural tube closure.*** Ogura, Yosuke (University of Tsukuba, Japan); Sakaue-Sawano, Asako (Brain Science Institute, RIKEN, Japan); Nakagawa, Masashi (University of Hyogo, Japan); Satoh, Nori (Okinawa Institute of Science and Technology Promotion Corporation, Japan); Sasakura, Yasunori (University of Tsukuba, Japan)
- 196 B92 ***A Proteomics Approach to Investigate Developmental Disturbances in Forebrain Formation of LRP2 Deficient Mice Using Mass Spectrometry.*** Paul, Fabian; Popp, Oliver; Dittmar, Gunnar; Hammes, Annette (Max Delbrueck Center for Molecular Medicine, Germany)
- 197 B93 ***SCO-spondin from embryonic cerebrospinal fluid is required for neurogenesis during early brain development.*** Vera, America; Stanic, Karen; Montecinos, Hernán; Caprile, Teresa (Universidad de Concepcion, Chile)
- 198 B94 ***Ift88 has an extraciliary role during neural convergent extension.*** McFarland, Rebecca J.; Brewster, Rachel (University of Maryland-Baltimore, USA)
- 199 B95 ***Dysphagia and disrupted cranial nerve development in a mouse model of DiGeorge/22q11.2 Deletion Syndrome.*** Maynard, Thomas M.; Karpinski, Beverly; Fralish, Matthew (George Washington University, USA); Nuwayhid, Samer; Zohn, Irene (Children's National Medical Center, USA); Wang, Xin; Mendelowitz, David; Moody, Sally (George Washington University, USA); LaMantia, Anthony (The George Washington Institute for Neuroscience, USA)
- 200 B96 ***PRDM12, histone methyltransferase factor is required for the regionalization of the trigeminal placode in Xenopus laevis.*** Matsukawa, Shinya; Michiue, Tatsuo (The University of Tokyo, Japan)
- 201 B97 ***Morphogenesis of the vertebrate eye: cellular and molecular mechanisms.*** Norris, Anneliese; Streit, Andrea (King's College London, UK)
- 202 B98 ***Serotonin 2B receptor signaling is required for ocular morphogenesis in Xenopus.*** Ori, Michela; Marras, Giulia; Testa, Giovanna; De Lucchini, Stefania; Nardi, Irma (University of Pisa, Scuola Normale Superiore, Italy)
- 203 B99 ***Jitterbug(jbug)/Filamin is a Hindsight (Hnt) transcriptional target required for axon targeting and tendon cell adaptation to mechanical stress during Drosophila development.*** Olguin, Patricio; Molina, Claudia; López, Estefanía; Sierralta, Jimena (Universidad de Chile, Chile); Oliva, Carlos (KU Leuven, Belgium)
- 204 B100 ***Molecular Characterization of Craniofacial Tendons in Zebrafish.*** Chen, Jessica W.; Tabin, Clifford J. (Harvard Medical School, USA); Galloway, Jenna L. (Center for Regenerative Medicine, Harvard Stem Cell Institute, Massachusetts General Hospital, USA)
- 205 B101 ***Analysis of craniofacial defects in Six1/Eya1-associated Branchio-Oto-Renal Syndrome.*** Zhang, Haoran; Wong, Elaine Yee-man; Tsang, Sze Lan (The University of Hong Kong, China); Xu, Pin-Xian (Mount Sinai School of Medicine, USA); Sham, Mai Har (The University of Hong Kong, China)
- 206 B102 ***A family of FOX genes determines precise spatial patterns of growth and differentiation within facial bone and cartilage precursors.*** Balczerski, Bartosz; Louie, Kristin; Crump, Gage D. (Univ of Southern California-LA, USA)
- 207 B102 ***Alx-related frontonasal dysplasia: developmental mechanisms and evolutionary implications.*** Takahashi, Tokiharu; Mills, Peter; Dee, Chris (University of Manchester, UK)
- 208 B104 ***Normalized Shape and Location of Perturbed Craniofacial Structures in the Xenopus Tadpole Reveal an Innate Ability to Achieve Correct Morphology.*** Vandenberg, Laura Vandenberg; Adams, Dany; Levin, Michael (Tufts University, USA)
- 209 B105 ***Morphogenetic Mechanisms Regulated by Non-Canonical Signaling in the Face.*** Geetha-Loganathan, Poongodi Geetha-Log (Life Sciences Institute, Canada); Nimmagadda, Suresh; Fu, Katherine; Richman, Joy (University of British Columbia, Canada)
- 210 B106 ***Fat-Dachsous signaling coordinates polarity and differentiation of the craniofacial skeleton in zebrafish.*** Le Pabic, Pierre; Ng, Carrie; Schilling, Thomas (University of California-Irvine, USA)
- 211 B107 ***Two novel mouse models of craniofacial dysmorphology.*** Miller, Kerry Ann (Murdoch Childrens Research Institute, Australia); Tan, Tiong (Victorian Clinical Genetics Services, Australia); Welfare, Megan; Farlie, Peter (Murdoch Childrens Research Institute, Australia)
- 212 B108 ***Fgf signaling in the control of craniofacial and tracheal gland development.*** May, Alison; Tucker, Abigail S. (King's College London, UK)
- 213 B109 ***Foxi3 is an essential regulator of tooth development.*** Jussila, Maria; Shirokova, Vera; Aalto, Anne; Sanz Navarro, Maria (University of Helsinki, Finland); Ohyama, Takahiro; Groves, Andrew (Baylor College of Medicine, USA); Mikkola, Marja; Thesleff, Irma (Institute of Biotechnology, University of Helsinki, Finland)
- 214 B110 ***The Cadherin23, Harmonin, Myosin7aa, and Ift88 Usher syndrome protein complex assembles at the ER and is required for Usher protein trafficking.*** Blanco-Sanchez, Bernardo Blanco-San; Clement, Aurelie; Fierro Jr., Javier; Washbourne, Phillip; Westerfield, Monte (University of Oregon, USA)
- 215 B111 ***Interaction of Grxcr1 with the Usher protein complex in inner ear mechanosensory hair cells.*** Clément, Aurélie; Blanco-Sanchez, Bernardo (University of Oregon, USA); Panlilio, Jennifer (University of Miami, USA); Westerfield, Monte (University of Oregon, USA)
- 216 B112 ***Expression of Wnt pathway genes coincides with processes of middle ear formation in chickens.*** Sienknecht, Ulrike J. (University Oldenburg, Germany); Fekete, Donna M. (Purdue University, USA)

- 217 B113 ***Causes of Otitis Media in a New Mouse Model.*** Fuchs, Jennifer (King's College London, UK); Linden, Jennifer (Ear Institute, UCL, UK); Tucker, Abigail S. (King's College London, UK)
- 218 B114 ***Lfng regulates the synchronized oscillation of the mouse segmentation clock via trans-repression of Notch signalling.*** Okubo, Yusuke, (National Institute of Health Sciences, Japan); Sugawara, Takeshi; Abe-Koduka, Natsumi (National Institute of Genetics, Mishima, Japan); Kanno, Jun (National Institute of Health Sciences, Japan); Kimura, Akatsuki; Saga, Yumiko (National Institute of Genetics, Japan)
- 219 B115 ***Roles for Hoxa-5 in regulating chick cervical vertebral morphology.*** Mansfield, Jennifer; Chen, Jessica; Zahid, Soombal; Shilts, Meghan; Habbsa, Samima; Aronowitz, Danielle; Rokins, Karimah; Weaver, Sara (Barnard College, Columbia University, USA)
- 220 B116 ***A Novel Mechanism Underlies Growth Plate Cartilage Column Formation.*** Romereim, Sarah M. (Northwestern University, USA)
- 221 B117 ***Opposing tensile forces and migratory behaviour drive tissue convergence during zebrafish laterality organ development.*** Pulgar, Eduardo; Santibañez, Felipe; Härtel, Steffen; Concha, Miguel (ICBM - BNI, University of Chile, Chile)
- 222 B118 ***Cell cycle synchrony is lost before midblastula transition in zebrafish embryos.*** Mendieta Serrano, Mario; Schnabel, Denhi; Lomelí, Hilda; Salas-Vidal, Enrique (Instituto de Biotecnología, Universidad Nacional Autónoma de México, Mexico)
- 223 B119 ***Loss of Dchs1b and Dchs2 leads to early developmental and cytoskeleton defects in the zebrafish embryo.*** Li, Nanbing (Jade) (Washington University, USA), Kim, Seok-hyung (Vanderbilt University, USA); Ma, Taylor; Helde, Kathryn; Moens, Cecilia (Fred Hutchinson Cancer Res Ctr, USA); Solnica-Krezel, Lilianna (Washington University, USA)
- 224 B120 ***Cell and Tissue Interactions Organise Apico-basal Polarity During Lumen Formation in vivo.*** Ward, Laura, (King's College London, UK), Buckley, Clare; Clarke, Jon (King's College London, UK)
- 225 B121 ***Developing a Staging Scheme for Monodelphis domestica embryos.*** Nellet, Kolleen, (Oberlin College, USA); Morrison, Jeremy (Greensburg, PA, USA); Cruz, Yolanda P. (Oberlin College Sci Ctr, USA)
- 226 B122 ***PIAS-like protein Zimp7 participates in the Nodal signaling pathway during dorsal mesoderm development in zebrafish.*** Moreno, Roberto; Schnabel, Denhi; Salas, Enrique; Lomelí, Hilda (National Autonomous University of Mexico, Mexico)
- 227 B123 ***Notochord vacuoles are lysosome-related organelles that function in embryonic axis elongation and spine morphogenesis.*** Ellis, Kathryn Leigh; Bagwell, Jennifer; Bagnat, Michel (Duke University, USA)
- 228 B124 ***Cdx and Hox genes, and body axis extension of the mouse embryo.*** Neijts, Roel; Monteiro, Ana-Rita; van Rooijen, Carina; Deschamps, Jacqueline (Hubrecht Institute and UMC Utrecht, Netherlands)
- 597 B125 ***Morphogenesis in the sea urchin: linking dynamically remodeling network states to protease function in development of skeletogenic and non-skeletogenic mesoderm.*** Lyons, Deirdre; Dougherty, Mark; Saunders, Lindsay; McClay, David (Duke, USA)
- 230 B126 ***The Drosophila Z-disc protein Z(210) is an adult muscle isoform of Zasp52, which is required for normal myofibril organization in indirect flight muscles.*** Chechenova, Maria B.; Bryantsev, Anton; Cripps, Richard (The University of New Mexico, USA)
- 231 B127 ***Whole or Hole? Development of a Functional Diaphragm.*** Merrell, Allyson; Kardon, Gabrielle (University of Utah, USA)
- 232 B128 ***Rab11 plays an indispensable role in the differentiation and development of the adult muscles in Drosophila.*** Singh, Divya; Roy, Jagat Kumar (Banaras Hindu University, India)
- 233 B129 ***The gene regulation in skeletal myogenesis in medaka, Oryzias latipes.*** Tani, Saori, (USA), Kusakabe, Rie; Inoue, Kunio (Kobe, Japan)
- 234 B130 ***GTPase control of blood vessel morphogenesis.*** Cleaver, Ondine B.; Koo, Yeon (UT Southwestern Medical Center, USA); Xu, Ke (Harvard University, USA); Davis, George (University of Missouri, USA)
- 235 B131 ***MED23, a subunit of the global transcription complex, Mediator is essential for vascular remodeling and regulation of WNT signaling during cranial ganglia formation.*** Bhatt, Shachi, (Stowers Institute for Medical Research, USA), Sandell, Lisa (Louisville, KY, USA); Youngwook, Ahn; Krumlauf, Robb; Trainor, Paul (Stowers Institute for Medical Research, USA)
- 236 B132 ***Endoderm convergence controls myocardial migration.*** Lin, Fang; Ye, Ding (The University of Iowa, USA)
- 237 B133 ***A role for Claudin-10 in left-right axis patterning.*** Collins, Michelle M.; Ryan, Aimee (McGill University, Canada)
- 238 B134 ***Dynamic cell rearrangement driving early heart tube formation and looping.*** Saijoh, Yukio; Kidokoro, Hinako (University of Utah, USA); Tamura, Koji (Tohoku University, Japan); Okabe, Masataka (The Jikei University School of Medicine, Japan); Schoenwolf, Gary (University of Utah, USA)
- 239 B135 ***Importanciade microRNAs en la embriogenesis del tracto de salida ventricular derecho, estudio en el embrión de pollo.*** Sanchez Gomez, Concepcion, (Hosp Infantil Federico Gomez, Mexico), Perez, Carmen (UNAM, Mexico)
- 240 B136 ***The Cellular Basis of Limb bud Initiation.*** Gros, Jerome, (Institut Pasteur, France), Tabin, Cliff (Harvard Medical School, USA)
- 241 B137 ***Gene regulation that initiates Sonic hedgehog expression in the limb bud.*** Tamura, Koji, (Tohoku University, Japan), Matsubara, Haruka; Yokoyama, Hitoshi (Tohoku University, Japan)

- 242 B138 *Expression and functional analysis of transcription factor AP-2 β in limb development.* Seki, Ryohei (MRC National Institute for Medical Research, UK); Suzuki, Takayuki (Nagoya University, Japan); Yokoyama, Hitoshi; Tamura, Koji (Graduate School of Life Sciences, Japan)
- 243 B139 *Role of transcription factor EVI-1 in chondrogenesis.* Cela, Petra; Balkova, Simona (Institute of Animal Physiology and Genetics, Czech Republic); Horakova, Dana; Buchtova, Marcela (University of Veterinary and Pharmaceutical Sciences, Czech Republic); Richman, Joy M. (Life Sciences Institute, University of British Columbia, Canada)
- 244 B140 *Effects of homocysteine on mesenchymal cells during limb development on chick embryos.* Bourckhardt, Gilian; Kobus, Karoline; Cecchini, Manuela; Müller, Yara; Ammar, Dib; Nazari, Evelise (Universidade Federal de Santa Catarina (UFSC), Brazil)
- 245 B141 *Inhibition of Hedgehog Signaling is Necessary for β -Catenin-Regulated Interzone Differentiation and Joing Morphogenesis.* Rockel, Jason; Yu, Chunying; Whetstone, Heather (The Hospital for Sick Children, Canada); Craft, April (University Health Network, Canada); Reilly, Katherine; Alman, Benjamin (The Hospital for Sick Children, Canada)
- 246 B142 *Characterizing gene expression dynamics between Shox2 and Hox genes during limb development.* Neufeld, Stanley John (University of Calgary, Canada), Scott, Alexandra; Wang, Fan (Durham, USA); Cobb, John (University of Calgary, Canada)
- 247 B143 *Interdigital mesoderm acts as a signaling center instructing digit joint formation.* Huang, Bau-Lin (National Cancer Institute-Frederick, USA); Koyama, Eiki; Pacifici, Maurizio (Children's Hospital of Philadelphia, USA); Mackem, Susan (National Cancer Institute-Frederick, USA)
- 248 B144 *Interdigit BMP signaling is essential for programmed cell death and is implicated in digit formation.* Kaltcheva, Maria M.; Pajni-Underwood, Sangeeta (National Cancer Institute-Frederick, USA); Harfe, Brian (University of Florida College of Medicine, USA); Lewandoski, Mark (National Cancer Institute-Frederick, USA)
- 249 B145 *Tramtrack69 regulates epithelial tube expansion in the Drosophila ovary through Paxillin and the homeobox protein Mirror.* Peters, Nathaniel C.; Berg, Celeste (University of Washington, USA)
- 250 B146 *Embryonic and uterine changes during mouse embryo implantation observed using a clearing technique.* Baiza Gutman, Luis Arturo; Sánchez Santos, Alejandra; Gómez Jiménez, Jaime; Martínez Hernández, María Guadalupe (FES Iztacala, UNAM, Mexico)
- 251 B147 *Directional rearrangement of planar polarised cells underlies the elongation of Drosophila renal tubules.* Saxena, Aditya; Denholm, Barry (University of Cambridge, UK); VijayRaghavan, K (National Centre for Biological Sciences, India); Skaer, Helen (University of Cambridge, UK)
- 252 B148 *Towards a common model of symmetry breakage: 'early determinants' act in the context of cilia-driven leftward flow.* Blum, Martin; Walentek, Peter; Tisler, Matthias (University of Hohenheim, Germany); Danlichik, Michael (Oregon Health & Science Univ, USA); Schweickert, Axel (University of Hohenheim, Germany)
- 253 B149 *The Congenital Heart Disease gene, GALNT11, glycosylates Notch to orchestrate cilia type and left-right asymmetry.* Yuan, Shiaulou; Boskovski, Marko T. (Yale, USA); Pedersen, Nis Borbye; Goth, Christoffer Knak (University of Copenhagen, Denmark); Makova, Svetlana (Yale, USA); Clausen, Henrik (University of Copenhagen, Denmark); Brueckner, Martina; Khokha, Mustafa K. (Yale, USA)
- 254 B150 *N-cadherin locks left-right asymmetry by ending the leftward movement of Hensen's node cells.* Saude, Leonor; Mendes, Raquel V. (Inst de Med Molec, Portugal); Martins, Gabriel G. (Ctro de Biologia Ambiental, Portugal)
- 255 B151 *Novel complementary asymmetric gene expression of linked genes at the Pitx2 locus establishes a role for chromatin regulation of L-R patterning.* Welsh, Ian Christophe; Chen, Frances; Kurpios, Natasza (Cornell University, USA)
- 256 B152 *RhoA GTPase Signaling During Development of the Left-Right Body Axis.* Amack, Jeffrey D.; Wang, Guangliang (State University of NY Upstate Med Univ, USA)
- 257 B153 *Fritz Governs Ciliogenesis in Xenopus laevis.* Kim, Su Kyoung (Univ of Texas-Austin, USA); Park, Tae Joo (Ulsan Metropolitan City, Korea); Abitua, Phil B. (University of California-Berkeley, USA); Wallingford, John B. (Univ of Texas-Austin, USA)
- 258 B154 *Molecular basis of principles of regeneration: distalization and intercalation.* Agata, Kiyokazu, (Kyoto University, Japan)

Genome Level Approaches

- 259 B155 *GXD: A Gene Expression Resource for Developmental Biologists.* Smith, Constance M.; Finger, Jacqueline H.; Hayamizu, Terry F.; McCright, Ingeborg J.; Xu, Jingxia; Eppig, Janan T.; Kadin, James A.; Richardson, Joel E.; Ringwald, Martin (Jackson Lab, USA)
- 260 B156 *The Sanger mouse genetics project: High throughput recessive lethality and DMDD screens.* Galli, Antonella; Ramirez-Solis, Ramiro; Estabel, Jeanne; White, Jacqui; Tuck, Elizabeth; Jones, Catherine; Green, Angela; Hooks, Yvette; Souter, Luke; Ryder, Edward; Adams, David (Wellcome Trust Sanger Institute, UK); Mohun, Tim; Wilson, Robert (MRC, UK)
- 261 B157 *MMAPPR: Mutation Mapping Analysis Pipeline for Pooled RNA-seq.* Hill, Jonathon T.; Demarest, Bradley; Bisgrove, Brent; Gorski, Bushra; Su, Yi-Chu; Yost, H. Joseph (University of Utah, USA)

- 262 B158 *The Role of Long Noncoding RNAs in Regulating Chicken Limb Patterning*. Schwartz, Matthew G., (Harvard Medical School, USA), Ulitsky, Igor; Bartel, David P. (Whitehead Institute for Biomedical Research, MIT, Howard Hughes Medical Institute, USA); Tabin, Clifford J. (Harvard Medical School, USA)
- 263 B159 *Genome-wide approaches reveal dynamic Foxh1-mediated gene regulation during mesendoderm specification in Xenopus tropicalis*. Le, Rebekah Le; Chiu, William; Blitz, Ira; Cho, Ken (University of California-Irvine, USA)
- 264 B160 *A whole genome approach to explore the gene regulatory network controlling germ layer patterning in the Xenopus tropicalis gastrula*. Paraiso, Kitt; Blitz, Ira; Chiu, William; Cho, Ken W.Y. (University of California-Irvine, USA)
- 265 B161 *Coordinating neurogenesis: Roles of REST and Hoxb1 binding modules integrating neural fate determination*. De Kumar, Bony De Kumar; Parrish, Mark; Paulson, Ariel; Gottschalk, Aaron; Scott, Carrie; Conaway, Ron; Krumlauf, Robb (Stowers Institute for Medical Research, USA)
- 266 B162 **Moved to Poster Session III, Board B140**
- 267 B163 *Microarray analysis of the embryonic skull vault*. Barrell, William; Healy, Christopher (Craniofacial Development and Stem Cell Biology, UK); Ota, Masato (Section of Molecular Craniofacial Embryology, Japan); Ohazama, Atsushi (Craniofacial Development and Stem Cell Biology, UK); Dionne, Marc (Centre for the Cellular and Molecular Biology of Inflammation, UK); Liu, Karen (Craniofacial Development and Stem Cell Biology, UK)

Induction

- 268 B164 *Interactions Between Organizer Genes and Early Neural Ectodermal*. Klein, Steven L. (National Science Foundation, USA); Moody, Sally; Neilson, Karen (George Washington University, USA)
- 269 B165 *To be or not to be - mutually exclusive neural and non-neural ectodermal competence territories are established at the neural plate border*. Schlosser, Gerhard (National University of Ireland), Pieper, Mareike; Ahrens, Katja (Brain Research Institute, University of Bremen, Germany)

Poster Session II

Monday, June 17, 20:00-22:00 h

Author presentation: Odd poster board numbers: 20:00-21:00 h
Even poster board numbers: 21:00-22:00 h

Additional viewing, without author presentation: Tue, June 18, 8:30-14:00 h

Set-up: Mon, June 17, 16:00-19:00 h Tear down: Tue, June 18, 14:00-16:00 h

Poster themes: Development and evolution – Cell-cell signaling – Morphogen gradients and patterning – Organogenesis – Tissue regeneration – Oncogenesis

Development and Evolution

- 270 B1 *Comparative analysis of the promoter sequences of the MADS-Box Gene APETALA3 from the homeotic flower Lacandonia schismatica and its sister taxon, Triuris brevistylis (Triuridaceae)*. Rodriguez Mega, Emiliano (UNAM, Mexico); Piñeyro Nelson, Alma (UC Berkeley, USA); Garay Arroyo, Adriana (UNAM, Mexico); Álvarez-Buylla, Elena (UC Berkeley, USA)
- 271 B2 *Investigating the role of MADS-box protein networks in the establishment of the floral meristem of Lacandonia schismatica and Triuris brevistylis*. Herrera Martinez, Joel (UNAM, Mexico); Piñeyro-Nelson, Alma (UC Berkeley, USA); Garay-Arroyo, Adriana; Álvarez-Buylla, Elena (Instituto de Ecología, UNAM, Mexico)
- 272 B3 *The Floral Organ Cell Fate Determination Gene Regulatory Network: A Network-level Molecular Evolutionary Analysis Across 18 Angiosperm Genomes*. Davila-Velderrain, Jose (Universidad Nacional Autonoma de Mexico, Mexico); Servin-Marquez, Andres (Universidad Autonoma de Nuevo Leon, Mexico); Alvarez-Buylla, Elena R. (Universidad Nacional Autonoma de Mexico, Mexico)
- 273 B4 *Of Butterfly Wings and Hopeful Monsters: the loci of discrete evolution*. Martin, Arnaud (Cornell Univ, USA); Papa, Riccardo (Univ of Puerto Rico-Rio Piedras, Puerto Rico); Orgogozo, Virginie (CNRS, France); McMillan, Owen (Smithsonian Tropical Research Inst, Puerto Rico); Reed, Robert (Cornell Univ, USA)
- 274 B5 *The role of toolkit genes in the evolution of complex wing, thorax, and abdominal color patterns in Drosophila guttifera*. Werner, Thomas (Michigan Technological University, USA); Shigeyuki, Koshikawa (U of Wisconsin-Madison, USA) Williams, Thomas (Univ of Dayton, USA); Bollepogu Raja, Komal Kumar (Michigan Technological Univ, USA); Carroll, Sean (Univ of Wisconsin-Madison, USA)
- 275 B6 *Insights into origin of new elements in the Dorso-Ventral patterning network in dipterans*. Hodar, Christian; Cambiazo, Veronica (INTA - Universidad de Chile - CRG, Chile)
- 276 B7 *The arthropod segmentation clock and what it tells us about the origin and evolution of segmented body plans*. Peel, Andrew (Univ of Leeds, UK); Sarrazin, Andres (Pontificia Universidad Catolica de Valparaiso, Chile); Averof, Michalis (Institut de Genomique Fonctionnelle de Lyon, France)

- 277 B8 *Actin-based cytokinetic twist breaks Left-Right symmetry in C. elegans.* Tiongson, Michael; Bao, Zhirong (Memorial-Sloan Kettering Cancer Center, USA)
- 278 B9 *Non-stochastic assignment of asymmetry in the vertebrate ancestral brain.* Boutet, Agnès (Centre de Biochimie, France); Lagadec, Ronan; Laguerre, Laurent; Godart, Benoît; Mazan, Sylvie (CNRS UPMC, France)
- 279 B10 *Early, nonciliary role for microtubule proteins in left-right patterning is conserved across kingdoms.* Lobikin, Maria (Tufts University, USA); Wang, Gang; Xu, Jingsong (Univ of Illinois College of Medicine, USA); Hsieh, Yi-Wen; Chuang, Chiou-Fen (Cincinnati Children's Hospital Research Foundation, USA); Lemire, Joan; Levin, Michael (Tufts University, USA)
- 280 B11 *Evolution of Placode-Derived Neurons Assessed by Cell Type-Specific Transcriptional Profiling.* Shimeld, Sebastian; Patthey, Cedric (University of Oxford, UK)
- 281 B12 *SeaBase – A new tool to analyze RNAseq data and a big step on our way toward a Nematostella gene interaction network.* Fischer, Antje (MBL, USA); Cosentino, Carlo (Università degli Studi Magna Graecia Catanzaro, Italy); Smith, Joel (MBL, USA)
- 282 B13 *Evolutionary Origins of the Vertebrate “New Head”.* Abitua, Philip; Wagner, Eileen; Levine, Mike (UC Berkeley, USA)
- 283 B14 *Your Inner Inner Fish: Analysis of Pharyngeal Segmentation in Vertebrates.* Shone, Victoria; Graham, Anthony (MRC Centre for Developmental Neurobiology, UK)
- 284 B15 *In vivo evidence for a novel and direct role of Cdx proteins in trunk neural crest cell development.* Sanchez, Oraly; Pilon, Nicolas (UQAM, Montreal, PQ, Canada)
- 285 B16 *Endothelin Signaling Balances Identity of Neural Crest Cells in the First Pharyngeal Arch.* Tavares, Andre Luiz Pasqu; Clouthier, David (Univ. of Colorado at Denver, USA)
- 286 B17 *Craniofacial Ontogeny in Turtles: putative role of bone morphogenetic proteins in the lack of palatal shelves.* Abramyan, John; Leung, Kelvin; Richman, Joy (University of British Columbia, Canada)
- 287 B18 *Expression timing of Gdf11 reveals positional diversity of the hindlimb in vertebrates.* Suzuki, Takayuki; Matsubara, Yoshiyuki (Nagoya University, Japan); Hattori, Ayumi; Ogura, Toshihiko (Tohoku University, Japan); Se-Jin, Lee (Johns Hopkins Univ, USA); Kuroiwa, Atsushi (Nagoya University, Japan)
- 288 B19 *The participation of Wnt/Ca+ signaling and the Wnt antagonists DKK and SFRP in digit formation during limb development.* Farrera Hernandez, Alejandro ; Bustamante, Marcia; Flores-Hernández, Erick; Robles-Flores, Martha; Orozco-Hoyuela, Gabriel; Chimal-Monroy, Jesús (UNAM, Mexico)
- 289 B20 *The Origin of the Thumb Patterning System.* Tanaka, Mikiko; Onimaru, Koh (Tokyo Institute of Technology, Japan)
- 290 B21 *Developmental genetics of evolved tooth gain in sticklebacks.* Cleves, Phillip; Jimenez, Monica (UC Berkeley, USA); Nunez, Stephanie (Univ. of Michigan, USA); Schluter, Dolph (University of British Columbia, Canada); Kingsley, David (Stanford U. and HHMI, USA)
- 291 B22 *The Roles of Canonical Wnt Signaling in Developing Teeth of Polyphyodont Lizards.* Holmes, Scott N.; Richman, Joy (University of British Columbia, Canada)
- 292 B23 *Dlx2 overexpression disrupt the development of teeth in mouse.* Dai, Jiewen (Shanghai Ninth People's Hospital, Shanghai Jiao Tong University, China); Wang, Xudong (Shanghai Ninth People's Hospital, Shanghai Jiao Tong University, Shanghai Key Laboratory of Stomatology, China); Shen, Guofang (Shanghai Ninth People's Hospital, Shanghai Jiao Tong University, China)
- 293 B24 *Natural “experiments” and Sonic hedgehog in the evolution of odontogenesis.* Grieco, Theresa (UC Berkeley, USA)
- 294 B25 *Endless pigeons most colorful: genetics and development of feather pigment diversity among domestic rock pigeons.* Domyan, Eric; Kronenberg, Zev; Guernsey, Michael; Vickrey, Anna; Cassidy, Pamela; Shapiro, Michael (University of Utah, USA)
- 295 B26 *Developmental basis of phallus reduction during bird evolution.* Herrera, Ana M; Shuster, Simone (University of Florida, USA); Perriton, Claire (University of Reading, UK); Cohn, Martin (Howard Hughes Medical Institute, USA)
- 296 B27 *The evolution of external genitalia: sexual reproduction on dry land.* Tschopp, Patrick; Sherratt, Emma; Sanger, Thomas; Groner, Anna; Aspiras, Ariel (Harvard U., USA); Pourquie, Olivier (Strasbourg Univ. Medical School, France); Gros, Jerome (Institut Pasteur, France); Tabin, Clifford (Harvard U., USA)
- 297 B28 *Molecular mechanism control cytoskeletal activities during inner ear invagination.* Sai, Xiaorei (Riken CDB, Japan)
- 298 B29 *Convergent evolution of cellular immunity in jawless fish.* McCurley, Nathanael; Guo, Peng; Cooper, Max (Emory University, USA)
- 299 B30 *Comparative analysis of the colon in the vertebrate lineage.* Theodosiou, Nicole; Wechter, Todd; Jain, Meaghan (Union College, USA)
- 300 B31 *The role of lbx1 during Xenopus and Nematostella embryogenesis – a comparative study of myogenesis in metazoans.* Strobl, Anna-Christina (NIMR MRC, UK) Steinmetz, Partick; Fredman, David; Technau, Ulrich (University of Vienna, Austria); Smith, Jim (NIMR MRC, UK)

- 301 B32 ***The TLR co-receptor TRIL is required for Spemann organizer function in Xenopus.*** Xie, Yuanyuan (University of Utah, USA); Mimoto, Mizuho; Kwon, Sunjong (Oregon Health & Science University, USA); McKnite, Autumn; Christian, Jan (University of Utah, USA)
- 302 B33 ***Fuz mutant mice reveal shared mechanisms between ciliopathies and FGF related syndromes.*** Tabler, Jacqueline Marie (UT Austin, USA); Liu, Karen (King's College London, UK); Wallingford, John (UT Austin, USA)
- 303 B34 ***SUMOylated Sox3 is associated with chromatin and affects Sox3 function during zebrafish development.*** Lam, Chi Man; Laghari, Zulfiqar Ali; Shih, Yu-Huan; Kuo, Cheng-Liang; Struebing, Silke; Scotting, Paul John (University of Nottingham, UK)
- 304 B35 ***Determining the role of an uncharacterized tubulin in the development of multiciliated epithelial cells in Xenopus laevis.*** Wills, Airon (University of Texas, Austin, USA), Turk, Erin (Stanford, USA); Sedzinski, Jakub (University of Texas, Austin, USA); Howes, Stuart; Nogales, Eva (UC Berkeley, USA); Stearns, Tim (Stanford, USA); Wallingford, John (University of Texas, Austin, USA)
- 305 B36 ***Misregulation of osteoblast differentiation underlies abnormal skull growth and suture formation in sp7 mutants.*** Kague, Erika; Fisher, Shannon (University of Pennsylvania, USA)
- 306 B37 ***Evolution of a tissue-specific silencer underlies diversification of paralogous genes.*** Haruki, Ochi (Yamagata University, Japan); Kawaguchi, Akane (Nara Institute of Science and Technology, Japan); Ogino, Hajime (Nagahama Institute of Bio-Science and Technology, Japan)
- 307 B38 ***Temporal and Spatial Expression of the Wnt Gene Complement in a Spiral-Cleaving Embryo.*** Pruitt, Margaret M.; Letcher, Edward; Bastian, Benjamin; Chou, Hsien-chao; Schneider, Stephan (Iowa State Univ, USA)
- 308 B39 ***Mechanistic Diversification of the Hedgehog Signaling Pathway.*** Warner, Jacob (Duke University, USA); McCarthy, Ali; Morris, Robert (Wheaton College, USA); McClay, David (Duke University, USA)
- 598 B40 ***Sexually dimorphic fin development: Implications for the evolution of intercourse.*** O'Shaughnessy, Katherine; Dahn, Randall; Cohn, Martin (Univ of Florida, USA)
- 310 B41 ***Comparison of the developmental transcriptomes of three marine Spiralian reveals the evolution of trochophore.*** Xu, Fei, (Institute of Oceanology, Chinese Academy of Sciences, China), Fan, Dingding (BGI-Shenzhen, China); Domazet-Loso, Tomislav (Ruder Boškovic Institute, Croatia); Li, Li (Institute of Oceanology, Chinese Academy of Sciences, China); Fang, Xiaodong (BGI-Shenzhen, China); Zhang, Guofan (Institute of Oceanology, Chinese Academy of Sciences, China)
- 311 B42 ***Glomerular development process in the Chinese experimental miniature pig.*** Xie, Yuansheng; Li, Xuyan; Shen, Shanshan; Cui, Shaoyuan; Li, Qinggang; Bai, Xueyuan; Chen, Xiangmei (Chinese PLA General Hospital, China)
- 312 B43 ***Embryonic origin of cartilaginous elements of the axolotl visceral skeleton.*** Davidian, Asya (St. Petersburg State Univ, Russian Federation), Epperlein, Hans-Henning; Tanaka, Elly (Technical University Dresden, Germany); Malashichev, Yegor (St. Petersburg State Univ, Russian Federation)
- 313 B44 ***Transgenic axolotls (Ambystoma mexicanum) as an emerging system for the study of organ and tissue embryonic origin.*** Malashichev, Yegor, (St. Petersburg State University, Russian Federation)

Cell-Cell Signaling

- 314 B45 Withdrawn
- 315 B46 ***Identification of a novel embryonic signaling peptide essential for mesendoderm migration.*** Pauli, Andrea; Ma, Jiao; Mitchell, Andrew; Gagnon, James (Harvard, USA); Joung, Keith (Massachusetts General Hospital, USA); Saghatelian, Alan; Schier, Alexander (Harvard, USA)
- 316 B47 ***Molecular pathogenesis of Joubert Syndrome and related disorders.*** Caspary, Tamara; Mariani, Laura (Emory University, USA); Higginbotham, Holden (UNC School of Medicine, USA); Fritz, Julie (Emory University, USA); Anton, Eva (UNC School of Medicine, USA)
- 317 B48 ***Invasive adhesion polarizes heart progenitor induction.*** Davidson, Bradley (Swarthmore College, USA); Norton, Jennifer; Cooley, James (University of Arizona, USA); Cota, Christina (Swarthmore College, USA)
- 318 B49 ***Dynamic membranes mediate heart progenitor induction in Ciona.*** Cota, Christina (Swarthmore College, USA)
- 319 B50 ***Multiple Catenins Contribute to Development: Emerging Roles of Plakophilin-3 Catenin.*** Munoz, William; Miller, Rachel; Lee, Moon-sup (MD Anderson Cancer Center, USA); Kloc, Malgorzata (The Methodist Hospital, USA); McCrea, Pierre (MD Anderson Cancer Center, USA)
- 600 B51 ***The somites act as a signalling centre during the emergence of haematopoietic stem cells.*** Aldo Ciau-Uitz; Philip Pinheiro; Catherine Porcher; Roger Patient (University of Oxford, UK)
- 321 B52 ***Thermal stability regulates fibroblast growth factor signaling.*** Krejci, Pavel; Vesela, Iva (Masaryk University, Czech Republic); Buchtova, Marcela; Zajickova, Renata (University of Veterinary and Pharmaceutical Sciences, Czech Republic); Zakrzewska, Malgorzata (University of Wroclaw, Poland); Wiedlocha, Antoni (University of Oslo, Norway); Martin, Jorge (Cedars-Sinai Medical Center, USA)
- 322 B53 ***Trachea-derived Dpp controls adult midgut homeostasis in Drosophila.*** Lin, Xinhua; Zhouhua, Li; Zhang, Yan; Han, Lili; Shi, Lai (Chinese Academy of Sciences, China)
- 323 B54 ***Drosophila glypicans Dally and Dally-like are essential regulators for JAK/STAT signaling and Unpaired distribution in eye development.*** Lin, Xinhua (Cincinnati Children's Hospital, USA); Zhang, Yan (Chinese

Academy of Sciences, China); You, Jia (Cincinnati Children's Hospital, USA); Ren, Wenyan (Chinese Academy of Science, China)

- 324 B55 *The zebrafish diencephalic glial bridge is made up of a heterogeneous population of astroglial cells.* Zaman, Paula; Velez, Carla; Bashiruddin, Sarah; Dimova, Kalina; Alligood, Kristin; Doris, Rosemarie; Sinha, Risha; Husain, Tanya; Mahlanza, Tatenda; Devoto, Stephen; Barresi, Michael (Smith College, USA)

Morphogen Gradients and Patterning

- 325 B56 *Axial specification in mice is controlled by an extra-embryonic Wnt3 signaling event.* Rivera-Perez, Jaime A.; Tortelote, Giovane; Huang, Tingting (University of Massachusetts Medical School, USA); Wakamiya, Maki (The University of Texas-Galveston, USA); Hadjantonakis, Anna-Katerina (Sloan Kettering Institute, USA); Behringer, Richard (M. D. Anderson Cancer Center, UT-Houston, USA)
- 326 B57 *Wnt5a and Wnt5b function redundantly via noncanonical pathways to extend the embryonic axis.* Barrow, Jeffery; Allen, John (Brigham Young University, USA); Long, Fanxin (Washington University in St. Louis, USA); McMahon, Andrew (University of Southern California, USA)
- 327 B58 *Short-Range Wnt5 Signaling Specifies Posterior Ectodermal Fate in the Sea Urchin.* McIntyre, Daniel C. (Duke University, USA); Seay, Winn (Harvard Medical School, USA); Croce, Jennifer (Observatoire Océanologique de Villefranche-sur-Mer, France); McClay, David (Duke University, USA)
- 328 B59 *Regulation of vertebrate Wnt secretion and gradient formation by Wntless.* Burrus, Laura W; Galli, Lisa (San Francisco State Univ, USA); Szabo, Linda (Stanford Univ, USA); Sean, Allen (San Francisco State Univ, USA); Li, Lydia (Johns Hopkins Univ, USA); Htaik, Yin Min (Roseman University of Health Sciences, USA)
- 329 B60 *Primary cilium-mediated signalling is essential for normal gut patterning.* Delalande, Jean Marie; Campbell, Alison; Thapar, Nikhil; Burns, Alan J (UCL - Institute of Child Health, UK)
- 330 B61 *The dynamic right-to-left translocation of Cerl2 is involved in the regulation and termination of Nodal activity in the mouse node.* Belo, José A.; Inácio, José M.; Marques, Sara (Universidade do Algarve, Portugal); Nakamura, Tetsuya; Shinohara, Kyosuke (Osaka University, Japan); Meno, Chikara (Kyushu University, Japan); Hamada, Hiroshi (Osaka University, Japan)
- 331 B62 *Cilia, Flow Sensing, and Polycystins: How the Embryo Determines Left From Right.* Grimes, Daniel T. (Princeton University, USA), Keynton, Jennifer; Beunavista, Maria (MRC Harwell, UK); Hamada, Hiroshi; Shinohara, Kyosuke (Osaka University, Japan); Norris, Dominic (MRC Harwell, UK)
- 332 B63 *Sp5l is a novel transcription factor involved in the establishment of left-right asymmetry in early zebrafish development.* Inglis, Rachael (University of Cambridge, UK); Nelson, Andrew; Soong, Daniel (King's College London, UK); Amack, Jeffrey (SUNY Upstate Medical University, USA); Wardle, Fiona (King's College London, UK)
- 333 B64 *ATRX function during zebrafish early development.* Ibarra Morales, Dafne Andrea; Schnabel Peraza, Denhi; Salas Vidal, Enrique; Lomeli Buyoli, Hilda; Zurita Ortega, Mario (Instituto de Biotecnología UNAM, Mexico)
- 334 B65 *Irx1 and Irx2 are Coordinately Expressed and Regulated by Retinoic Acid, TGFbeta, and FGF Signaling during Chick Hindlimb Development.* Díaz-Hernández, Martha; Bustamante, Marcia; Galván-Hernández, Claudio; Chimal-Monroy, Jesús (Instituto de Investigaciones Biomédicas UNAM, Mexico)
- 335 B66 *Application of TGFβ leads to enhanced chondrogenesis and impairment of posterior element formation in the developing chick limb.* López-Bayghen, Bruno, Medina-Vázquez, Georgina; García-Cruz, Carla; Chimal-Monroy, Jesús (UNAM, Mexico)
- 336 B67 *Retinoic acid effectors functions during axolotl limb regeneration.* Correa Gallegos, Donovan; Chimal Monroy, Jesús (UNAM, Mexico)
- 337 B68 *Visualizing endogenous morphogen gradients and their modulation in vivo.* Sosnik, Julian; Zheng, Likun; Digman, Michelle; Nie, Qing; Gratton, Enrico; Schilling, Thomas (UC Irvine, USA)
- 338 B69 *Retinoic acid regulates musculoskeletal patterning in the zebrafish head.* McGurk, Patrick; Swartz, Mary; Eberhart, Johann (University of Texas-Austin, USA)
- 339 B70 *Identifying the mechanism of action for Dispatched-mediated Hedgehog ligand release.* Bodeen, William (Univ of TN HSC - St. Jude Children's Res Hosp, USA), Ogden, Stacey (St. Jude Children's Research Hospital, USA)
- 340 B71 *Mapping the functional domains in LRP2, an auxiliary SHH receptor in the developing neuroepithelium.* Christa, Anna; Christ, Annabel ; Hammes, Annette; Willnow, Thomas (Max-Delbrueck-Center for Molecular Medicine, Germany)
- 341 B72 *LRP2 is an auxiliary SHH receptor required to condition the forebrain ventral midline.* Christ, Annabel; Christa, Anna; Willnow, Thomas; Hammes, Annette (Max-Delbrueck-Centrum, Germany)
- 342 B73 *Transcriptional regulation of Shh target genes in the developing spinal cord.* Kurdija, Sanja, KI; Oosterveen, Tony; Alekseenko, Zhanna; Uhde, Christopher; Sandberg, Magnus; Andersson, Elisabet; Bergsland, Maria; Dias, José; Muhr, Jonas; Ericson, Johan (Karolinska Institutet, Sweden)
- 343 B74 *Following a transient dose, Sonic Hedgehog function in normal digit formation is dispensable and can be substituted entirely by enforced cell survival.* Mackem, Susan; Zhu, Jianjian (National Cancer Institute, USA)
- 344 B75 *Shh is required to distally pattern mesenchyme to form digits.* Crawford, Derrick M.; Robertson, Christopher; Mayberry, Ryan; Martinez, Chad; Ford, Andrew; Barrow, Jeffery (Brigham Young Univ, USA)

- 345 B76 *Noggin can mimic BMPs effects on early neural crest-derived mesenchyme.* Buchtova, Marcela (Univ of Veter and Pharmac Sci, Czech Republic); Cela, Petra (Inst of Animal Physiology and Genetics, Czech Republic); Balek, Lukas; Prochazkova, Jirina (Masaryk Univ, Czech Republic); Richman, Joy M (Univ of British Columbia, Canada)
- 346 B77 *A computational model suggests that diffusion alone does not account for BMP2/4 movement in sea urchin embryos.* Schatzberg, Daphne; Hardway, Heather; Ferrell, Patrick; Core, Amanda; Murray, Ian; Ross, Erik; Li, Christy; Kaper, Tasso; Bradham, Cynthia (Boston University, USA)
- 347 B78 *Notch2, BMP5-8 and Alk4/5/7 signaling are required for skeletal patterning in sea urchin embryos.* Piacentino, Michael L.; Patel, Vijeta; Hewitt, Finnegan; Ramachandran, Janani; Yu, Jia; Chaves, James; Reyna, Arlene; Hameeduddin, Hajerah; Bardot, Evan; Lee, David; Coulomb-Huntington, Jasmin; Heilbut, Adrian; Core, Amanda (Boston University, USA); Poustka, Albert (Max-Planck Institut fuer Molekulare Genetik, Germany); Bradham, Cynthia (Boston University, USA)
- 348 B79 *BMP signaling requires an inwardly rectifying K⁺ channel to pattern the developing fly wing.* Bates, Emily Anne (Brigham Young University, USA)
- 349 B80 *Axis determination in amniotes.* Bertocchini, Federica; Carrera, Lucia (IBBTEC, Spain)
- 350 B81 *Building a Vertebrate Embryo Using a Combination of Morphogenetic Gradients.* Xu, Peng-Fei; Ferri, Karine; Thisse, Christine; Thisse, Bernard (University of Virginia, USA) **Also a talk in Concurrent Session 2.3**
- 351 B82 *Role of FGF signaling in maintenance of cardiac chamber identity in zebrafish.* Pradhan, Arjana; Zeng, Xin-Xin (University of California, San Diego, USA); Marques, Sara (Skirball Institute of Biomolecular Medicine, NYU School of Med, USA); Chi, Neil; Yelon, Deborah (University of California, San Diego, USA)
- 352 B83 *Modulation of fungiform papillae patterning by Fgf signaling.* Prochazkova, Michaela (UCSF, USA), Häkkinen, Teemu (University of Helsinki, Finland); Prochazka, Jan; Jheon, Andrew (UCSF, USA); Jervall, Jukka (University of Helsinki, Finland); Klein, Ophir (UCSF, USA)
- 353 B84 *The Facial Neural Crest Controls Fore- and Midbrain patterning by Regulating Foxg1 Expression Through Smad1.* Creuzet, Sophie; Aguiar, Diego (CNRS- Institute of Neurobiology, France)
- 354 B85 *The specification of jaw identity in avian embryos.* Richman, Joy; Nimmagadda, Suresh; Geetha-Loganathan, Poongodi; Fu, Kathy (University of British Columbia, Canada)
- 355 B86 *Fibulin-7 is expressed in mouse early development and its C-terminal fragment shows anti-angiogenic activity.* Forcinito, Patricia (National Institutes of Health, USA); de Vega, Susana (Juntendo University Graduate School of Medicine, Japan); Yamada, Yoshihiko (National Institutes of Health, USA)
- 356 B87 *Establishing the border between the Intermediate and Paraxial mesoderm during chick embryonic development.* Schneider, Jenny; Yelin, Ronit; Schultheiss, Thomas M. (Technion-Israel Institute of Technology, Israel)
- 357 B88 *Molecular characterization of the Arabidopsis twisted mutant.* Reyes, Irepan; Escobar-Guzmán, Rocio (Langebio, Mexico); Chalfun-Junior, Antonio (Universida de Federal de Lavras, Brazil); Pereira, Andy (Virginia Bioinformatics Institute, USA); Angenent, Gerco C (Plant Research International, Netherlands); Marsch Martinez, Nayelli; de Folter, Stefan (Langebio, Mexico)
- 358 B89 *The phytohormone cytokinin defines and restores specific tissues of developing gynoecia and fruits in Arabidopsis.* Marsch-Martinez, Nayelli; Ramos-Cruz, Daniela (CINVESTAV-IPN Irapuato, Mexico); Reyes-Olalde, Irepan; Lozano-Sotomayor, Paulina; Zuñiga-Mayo, Victor; de Folter, Stefan (CINVESTAV-IPN Irapuato, Langebio, Mexico)
- 359 B90 *Proteomics approaches to Identify the function of PI15, a putative embryonic morphogen.* Drain, Stephen; Nimmagadda, Suresh; Richman, Joy (University of British Columbia, Canada)
- 360 B91 *Differential Expression of Extracellular Matrix Proteins During Posterior Commissure Development.* Stanic, Karen; Gonzalez, Melissa; Montecinos, Hernán; Caprile, Teresa (Universidad de Concepcion, Chile)
- 361 B92 *The Ubiquitin ligase activator APC/C-Cdh1 (Rap/Fzr) regulates retinal axon targeting in the developing Drosophila eye.* Venkatesh, Tadmiri; Gronska, Marta (City College of New York, USA)
- 202 B93 *Cell-lineage analysis and localization of the embryonic sinoatrial node precursor cells during early mouse development.* Ori, Michela; Marras, Giulia (University of Pisa, Italy); Testa, Giovanna (University of Pisa; Scuola Normale Superiore, Pisa, Italy); De Lucchini, Stefania (Scuola Normale Superiore, Pisa, Italy); Nardi, Irma (University of Pisa, Italy)

Organogenesis

- 363 B94 *Cell-lineage analysis and localization of the embryonic sinoatrial node precursor cells during early mouse development.* Molero Abraham, M^a Magdalena; Franco, Diego; Aránega Jiménez, Amelia; Dominguez Macias, Jorge Nicolas (Universidad de Jaén, Spain)
- 364 B95 *Dissecting the roles of the proepicardium, Fgf10 and Fgf3 in cardiac development.* Urness, Lisa D; Bleyl, Steven B (University of Utah, USA); Moon, Anne M (Weis Center for Research/Geisinger Clinic, USA); Mansour, Suzanne L. (Univ of Utah, USA)
- 365 B96 *Arid3b is required for the formation of heart poles and patterning of the atrioventricular canal (AVC).* Uribe Sokolov, Veronica; Badia-Careaga, Claudio (CNIC, Spain); Casanova, Jesus (Monash University, Australia); Sanz-Ezquerro, Juan Jose (CNB, Spain)

- 366 B97 *Elucidating Mechanisms Underlying Epicardial Development.* Khan, Sana; Holtzman, Nathalia (Queens College, USA)
- 367 B98 *The role of Fosl2 in zebrafish Second Heart Field Development.* Jahangiri, Leila; Guner-Ataman, Burcu; Adams, Meghan; Burns, Caroline E; Burns, C. Geoffrey (MGH, Harvard Medical School, USA)
- 368 B99 *Cadm4 restricts the production of cardiac outflow tract progenitor cells.* Zeng, Xin-Xin I.; Yelon, Deborah (University of California, San Diego, USA)
- 369 B100 *Mutant Shp2 from Noonan Syndrome and LEOPARD Syndrome induced similar defects during early heart development.* Bonetti, Monica (Hubrecht Institute, Netherlands)
- 370 B101 *The androgen receptor is differentially expressed in the atrium and ventricle tissue of mouse embryo.* De Ita Ley, Marlon; Pedernera Astegiano, Enrique Antonio; Meneses Morales, Iván; Gómora Herrera, María José; Méndez Herrera, María del Carmen (UNAM, Mexico)
- 371 B102 Withdrawn
- 372 B103 *A heterogeneous cellular origin of the cardiac lymphatic vasculature.* Klotz, Linda; Ruhrberg, Christiana (University College London, UK); Riley, Paul (University of Oxford, UK)
- 373 B104 *Elucidation of the molecular mechanism of Rasip1 and Arhgap29 in blood vessel development.* Koo, Yeon (Univ of Texas Southwestern Med Ctr, USA), Xu, Ke (Harvard, USA); Davis, George (Univ. of Missouri, United States); Cleaver, Ondine (Univ of Texas Southwestern Med Ctr, USA)
- 374 B105 *Annexin A3 is required for early blood vessel formation.* Meadows, Stryder M.; Fletcher, Peter (UT Southwestern Medical Center, USA); Sacharidou, Anastasia; Davis, George (University of Missouri, USA); Cleaver, Ondine (UT Southwestern Medical Center, USA)
- 375 B106 *Identification of Cell Motility Genes Specific to Primitive Myeloid Lineage in Xenopus laevis.* Kenny, Alan; Jagpal, Amrita; Allbee, Andrew; Prewitt, Allison; Shifley, Emily; Zorn, Aaron (Cincinnati Children's Hospital, USA)
- 376 B107 *The Role of BMPs in Digit Number Regulation.* Norrie, Jacqueline; Li, Qiang (University of Texas-Austin, USA); Bouldin, Courtney; Harfe, Brian (University of Florida, USA); Vokes, Steven (University of Texas-Austin, USA)
- 377 B108 *Transient Inhibition of FGFR2b Signaling Leads to Irreversible Loss of Cellular Beta-Catenin Organization and Signaling in AER During Mouse Limb Development.* Danopoulos, Soula; Al Alam, Denise; Parsa, Sara; Tabatabai, Reza; Bellusci, Saverio (USC/CHLA, USA)
- 378 B109 *De-coupling the Hox-Shh-Fgf interaction reveals multiple inputs of Hox genes on pathways ensuring limb growth.* Sheth, Rushikesh; Grégoire, Damien; Dumouchel, Annie; Scotti, Martina; My Trang Pham, Jessica; Nemeč, Stephen (Institut de Recherches Cliniques de Montréal Canada); Bastida, Maria Félix; Ros, Marian (Instituto de Biomedicina y Biotecnología de Cantabria (CSIC-UC-IDICAN) and University of Cantabria, Spain); Kmita, Marie (Institut de Recherches Cliniques de Montréal, Canada)
- 379 B110 *Zebrafish Thrombospondin4b is essential for myotendinous ECM organization and integrin signaling.* Subramanian, Arul; Schilling, Thomas (University of California, Irvine, USA)
- 380 B111 *Phenotypic Analysis of a Novel Zebrafish Mutation Affecting Juvenile Bone Development.* Anderson, Rebecca (Northwestern Univ Feinberg School of Med, USA); LeClair, Elizabeth (DePaul University, USA); Topczewska, Jolanta; Topczewski, Jacek (Northwestern University Feinberg School of Med, USA)
- 381 B112 *Role of skeletal muscle in mandible development.* Kablar, Boris; Rot, Irena (Dalhousie University, Canada)
- 382 B113 *Amplitude of growth factor signaling tunes craniofacial morphology.* Szabo-Rogers, Heather L.; Cusack, Brian (University of Pittsburgh, USA)
- 383 B114 *The role of kinin-kallikrein signaling in craniofacial development.* Jacox, Laura (Whitehead Institute- MIT & Harvard GSAS, USA); Sindelka, Radek; Sive, Hazel (Whitehead Institute, USA)
- 384 B115 *Genetic and molecular characterization of the avian ciliopathic model Talpid2.* Brugmann, Samantha A.; Chang, Ching-Fang; Schock, Elizabeth (Cincinnati Children's Hospital, USA); Robb, Elizabeth (UC Davis, USA); Snyder, Jon (Cincinnati Children's Hospital, USA); Dodgson, Jerry (Michigan State University, USA); Cheng, Hans (USDA-ARS, USA); Muir, William (Purdue University, USA); Delany, Mary (UC Davis, USA)
- 385 B116 *Mortalin plays a protective role in cell survival through the regulation of the unfolded protein response pathway during mouse embryonic development.* Frisdal, Aude (Stowers Institute, USA); Walker, Macie (University of Colorado-Denver, USA); Trainor, Paul (Stowers Institute, USA)
- 386 B117 *Wnt signaling in mammalian craniofacial development.* Zhou, Chengji; Stokes, Arjun; Wang, Yongping (UC Davis, USA)
- 387 B118 *Growth of Meckel's cartilage and mandibular ossification in the fuzzy mutant.* Yannakoudakis, Basil; Economou, Andrew (King's College London, UK); Tabler, Jacqueline (University of Texas-Austin, USA); Yeung, Yvonne; Green, Jeremy; Liu, Karen (King's College London, UK)
- 388 B119 *The Golgi associated protein Golgb1 is required for palate development.* Lan, Yu; Liu, Han; Jiang, Rulang (Cincinnati Children's Hospital, USA)
- 389 B120 *Smad-Dependent BMP Signaling Through Type 1a Receptor in Cranial Neural Crest Cells Directs Their Cell Fate Towards Chondrocytes to Cause Craniosynostosis.* Mishina, Yuji; Komatsu, Yoshihiro (University of Michigan, USA)

- 390 B121 *Stage specific usage of Fgf signal in cochlea development.* Huh, Sung-Ho Huh; Ornitz, David; Warchol, Mark (Washington Univ in St Louis, USA)
- 391 B122 *Odd-skipped related-1 cooperates with Six2 to maintain nephrogenic progenitor cells during kidney development.* Xu, Jingyue; Liu, Han; Lan, Yu; Jiang, Rulang (Cincinnati Children's Hospital, USA)
- 392 B123 *Multiple roles of the transcription factor HNF1B during collecting duct morphogenesis and nephron segmentation.* Desgrange, Audrey; Héliot, Claire; Umbhauer, Muriel; Cereghini, Silvia (INSERM U969, UMR 7622 CNRS UPMC, Paris, France)
- 393 B124 *Mechanism of Wnt9b Signaling in the Regulation of Self-renewal and Differentiation of Nephron Progenitors.* Ramalingam, Harini; Carroll, Thomas; Das, Amrita (UT Southwestern Medical Center, USA)
- 394 B125 *Investigating the role of planar polarity in prostate gland development.* Grishina, Irina; Cisse, Yasmine (New York University School of Medicine, USA); Dean, Charlotte (Imperial College London, UK)
- 395 B126 *Origins and plasticity of thymus and parathyroid cell fate specification in the cervical thymus.* Manley, Nancy R.; Li, Jie (University of Georgia, USA)
- 396 B127 *Complex tissue specific roles for HOXA3 during thymus and parathyroid development.* Chojnowski, Jena L.; Trau, Heidi; Masuda, Kyoko; Manley, Nancy (University of Georgia, USA)
- 397 B128 *Pdx-1 is a determinant of epithelial organization in the developing pancreas.* Marty Santos, Leilani M; Cleaver, Ondine (UT-Southwestern Medical Center, USA)
- 398 B129 *Prox1 controls morphogenesis and cell fate in the mouse embryonic liver.* Sosa-Pineda, Beatriz; Seth, Asha; Yu, Nanjia; Ye, Jianming; Guez, Fanny; Bedford, David C.; Neale, Geoffrey A. (St. Jude Children's Research Hospital, USA); Cordi, Sabine (de Duve Institute, Belgium); Brindle, Paul K. (St. Jude Children's Research Hospital, USA); Lemaigre, Frederic P. (de Duve Institute, Belgium); Kaestner, Klaus H. (University of Pennsylvania, USA)
- 399 B130 *The Septum Transversum Mesenchyme Induces Gall Bladder Development.* Saito, Yohei; Kojima, Takuya; Takahashi, Naoki (University of Tokyo, Japan)
- 400 B131 *EpCAM Is an Endoderm-Specific Wnt Derepressor that Licenses Hepatic Development.* Luo, Lingfei (Southwest University, China)
- 401 B132 *Intestinal epithelial secretory cell differentiation is dependent on ascl 1a acting through Notch signaling.* Wallace, Kenneth; Roach, Gillian; Wallace, Rachel; Cameron, Amy; Ozel, Emrah; Hongay, Cintia; Baral, Reshica; Andreescu, Silvana (Clarkson University, USA)
- 402 B133 *Molecular characterization and functional analysis associated with retinoic acid signaling pathway during gut regeneration in the sea cucumber.* Viera-Vera, Jorge; Stephanie, Ortiz-Troche; Díaz-Díaz, Lymarie; García-Arrarás, José E. (University of Puerto Rico, Puerto Rico)
- 403 B134 *Eye Development in a Freshwater Shrimp Caridina nilotica (Crustacea Decapoda: Atidae).* Okuthe, Grace (Walter Sisulu University, South Africa)
- 404 B135 *Insights into the mechanism of tooth initiation from a pre-existing tooth germ in the snake and the mouse.* Gaete, Marcia; Tucker, Abigail (King's College London, UK)
- 405 B136 *Ectodysplasin/NF-kappaB in mammary placode development.* Voutilainen, Maria; Lindfors, Päivi; Rysti, Elisa; Lönnblad, Darielle (University of Helsinki, Finland); Schmidt-Ullrich, Ruth (Max-Delbrück-Center for Molecular Medicine, Germany); Mikkola, Marja (University of Helsinki, Finland)
- 406 B137 *Mechanistic Insight into the Pathology of Polyalanine Expansion Disorders Revealed by a Mouse Model for X Linked Hypopituitarism.* Thomas, Paul Q.; Hughes, James; Piltz, Sandra; Rogers, Nicholas; McAninch, Dale (University of Adelaide, Australia); Rowley, Lynn (Murdoch Childrens Research Institute, Australia)
- 407 B138 *The epigenetic factor Reptin regulates zebrafish development through both cilia dependent and independent pathways.* Sun, Zhaoxia (Yale U, USA)
- 408 B139 *Impaired Folate Uptake and Neural Tube Closure Defects in Lrp2 Deficient Mice.* Mecklenburg, Nora; Kur, Esther (Max-Delbrück Centrum, Germany); Cabrera, Robert (University of Texas, USA); Willnow, Thomas E.; Hammes, Annette (Max-Delbrück-Centrum, Germany)
- 409 B140 *Wnt/catenin Signaling System Functions in Embryoid Bodies Aggregated from Human Embryonic Stem Cell.* Xu, Xuehong (Shaanxi Normal University, China); Xu, MengMeng (Shaanxi Normal University/Duke University, USA); Zhou, Xin (Shaanxi Normal University, China); Jones, Odell (University of Maryland School of Med, USA); Pan, Yuexin (Case Western Reserve University, USA); Bryant, Joseph (University of Maryland School of Med, USA); Anthony, Donald (Case Western Reserve University, USA)
- 410 B141 *Organ-specific regulation of steroidogenesis by Hoxb9.* Gardiner, Jennifer (Institute of Cancer Research, UK)
- 411 B142 *Cell fate mapping and specification of the coelomic lining epithelium in the avian embryo.* Arraf, Alaa; Yelin, Ronit; Schultheiss, Thomas M. (Technion-Israel Institute of Technology, Israel)
- 412 B143 *Scarb2a is essential for Notochord Development in Zebrafish.* Díaz Téllez, Abigail (Universidad Nacional Autónoma de México, Mexico Distrito Federal, Mexico)
- 413 B144 *Developmental hierarchy, cell fate regulation and carcinogenesis: a view from the Drosophila model.* Sinha, Pradip (Indian Institute of Technology Kanpur, India)
- 414 B145 *FGF signaling pathways required for lung development are essential mediators of the pathogenesis of pleuropulmonary blastoma and adenocarcinoma.* Ornitz, David M; Yin, Yongjun (Washington University in St. Louis, USA); Hill, D. Ashley (Children's National Medical Center, USA); Betsuyaku, Tomoko (Keio University

School of Medicine, Japan)

- 415 B146 ***3-O-sulfated heparan sulfate expands the Kit+ epithelial progenitor pool via FGFR2b-dependent proliferation.*** Patel, Vaishali; Lombaert, Isabelle (NIH, USA); Xu, Yongmei; Liu, Jian (University of North Carolina, USA); Hoffman, Matthew (NIH, USA)
- 416 B147 ***An AP2/ERF transcription factor important for new organ development.*** Duran Medina, Yolanda; Marsch-Martinez, Nayelli (Cinvestav -IPN Unidad Irapuato, Mexico)
- 417 B148 ***Optimizing Culture Conditions for M. domestica Organogenesis-stage Embryos.*** Lycette, Devon, (Oberlin College, USA)

Tissue Regeneration

- 418 B149 ***Germline Regeneration in Parhyale hawaiiensis.*** Kaczmarczyk, Angela; Villa, Luis; Andrade López, José; Patel, Nipam (University of California, Berkeley, USA)
- 419 B150 ***Chemical Activation of Wnt/Beta-Catenin Blocks Limb Regeneration at Two Different Stages.*** Wischin Fuentes, Sabina Citlali, Robles-Flores, Martha; Chimal-Monroy, Jesús (UNAM, Mexico)
- 420 B151 ***Notch signaling regulates cardiomyocyte proliferation during zebrafish heart regeneration.*** Burns, C Geoffrey; Zhao, Long; Guner-Ataman, Burcu (Massachusetts General Hospital, USA); Kikuchi, Kazu; Poss, Kenneth (Duke University, USA); Caroline, Burns (Massachusetts General Hospital, USA)
- 421 B152 ***Shh Pathway: Inhibitory Signal for Retina Regeneration.*** Barbosa Sabanero, Karla (Miami University, USA), Judge, Chelsey (Case Western Reserve University, USA); Luz-Madrigal, Agustin; Del Rio-Tsonis, Katia (Miami University, USA)
- 422 B153 ***Influence of Papillomavirus Oncogenes E6/E7 and Sex Hormones in the Regeneration of Mouse Ear Holes.*** García, Celina; Hernández-García, David; Valencia, Concepción; Werner, Mariana; Covarrubias, Luis (Instituto de Biotecnología, UNAM, Mexico)
- 423 B154 ***Restoration of the brain function during brain regeneration in planarian and newt.*** Inoue, Takeshi (Kyoto University); Takano, Tomomi (Kobe University, Japan); Hoshino, Hajime; Akiyama, Yoshitaro; Umesono, Yoshihiko; Agata, Kiyokazu (Kyoto University, Japan)
- 424 B155 ***Primary Cell Cultures from the Regenerating Gut of the Sea Cucumber Holothuria glaberrima.*** Bello, Samir A.; García-Arrarás, José E. (University of Puerto Rico, San Juan, PR, United States)
- 425 B156 ***Transient reduction of 5-methylcytosine and 5-hydroxymethylcytosine is caused by active DNA demethylation during regeneration of zebrafish fin.*** Hirose, Kentaro (Hiroshima University, Japan); Shimoda, Nobuyoshi (National Center for Geriatrics and Gerontology, Japan); Kikuchi, Yutaka (Hiroshima University, Japan)
- 426 B157 ***Extensive conversion of hepatic biliary epithelial cells to hepatocytes after extreme hepatocyte loss in zebrafish.*** Choi, Tae-Young (University of Pittsburgh, USA); Ninov, Nikolay (UC-San Francisco, USA); Stainier, Didier Y.R. (Max Planck Institute, Germany); Shin, Donghun (University of Pittsburgh, USA)
- 427 B158 ***Regeneration of the adult zebrafish jaw by bone-producing chondrocytes is distinct from jaw development.*** Crump, Gage DeKoeper; Paul, Sandeep; Schindler, Simone (USC Keck School of Med, USA)
- 428 B159 ***Role of Sox2+ Cells in Spinal Cord Regeneration in Xenopus laevis.*** Muñoz, Rosana; Edwards, Gabriela; Méndez, Emilio; Farías, Marjorie; Larraín, Juan (Pontificia Universidad de Chile, Chile)
- 429 B160 ***A Transcriptomics Analysis of Spinal Cord Regeneration in Xenopus laevis.*** Moreno, Mauricio; Lee-Liu, Dasfne; Tapia, Victor; Almonacid, Leonardo; Munoz, Rosana; Edwards, Gabriela; Melo Francisco; Larrain, Juan (P. Universidad Catolica de Chile, Chile) Wicher
- 430 B161 ***Schwann cells negatively regulate lateral line neuromast regeneration in zebrafish.*** Sánchez, Mario; Allende, Miguel (Universidad de Chile, Chile)

Oncogenesis

- 431 B162 ***Oncogenic K-Ras promotes basal extrusion of epithelial cells by degrading SIP through autophagy.*** Slattum, Gloria Mercedes; Gu, Yapeng; Rosenblatt, Jody (University of Utah, USA)
- 432 B163 ***Akt-p53-miR-365-cyclin D1/cdc25A Axis Contributes to Gastric Tumorigenesis Induced by PTEN Deficiency.*** Teng, Yan; Yang, Xiao (Institute of Biotechnology, China)

Poster Session III

Wednesday, June 19, 20:00-22:00 h

Author presentation: Odd poster board numbers: 20:00-21:00 h

Even poster board numbers: 21:00-22:00 h

Additional viewing, without author presentation: Wed, June 19, 10:00-20:00 h

Set-up: Wed, June 19, 8:00-10:00 h

Tear down: Thu, June 20, 8:00-10:00 h

Poster themes: Intracellular signaling pathways – Epigenetic control of development – Cell type Specification – Cell migration and guidance – Stem cells – Systems approaches – Mathematical modeling approaches – Cell adhesion and polarity – Senescence, apoptosis and death – Environmental effects on development – Emerging technologies

Intracellular Signaling Pathways

- 433 B1 *The ciliary localization of Gli2 is important for its activation by Hh.* Liu, Aimin; Liu, Jinling; Zeng, Huiqing (Penn State, USA)
- 434 B1 *KIF17 controls ciliary localization and function of GLI2.* Carpenter, Brandon S.; Blasius, Teresa L.; Verhey, Kristen J.; Allen, Benjamin L. (U Michigan- Ann Arbor, USA)
- 435 B3 *Semaphorin receptors promote Hedgehog signaling.* Pinskey, Justine; Allen, Benjamin; Giger, Roman (U Michigan- Ann Arbor, USA)
- 436 B4 *The role of cytoplasmic dynein 2 light intermediate chain in Sonic Hedgehog signaling and ciliary structure.* Agbu, Stephanie; Anderson, Kathryn (Memorial Sloan-Kettering Cancer Center, USA)
- 437 B5 *Crosstalk between Wnt and Hh signaling direct extraembryonic endoderm formation.* Golenia, Greg; Deol, Joey; Kelly, Gregory (U Western Ontario, Canada)
- 438 B6 *Pannexin 3 inhibits Wnt/ β -catenin signaling and increases p21 activity to promote cell cycle exit of osteoprogenitor cells through its channel activities.* Ishikawa, Masaki; Yamada, Yoshihiko (NIH/NIDCR, USA)
- 439 B7 *Identification and expression of novel Wnt signaling-associated protein kinases.* Park, Edmond; Shin, Eun-Young (Korea Basic Science Inst., Rep. of Korea); Shin, Ju-Hyun (Chungnam National Univ. Hosp., Rep. of Korea); Kim, Gun-Hwa (Korea Basic Science Inst., Rep. of Korea)
- 440 B8 *Axin-stimulated Wnt signaling in mouse embryogenesis and intestinal progenitor cells.* Parrish, Angela; Mahaffey, James; Anderson, Kathryn (Sloan-Kettering Institute, USA)
- 441 B9 *Early endocytic trafficking in control of developmental signaling.* Gerstner, Norman; Zimyanin, Vitaly; Wieffer, Marnix; Zerial, Marino (MPI-CBG, Germany)
- 442 B10 *Detection of BMP signaling in pre-implantation mouse embryos.* Reyes de Mochel, Nabora Soledad; Javier, Anna; Chiang, Michael; Luong, Mui Nhuc; Cinquin, Olivier (UC- Irvine, USA)
- 443 B11 *TGF-beta/Smad signaling maintains cardiac homeostasis by down-regulating miRNAs inducing cardiac hypertrophy.* Yang, Xiao; Wang, Jian (Beijing Inst. of Biotechnology, China)
- 444 B12 *Identification and expression analysis of two homologs from Xenopus laevis of the Tumorhead putative binding protein, FBXO30.* Traverso, Edwin E.; Zbinden, Theodor; Flores, Noelia; Núñez, Dariana; Ayala, Jesús (UPuerto Rico-Humacao, USA); Hernández, Josué; García-Arrarás, José (U Puerto Rico-Río Piedras, USA)
- 445 B13 *The effect of calcium activity perturbation on gene expression in the developing nervous system of Xenopus.* Rabe, Brian A.; Herbst, Wendy A.; Saha, Margaret (The College of William and Mary, USA)
- 446 B14 *RA induced primitive extraembryonic endoderm leads to increased reactive oxygen species and a shift from aerobic glycolysis to mitochondrial biogenesis.* Hwang, Jason TK; Wen, Jason; Kelly, Gregory (U of Western Ontario, Canada)
- 447 B16 *Distinct roles for isoforms of Regulator of G-protein Signalling 3 (RGS3) throughout neuronal maturation.* Fleenor, Stephen (U of Oxford, UK)
- 448 B16 *Regulation of TNF α and COX2 by NFATc1 pathway during adipose commitment.* López-Victorio, Carlos J; Beltrán-Langarica, Alicia; Vellez-delValle, Cristina; Kuri-Harcuch, Walid (Cinvestav IPN, Mexico)

Epigenetics Control of Development

- 449 B17 *Importance of Intersectin1 isoforms during proper embryonic development of Xenopus laevis.* Cheng, Cheng; Jimenez, Oscar; Thorn, Judith (Knox College, USA)
- 450 B18 *Chromatin state transitions and epigenetic constraints during early Xenopus embryogenesis.* Veenstra, Gert Jan (Radboud Univ, Netherlands)
- 596 B19 *Defining mechanisms of imprinted expression at Igf2r/Airn during mouse gastrulation.* Marcho, Chelsea; Bevilacqua, Ariana; Veeramani, Swarna; Mager, Jesse (U Massachusetts-Amherst, USA)
- 453 B21 *The ATRX gene is separated in Drosophila: description of the xnp2 gene.* López Falcón Piza, Brenda Araceli; Meyer Nava, Silvia; Montero Barrera, Daniel; Hernández Rodríguez, Benjamín; Zurita, Mario (UNAM-Cuernavaca, Mexico)
- 454 B22 *The chromatin-remodelling factor CHD7 controls multiple processes during development of the cerebellum.* Basson, Michiel A.; Yu, Tian; Danielsen, Katrin; Shah, Apar (King's College London, UK); Marques, Ana (Oxford, UK); Bowler, Timothy (Monterfiore Med Ctr, USA); Ponting, Chris (Oxford, UK); Reinberg, Danny (HHMI/NYU, USA); Scambler, Peter (King's College London, UK)
- 455 B23 *Epigenetic mechanisms involved in temperature-dependent sex determination of the sea turtle Lepidochelys olivacea.* Venegas, Daniela; Marmolejo, Alejandro; Valdes-Quezada, Christian; Recillas-Targaga, Felix; Merchant-Larios, Horacio (UNAM-Mexico City, Mexico)
- 456 B24 *Polycomb/ Trithorax group proteins collaborate with Heterochromatin protein 1 to regulate Drosophila sex determination.* Rodriguez, Janel; Horabin, Jamila (Florida St U-Tallahassee, USA)

- 457 B25 *Polycomb determines responses to Smad2/3 signaling in embryonic stem cell differentiation and in reprogramming.* Kuehn, Michael; Dahle, Øyvind (National Cancer Inst, USA)
- 458 B26 *Quantifying the impact of blood flow on embryonic cardiac development in zebrafish.* Garrity, Deborah M.; Johnson, Brennan M; Hammond, Sean L; Zeller, Molly J; Dasi, Lakshmi Prasad (Colorado St U-Fort Collins,USA)
- 459 B27 *Regulation of genome architecture during heart development.* Gómez Velázquez, Melisa; Badía Careaga, Claudio (Ctr Nac de Investigaciones Cardiovasculares, Spain); Galjart, Niels (Erasmus Med Coll, Netherlands); Gómez Skarmeta, José Luis (Ctr Andaluz de Biol del Desarrollo, Spain); Manzanare, Miguel (Ctr Nac de Investigaciones Cardiovasculares, Spain)
- 460 B28 *DNA demethylation confers competence on the genome for zygotic genome activation in zebrafish embryos.* Meng, Anming; Wu, Di; Jia, Shunji (Tsinghua U, China)
- 461 B29 *MicroRNA-30a regulates zebrafish myogenesis via targeting the Six1 homeoprotein.* O'Brien, Jenean H.; Hernandez-Lagunas, Laura; Artinger, Kristin Bruk; Ford, Heide L. (UColorado-Denver,USA)
- 462 B30 *Retinaldehyde dehydrogenase 2 (Raldh2) and retinoic acid are crucial for nephron endowment.* Li, Qinggang; Liu, Ying; Xie, Yuansheng; Chen, Xiangmei (Beijing, China)
- 463 B31 *Neural Crest to neuroblastomas: a two way street for lessons on development and cancer.* Bajpai, Ruchi; Samanta, Soma; PeliKan, Richard (Uof Southern California, USA)

Cell Type Specification

- 464 B32 *Vgl4b is a new gene expressed in the ectoderm of Xenopus laevis.* Barrionuevo, M.Guadalupe; Aybar, Manuel J.; Tribulo, Celeste (Univ Nac de Tucuman, Argentina)
- 465 B33 *maternal KLF2 regulates the expression of early pan-ectodermal activator, Foxi1e, in Xenopus development.* Cha, Sang-Wook Cha; Shoemaker, Amanda; Wylie, Christopher; Kofron, Matthew (Cincinnati Children's Hospital, USA)
- 466 B34 *The WTI protein expression in radial glia of human developmental cerebellum.* Parenti, Rosalba; Puzzo, Lidia; Magro, Gaetano; Gulisano, Massimo (U of Catania, Italy)
- 467 B35 *A ribosomal biogenesis mutant reveals roles for BMP in asymmetric brain development.* Gamse, Joshua T.; Wu, Simon (Vanderbilt, USA); Freed, Emily (Yale, USA); Leshchiner, Ignat; Goessling, Wolfram (Harvard Med Sch, USA); Baserga, Susan (Yale, USA)
- 468 B36 *Dynamic and asymmetric segregation of cells from the rhombic lip contributes to both neural tube and roof plate tissues in the zebrafish hindbrain.* Campo-Paysaa, Florent (IGFL-ENS, France); Clarke, Jonathan; Wingate, Richard (King's College London, UK)
- 469 B37 *Search for novel genes involved in hindbrain segmentation.* Vazquez-Echeverria, Citlali; Escarcega, David (Inst Tecnol y Estudios Superiores de Monterrey, Mexico); Pujades, Cristina (Univ Pompeu Fabra, Spain)
- 470 B38 *Induction of Brn3a Through Ectopic Expression of Mash1, Ngn1, or Ptf1a.* Landsberg, Rebecca L. (Coll. of St. Rose, USA); George, Angela (Springfield, USA)
- 471 B39 *Determination of neural precursor cell commitment into mesencephalic dopaminergic neurons.* Guerrero, Gilda; Bastidas, Aimée; Covarrubias, Luis (UNAM-Cuernavaca, Mexico)
- 472 B40 *Loss of Dll1 affects the timing of neurogenesis in the midbrain dopaminergic niche.* Valencia, Concepción; Trujillo-Paredes, Niurka; Guerrero, Gilda (UNAM-Cuernavaca, Mexico); Guerra-Crespo, Magdalena (UNAM-México city, Mexico); Baizabal, José Manuel; Covarrubias, Luis (UNAM-Cuernavaca, Mexico)
- 473 B41 *How neural cells acquire an identity: Role of calcium signaling and voltage-gated calcium channels in neuronal phenotype specification.* Schleifer, Lindsay (Coll of William & Mary, USA); Lewis, Brittany B. (Cornell Med Coll, USA); Ng-Sui-Hing, Albert; Anastas, Vollter; Saha, Margaret S. (Coll of William & Mary, USA)
- 474 B42 *The role of calcium activity in neuronal phenotype specification.* Herbst, Wendy A.; Rabe, Brian A.; Saha, Margaret S. (Coll of William & Mary, USA)
- 475 B43 *Loss of plasticity of neural precursor cells of the mesencephalon in culture: influence of fibroblast growth factor 2.* Landgrave-Gómez, Jorge; Guerrero, Gilda; García, Celina; Pérez-Estrada, José Raúl (UNAM-Cuernavaca, Mexico); Maya-Espinoza, Guadalupe; Guerra-Crespo, Magdalena (UNAM- México city, Mexico); Covarrubias, Luis (UNAM-Cuernavaca, Mexico)
- 476 B44 *Sensory diversity in the olfactory system: left-right neuronal asymmetry.* Chuang, Chiou-Fen Chuang (Cincinnati Children's Research Foundation, USA)
- 477 B45 *Mechanism of myelin basic protein mRNA localization.* Meireles, Ana; Talbot, William (Stanford, USA)
- 478 B46 *Chemical and genetic screening for factors that regulate myelination in zebrafish.* Petersen, Sarah C.; Monk, Kelly R. (Washington U, USA)
- 479 B47 *RPE specification is mediated by surface ectoderm-derived BMP and Wnt signalling in the chick.* Steinfeld, Jörg, (Technische Universität Darmstadt, Germany); Steinfeld, Ichie (Nara Women's University, Japan); Coronato, Nicola; Layer, Paul G. (Technische Universität Darmstadt, Germany); Araki, Masasuke (Nara Women's University, Japan); Vogel-Höpker, Astrid (Technische Universität Darmstad, Germany)
- 480 B48 *The role of BMPs in chick neural retina development.* Coronato, Nicola; Steinfeld, Jörg; Steinfeld, Ichie; Layer, Paul G.; Vogel-Höpker, Astrid (Technische Universität Darmstadt, Germany)

- 481 B49 *Prdm1a* directly activates *foxd3* and *tfap2a* during zebrafish neural crest specification. Powell, Davalyn R.; Hernandez, Laura; Lamonica, Kristi; Artinger, Kristin (U CO-Denver, USA)
- 482 B50 *tfap2e* is required for Neural Crest Migration and Neuronal Differentiation. Ruiz, Sofia; Lobanova, Anastasia; Eisen, Michael; Harland, Richard (UC Berkeley, USA)
- 483 B51 Further evidence that Id-proteins act through E-proteins: the Id-protein *Extramacrochaetae* regulates R7 cell fate through the E-protein *Daughterless* in the *Drosophila* eye. Baker, Nicholas E.; Bhattacharya, Abhishek (Albert Einstein Coll Med, USA)
- 484 B52 *EYA1/SIX1* drive neuronal developmental program in cooperation with the SWI/SNF chromatin-remodeling complex and *SOX2* in the mammalian inner ear. Xu, Pin-Xian; Ahmed, Mohi; Xu, Jinshu (Mount Sinai Sch Med, USA)
- 485 B53 Localization of *Yap1* protein during blastocyst formation in the lab opossum. Spindler, Troy; Cruz, Yolanda (Oberlin College, USA)
- 486 B54 The Hippo pathway member *Nf2* regulates inner cell mass/trophectoderm specification. Cockburn, Katie; Biechele, Steffen (Uof Toronto, Canada); Garner, Jodi (Sickkids Research Inst, Canada); Rossant, Janet (U of Toronto, Canada)
- 487 B55 The biology of avian macrophages and their function in development. Garcia Morales, Carla; Balic, Adam; Garceau, Valerie; Sang, Helen; Hume, David (Roslin Inst. UK)
- 488 B56 *Fgf* and *Bmp* signaling in the third pharyngeal pouch may inhibit *Shh* signals during development. O'Neil, John; Bain, Virginia; Manley, Nancy (UGA- Athens, USA)
- 489 B57 New structural characteristics and segregated cell components revealed in sections of sea urchin eggs and embryos by antibodies to density gradient fractions from fertilized sea urchin eggs and to sperm vesicles. Sparling, Mary L. (Cal State-Northridge, USA)
- 490 B58 The *hox* gene *lin-39* controls cell cycle progression during *C. elegans* vulval development. Roiz Lafuente, Daniel; Leu, Philipp; Hajnal, Alex (U of Zurich, Switzerland)
- 491 B59 The alternative splicing regulator *tra2b* is required for proper somitogenesis in *Xenopus*, and regulates splicing of a novel *wnt11b* splice form. Dichmann, Darwin; Harland, Richard (UC-Berkeley, USA)
- 492 B60 Examination of physiology and gene expression in great vessels of differing embryonic origin. Pfaltzgraff, Elise R. (Vanderbilt, USA)
- 493 B61 A network responsible for lineage segregation of lateral dermomyotome progenitors into myotomal and vascular fates. Applebaum, Mordechai (The Hebrew Univ of Jerusalem, Israel) Ben-Yair, Raz (Massachusetts General Hospital, USA); Chaya, Kalcheim (The Hebrew Univ of Jerusalem, Israel)
- 494 B62 The Notch pathway promotes vascular cell fates of multipotent *Pax3+* progenitors, in the somite. Mayeuf, Alicia; Lagha, Mounia; Danckaert, Anne; Relaix, Frédéric (Inst Pasteur, France); Vincent, Stéphane (IGBMC, France); Buckingham, Margaret (Inst Pasteur, France)
- 495 B63 Delineating the early molecular steps required for cardiac progenitor development in the zebrafish embryo. Deshwar, Ashish R. (U of Toronto, Canada, Scott, Ian (Hosp for Sick Children, Canada)
- 496 B64 Crosstalk between cell adhesion and cell fate specification during zebrafish gastrulation. Barone, Vanessa; Heisenberg, Carl-Philipp (Institute of Science and Technology, Austria)
- 497 B65 **Moved to short talk in Concurrent Session 5.3**

Cell Migration and Guidance

- 498 B66 Interplay between chemical and mechanical guidance during collective cell migration. Garcia, Simon (Univ de Barcelona, Spain); Theveneau, Eric; Mayor, Roberto (University College London, UK); Trepast, Xavier (Univ de Barcelona, Spain)
- 499 B67 Genetic and Biophysical Constraints on Collective Cell Motility. Starz-Gaiano, Michelle; Manning, Lathiena; Peercy, Bradford (U Maryland-Baltimore, USA)
- 500 B68 *TIMP-2* interacts with *MT-1* MMP to modulate migration and invasion of MCF-7 cells independent of MMP inhibition. Cepeda, Mario; Willson, Jessica; Nieuwesteeg, Michelle; Damjanovski, Sashko (Western Univ, Canada)
- 501 B69 Analysis of the effects of *TIMP-1 -2 and -3 N- and C-terminal domain overexpression* during early *Xenopus laevis* development using immunohistochemistry. Nieuwesteeg, Michelle; Willson, Jessica; Cepeda, Mario; Damjanovski, Sashko (Western Univ, Canada)
- 502 B70 Analysis of *RECK* expression during *Xenopus laevis* development and its colocalization with *MT1-MMP* during neurulation. Willson, Jessica; Nieuwesteeg, Michelle; Cepeda, Mario; Damjanovski, Sashko (Western Univ, Canada)
- 503 B71 withdrawn
- 504 B72 The role of retinoic acid signaling in tectal laminar formation. Kukreja, Shweta (Indian Institute of Technology Kanpur, India)
- 505 B73 The role of *DCC* for mitral cell axon guidance in zebrafish. Horne, Jack; Sheth, Ruchi (Pace U, USA)
- 506 B74 The role of heparan sulphotransferase enzymes *Hs2st* and *Hs6st1* in *Corpus Callosum* development. Clegg, James; Pratt, Thomas (U of Edinburgh, UK)

- 507 B75 *Slit1a* promotes axon-glia interactions to facilitate post-optic commissure formation in zebrafish. Park, Jin Sook (Smith College, USA)
- 508 B76 *The PCP factor Prickle1b and transcriptional repressor Rest function within facial branchiomotor neurons to regulate their migration during zebrafish development.* Love, Crystal E. (U Chicago, USA); Sirotkin, Howard (Stony Brook, USA); Prince, Victoria (U Chicago, USA)
- 509 B77 *Migration of Cajal-Retzius cells in the olfactory region of the developing telencephalon.* Frade, Daniela; Varela-Echavarría, Alfredo (UNAM-Querétaro, Mexico)
- 510 B78 *Neogenin/RGMa signaling may regulate polarized migration during neural convergent extension in Danio rerio.* Olmo, Valerie; Jayachandran, Pradeepa; Brewster, Rachel (U MD-Baltimore, USA)
- 511 B79 *Candidate modulators of tubulin and microtubule dynamics in C. elegans neural development.* Baran, Renee; Kim, Hyun Su; Shayler, Dominic (Occidental College, USA)
- 512 B80 *Live imaging of trunk neural crest cells in zebrafish reveals a role for Notch signalling.* Richardson, Joanna; Linker, Claudia (King's College London, UK)
- 513 B81 *Histone Deacetylase 9b is involved in neural crest development.* Espina, Jaime A.; Barriga, Elías H.; Reyes, Ariel E. (Univ Andrés Bello, Chile)
- 514 B82 *Ric-8A is required for the neural crest cell migration.* Toro-Tapia, Gabriela; Fuentealba, Jaime; Rodríguez, Marion; Hinrichs, Maria Victoria; Olate, Juan; Marcellini, Sylvain; Torrejon, Marcela (Univ de Concepcion, Chile)
- 515 B83 *Dynamic migratory behaviours of mouse sacral neural crest cells.* Chan, Wood Yee; Chen, Jie-Lin; Wang, Xia (The Chinese Univ of Hong Kong, China); Enomoto, Hideki (RIKEN Center for Developmental Biology, Japan)
- 516 B84 *Rabconnectin-3a regulates vesicle endocytosis and canonical Wnt signaling in zebrafish neural crest migration.* Tuttle, Adam M.; Hoffman, Trevor; Schilling, Tom (UC-Irvine, USA)
- 517 B85 *Hypoxia regulates neural crest migration by promoting chemotaxis and epithelial-to-mesenchymal-transition.* Barriga, Elias (Univ Andres Bello, Chile); Maxwell, Patrick H. (University College of London, UK); Reyes, Ariel E (Univ Andrés, Santiago, Chile); Mayor, Roberto (University College of London, UK)
- 518 B86 *Hox genes control cell migration in the lateral line primordium and regulate expression of chemokine receptors downstream of Wnt signalling.* Xu, Qiling; Breau, Marie A; Wilkinson, David G (MRC Nat Inst for Med Res, UK)
- 519 B87 *Fgf signaling is required for proper cell convergence during pectoral limb bud formation.* Stinnett, Haley K; Mao, Qiyang; Ho, Robert K (U Chicago, USA)
- 520 B88 *Long-distance cell migrations during larval development in the appendicularian, Oikopleura dioica.* Nishida, Hiroki; Kishi, Kanae; Onuma, Takeshi (Osaka U, Japan)
- B89 withdrawn
- 522 B90 *Identifying the link between Nodal signaling and cell migration within the cardiac cone.* Rowland, Jessica R. (Princeton, USA)

Stem Cells

- 523 B91 *LifeMap Discovery™: The embryonic development, stem cells, and regenerative medicine research compendium.* Edgar, Ron; Mazor, Yaron; Rinon, Ariel; Blumenthal, Jacob; Golan, Yaron; Buzhor, Ella; Livnat, Idit; Ben-Ari, Shani; Lieder, Iris; Shitrit, Alina; Gilboa, Yaron; Edri, Osnat; Shraga, Netta; Bogoch, Yoel; Leshansky, Lucy; Aharoni, Shlomi (LifeMap Sciences, Israel); D. West, Michael (BioTime Inc., USA); Warshawsky, David; Shtrichman, Ronit (LifeMap Sciences, Israel)
- 524 B92 *Induction of osteo-chondroprogenitors formation by transcription-factor mediated reprogramming process.* Cheung, Martin; Wang, Yinxiang; Lu, Lorraine; Wu, Ming-Hoi; Sham, Mai-Har; Chan, Danny; Cheah, Kathryn (The University of Hong Kong, China)
- 525 B93 *(-)-epicatechin-induced differentiation of human bone marrow mesenchymal stem cells to osteoblasts.* Diaz, Hector; Parra, Alberto; Mera, Elvia; Salas, Jose L; Acevedo, Leonardo F; Benitez, Gamaliel; Caceres, Julio R; Najera, Nallely; Rubio, Angel I O; Palma, Icela; Ceballos, Guillermo M; Gutierrez, Gisela (Escuela Superior de Medicina, Mexico)
- 526 B94 *PLZF: a master regulator of mesenchymal stem cell lineage commitment.* Djouad, Farida; Tejedor, Gautier; Toupet, Karine; Maumus, Marie; Chuchana, Paul; Jorgensen, Christian; Noël, Danièle (INSERM, France)
- 527 B95 *Evaluating of hematopoietic and mesenchymal stem cell markers during limb bud development.* Camargo Sosa, Karen; Marin Llera, Jessica Cristina; Soldevila Melgarejo, Gloria; Chimal Monroy, Jesús (UNAM-Mexico City, Mexico)
- 528 B96 *Defining the origins of the hemogenic endothelium, the source of hematopoietic stem cells.* Naiche, L.A. Naiche (National Cancer Institute, USA); Klarmann, Kimberly; Keller, Jonathan (SAIC-Frederick National Lab, USA); Lewandoski, Mark (National Cancer Institute, USA)
- 529 B97 *SOX2 is required for correct pituitary morphogenesis.* Goldsmith, Sam; Rizzoti, Karine; Lovell-Badge, Robin (MRC NIMR, UK)
- 530 B98 *The MADS protein XAANTAL2 (XAL2/AGL14) is required to control auxin transport via direct PIN regulation during Arabidopsis root development.* Garay, Adriana; Ortiz-Moreno, Enrique; Sánchez, María de la Paz (UNAM, Mexico); Murphy, Angus S. (Purdue, USA); Marsch-Martínez, Nayelli; de Folter, Stefan (CINVESTAV-Langebio, Mexico); García-Ponce, Berenice; Corvera-Poiré, Adriana; Jaimes-Miranda, Fabiola; Pacheco-Escobedo, Mario A.

- (UNAM, Mexico); Dubrovsky, Joseph G. (UNAM-Cuernavaca, Mexico); Pelaz, Soraya (Barcelona, Spain); Álvarez-Buylla, Elena R. (UNAM, Mexico)
- 531 B99 *A protein network controls protective quiescence in the Arabidopsis root stem cell organizer.* Cruz Ramírez, Luis Alfredo (Univ de La salle Bajío, Mexico); Diaz Trivino, Sara; Wachsmann, Guy; Du, YuJuan (Wageningen Univ, Netherlands); Arteaga-Vazquez, Mario (Universidad Veracruzana, Mexico); Zhang, Hongtao; Blilou, Ikram (Wageningen Univ, Netherlands); Chandler, Vicky (U AZ, USA); Scheres, Ben (Wageningen Univ, Netherlands)
- 532 B100 *Intestinal stem cell dynamics in induced human intestinal organoids.* Finkbeiner, Stacy; Rockich, Briana (U Michigan-Ann Arbor, USA); Vallance, Jeff; Shroyer, Noah (Cincinnati Children's Hospital, USA); Spence, Jason (U Michigan-Ann Arbor, USA)
- 533 B101 *Totipotent embryonic stem cells arise in ground state culture conditions.* Morgani, Sophie (Danstem Ctr, Denmark); Canham, Maurice (MRC Ctr Regen Med, UK); Nichols, Jennifer (Wellcome Trust Ctr for Stem Cell Res, UK); Sharov, Alexei (NIA/NIH, USA); Migueles, Rosa (MRC Ctr Regen Med, UK); Ko, Minoru (Keio U, Japan); Brickman, Joshua (Danstem Ctr, Denmark)
- 534 B102 *Cell fate decisions regulating stem cell origins during preimplantation mouse development.* Ralston, Amy (UC-Santa Cruz, USA)
- 535 B103 *Cell competition in the mammalian epiblast selects cells with higher Myc levels.* Clavería, Cristina; Giovinozzo, Giovanna; Sierra, Rocío; Torres, Miguel (Spanish National Centre for Cardiovascular Research (CNIC), Spain)
- 536 B104 *The study of the first heart field cardiac progenitor cells via ES cell derivation.* Kokkinopoulos, Ioannis; Saba, Rie; Ishida, Hidekazu (Queen Mary Univ of London, UK); Hamada, Hiroshi (Osaka Univ, Japan); Suzuki, Ken; Yashiro, Kenta (Queen Mary Univ of London, UK)
- 537 B105 *Single-Cell cDNA analyses of embryonic cardiac progenitor cells.* Yashiro, Kenta; Kokkinopoulos, Ioannis; Saba, Rie; Ishida, Hidekazu (Queen Mary University of London, UK); Saga, Yumiko (Natl Inst of Genetics, Japan); Azuma-Kanai, Masami (Tokyo Med and Dental Univ, Japan); Kitajima, Keiko; Meno, Chikara (Kyushu Univ, Japan); Kanai, Yoshiakira (The Univ of Tokyo, Japan); Koopman, Peter (The Univ of Queensland, Australia); Hamada, Hiroshi (Osaka Univ, Japan); Suzuki, Ken (Queen Mary Univ of London, UK)
- 538 B106 *A novel somatic role of Piwi in the central nervous system of the ascidian Ciona intestinalis.* Shimai, Kotaro (Konan U, Japan); Horie, Takeo (Univ of Tsukuba, Japan); Nishitsuji, Koki (Okayama Univ, Japan); Shirae-Kurabayashi, Maki; Nakamura, Akira (RIKEN CDB, Japan); Kusakabe, Rie (Kobe Univ, Japan); Nakai, Kenta (The Univ of Tokyo, Japan); Inoue, Kunio (Kobe Univ, Japan); Kusakabe, Takehiro G. (Konan Univ, Japan)
- 539 B107 *Investigating the role of SOX9 in human neural stem cells.* Hui, Man Ning; Wu, Ming Hoi; Chan, Ken Kwok-Keung; Cheung, Martin (The Univ of Hong Kong, China)
- 540 B108 *Gene expression and functional analysis indicate that taurine affects the proliferation and survival pathways of neural precursor cells.* Ramos-Mandujano, Gerardo; Hernández-Benítez, Reyna; López-Guzmán, Karla; Pasantes, Herminia (UNAM, Mexico)
- 541 B109 *Spatial and temporal heterogeneity in the formation of adult pallial neural stem cells in the zebrafish telencephalon.* Dirian, Lar; Galant, Sonya; Coolen, Marion (CNRS, Gif-sur-Yvette, France); Chen, Wenbiao (Nashville, USA); Mosimann, Christian (Harvard, USA); Houart, Corinne (King's College London, UK); Bally-Cuif, Laure; Foucher, Isabelle (CNRS, Gif-sur-Yvette, France)
- 542 B110 *Investigating the role of Plzf in neural progenitors.* Constable, Sean; Wilkinson, David (National Institute for Medical Research, UK)
- 543 B111 *Transcription Factor Sox11 Is Essential for both Embryonic and Adult Neurogenesis.* Lei, Lei (Univ of New England, USA)
- 544 B112 *Expression of histamine receptors during midbrain development of rat embryos.* Vargas Romero, Fernanda; Escobedo Avila, Itzel; Velasco Velazquez, Ivan (UNAM, Mexico)
- 545 B113 *Characterization of medulloblastoma and glioblastoma variants with molecular markers of neural stem cells.* Toledo Hernández, Diana; Ponce Regalado, María Dolores; Lira Díaz, Eduardo; Stephenson Gussinyé, Tania; Esquivel Estudillo, Joel; Jaimes Jiménez, Venus Deyanira; Tenorio Mina, Andrea (UNAM-Cuernavaca, Mexico); Rembao Bojórquez, Jesús Daniel (UNAM, Mexico); Ocampo Roosens, Valeria; Ontiveros Nevares, Patricia (UNAM-Cuernavaca, Mexico); Pérez González, Oscar A. (UNAM, Mexico); Galvez Molina, Yolanda; Contreras Florencia, Armando; Santa Olalla Tapia, Jesús (UNAM-Cuernavaca, Mexico)
- 546 B114 *Transcriptomes of proliferating neural stem cells, differentiating progenitors and newborn neurons identify long non-coding RNAs as novel players in corticogenesis.* Perez, Julieta Aprea; Prenninger, Silvia; Wessendorf, Elke (CRT-Dresden, Germany); Ghosh, Tanay (Paris, France); Alexopoulou, Dimitra; Lesche, Mathias; Dahl, Andreas (CRT-Dresden, Germany); Groszer, Matthias (École des Neurosciences Paris, France); Hiller, Michael; Calegari, Federico (CRT-Dresden, Germany)
- 547 B115 *Control of daughter cell proliferation in the embryonic CNS by Temporal, Hox and Notch cues.* Bivik, Caroline; Baumgardt, Magnus; Karlsson, Daniel; Yaghmaeian, Behzad; MacDonald, Ryan; Gunnar, Erika; Thor, Stefan (Linköping Univ, Sweden)
- 548 B116 *Regulation of neural stem cell transition from symmetric to asymmetric cell division.* Contreras Sepúlveda, Esteban; Brand, Andrea (Gurdon Inst., Cambridge, UK)

- 549 B117 *Kif11 dependent cell cycle progression in radial glial cells is required for proper neurogenesis in the zebrafish neural tube.* Johnson, Kimberly A. (U Mass Amherst, USA); Moriarty, Chelsea; Tania, Nesity; Ortman, Alissa; DiPietrantonio, Kristina; Edens, Brittany; Eisenman, Jean; Ok Deborah; Krikorian, Sarah; Gole, Christophe; Barresi, Michael (Smith College, USA)

Systems Approaches

- 550 B118 Withdrawn
- 551 B119 *Evolutionarily repurposed networks reveal the well-known antifungal drug Ttiabendazole to be a novel vascular disrupting agent and it acts through Microtubule-associated Proteins.* Cha, Hye Ji; Byrom, Michelle (UT-Austin, USA); Mead, Paul (St Jude Children's Res Hosp, USA); Ellington, Andrew ; Wallingford, John; Marcotte, Edward (UT- Austin, USA)
- 552 B120 *Hyperexcitability and exaggerated activation of hypoglossal motoneurons in 22q11DS neonatal mice.* Wang, Xin; Popratiloff, Anastas; Maynard, Thomas; Moody, Sally; LaMantia, Anthony; Mendelowitz, David Mendelowitz (George Washington U, USA)

Mathematical Modeling Approaches

- 553 B121 *Modeling and computation of tissue growth driven by stem cell niches.* Figueroa, Seth Amin; Ovadia, Jeremy; Nie, Qing (UC-Irvine, USA)
- 554 B122 *A new landmark-independent tool for assessing and quantifying morphologic change and phenotypic variation.* Rolfe, Sara; Cox, Liza; Camci, Esra; Fu, Tina; Shapiro, Linda (U Washington, USA)
- 555 B123 *The inverted cistern: a model for dorsal-ventral specification in the developing mouse limb.* Arques, Carlos G; Torres, Miguel (Spanish National Centre for Cardiovascular Research, Spain)
- 556 B124 *Modeling somitogenesis with and without a clock.* Belmonte, Julio M. (Indiana U-Bloomington, USA); Dias, Ana (University College London, UK); Susan, Hester (U of Arizona, USA); Clendenon, Sherry; Gens, Scott (Indiana U-Bloomington, USA); Stern, Claudio (Univ Coll London, UK); Glazier, James (Indiana U- Bloomington, USA)
- 557 B125 *A Boolean network model for human sex determination.* Rios Vargas, Osiris Yuriko; Torres Maldonado, Leda Carolina (Ins Nac de Pediatría, Mexico); Mendoza Sierra, Luis Antonio (UNAM, Mexico); Rodríguez Gómez, Alfredo; Frias Vázquez, Sara (Inst Nac de Pediatría, Mexico)
- 558 B126 *The Cellular Potts Model for the spatio-temporal modelling of the root stem cell niche of Arabidopsis thaliana.* Garcia Gomez, Monica Lisette; Azpeitia, Eugenio; Martinez, Juan Carlos; R. Alvarez-Buylla, Elena (UNAM, Mexico)
- 559 B127 *Interactions between physical and molecular aspects during Arabidopsis thaliana root patterning.* Hernández-Hernández, Valeria (UNAM-Veracruz, Mexico); Barrio, Rafael; Garay, Adriana; Benitez, Mariana (UNAM, Mexico)
- 560 B128 *Dynamic network model of cell cycle control in Arabidopsis thaliana.* Ortiz-Gutiérrez, Elizabeth; García Cruz, Karla Verónica; Castillo Jiménez, Aarón; Sánchez Jiménez, Ma de la Paz; Álvarez-Buylla, Elena (UNAM, Mexico)

Cell Adhesion and Polarity

- 561 B129 *Rab23 is a novel regulator of epithelial morphogenesis, polarity and lumen formation.* Gual Soler, Maria Margarita (Institute for Molecular Bioscience, Australia)
- 562 B130 *Characterization of Comover/CG10732, a novel Drosophila Rho kinase substrate and its potential role in planar cell polarity signaling.* Fagan, Jeremy K. (Albert Einstein Coll Med, USA); Lu, Qiheng; Adler, Paul (U Virginia, USA); Jenny, Andreas (Albert Einstein Coll Med, USA)
- 563 B131 *Lens placode apical actin network: the role of PAR3 and ROCK.* Melo, Maraysa de Oliveir; Borges, Ricardo; Yan, Chao (Univ de São Paulo, Brazil)
- 564 B132 Withdrawn
- 565 B133 *ADAM10 and ADAM19 proteolytically process Cadherin6B during epithelial-to-mesenchymal transitions of the cranial neural crest.* Schiffmacher, Andrew T.; Taneyhill, Lisa (U Maryland, USA)
- 566 B134 *Ephrin signaling maintains apical adhesion of neural progenitors.* Davy, Alice; Arvanitis, Dina (CBD, France); Behar, Annie (IPBS, France); Tryoen-Toth, Petra (INCI, France); Bush, Jeff (UCSF, USA); Jungas, Thomas (CBD, France); Vitale, Nicolas (INCI, France)
- 567 B135 *The regulation of epithelial cell adhesive forces by the MID1/Alpha4/PP2Ac complex and its implications for cleft lip susceptibility.* Cox, Timothy C. (U Washington, USA), Huang, Yongzhao; Koto, Cathy (Seattle Children's Res Inst, USA)
- 568 B136 *A novel RIPK4 - IRF6 connection is required to prevent cadherin-mediated epithelial fusions characteristic for popliteal pterygium syndromes.* Vleminckx, Kris; De Groote, Philippe; Tran, Hong Thi; Franssen, Mathias; Rosselet, Corinne; Tanghe, Giel; Vandenabeele, Peter; Lippens, Saskia; Declercq, Wim (Ghent University, Belgium)
- 569 B137 *Quantitative analysis of cell arrangement indicates the early differentiation of neural region during Xenopus*

gastrulation. Yamashita, Satoshi; Michiue, Tatsuo (University of Tokyo, Japan)

570 B138 withdrawn

Senescence, Apoptosis and Death

- 571 B139 *The lack of catalase is not essential for mouse development but alters glucose and lipid metabolism in the adult.* Perez Estrada, Jose Raul; Cuevas-Benítez, Osiris; Hernández-García, David; Covarrubias, Luis (UNAM-Cuernavaca, Mexico)
- 266 B140 *Genomic differences between spontaneously aborted fetuses and live-born patients with trisomy 21.* Torres, Leda; de Robles, Ximena; Sanchez, Silvia; del Castillo, Victoria (Instituto Nacional de Pediatría, Mexico); Orozco, Lorena; Carnevale, Alessandra (Instituto Nacional de Medicina Genómica, Mexico); Grether, Patricia (Instituto Nacional de Pediatría, Mexico); Mayen, Dora Gilda (Hospital Angeles Lomas, Mexico); Frias, Sara (Instituto Nacional de Pediatría/Instituto de Investigaciones Biomédicas, UNAM, Mexico)
- 573 B141 *Fluoride induces apoptosis in Sertoli cells in vitro.* Erkan, Melike (Istanbul Univ, Turkey)
- 574 B142 *Telomere biology in the switching of reproductive modes in planarian *Dugesia ryukyuensis*.* Nodono, Hanae (Keio Univ, Japan); Aboobaker, Aziz (Oxford, UK); Matsumoto, Midori (Keio Univ, Japan)

Environmental Effects on Development

- 575 B143 *Effect of maternal glucocorticoid exposure on mouse embryonic development.* Lee, Ji-Yeon Lee; Yun, Hyo Jung; Kim, Jongsoo; Kim, Myoung Hee (Yonsei Univ Coll of Med, Rep of Korea)
- 576 B144 *The effect of methylmercury on neural gene expression in zebra finch development.* Murray, Jessica R.; Ramos, Claire; Cristol, Dan; Saha, Margaret (College of William and Mary, USA)
- 577 B145 *Adaptation to hydrogen sulfide induces a reversible developmental plasticity in *C. elegans*.* Fawcett, Emily; Miller, Dana (U Washington, USA)
- 578 B146 *The effects of cadmium and temperature on zebrafish development.* Warren, Kerri S.; Subramaniam, Janani; Stevenson, Laura (Roger Williams Univ., USA)
- 579 B147 *Macondo crude oil from the Deepwater Horizon oil spill disrupts specific developmental processes during zebrafish embryogenesis.* Chen, Diane; Kesich, Lydia-Rose Kesich; de Soysa, Yvanka; Ulrich, Allison (Smith College, USA); Friedrich, Timo (UMass Amherst, USA); Pite, Danielle (Smith College, USA); Compton, Shannon (UMass Amherst, USA); Ok, Deborah; Bernardos, Rebecca (Smith College, USA); Downes, Gerald (UMass Amherst, USA); Hsieh, Shizuka; Stein, Rachel; Lagdameo, Maria Caterina; Halvorsen, Katharine; Barresi, Michael (Smith College, US)
- 580 B148 *Isolation and characterization of an ethanol sensitive zebrafish mutant.* Lovely, Charles B. (UT- Austin, USA); Ackerman, Matt (U Indiana-Bloomington, USA); Henegar, Taylor (St. Edwards Univ, U SA); Eberhart, Johann (UT-Austin, USA)
- 581 B149 *High sucrose ingestion during the critical window of the pancreas modifies vascular contractility leading to metabolic syndrome and hypertension in adult rats.* Guarner, Veronica; Rubio-Ruiz, Maria Esther; Perez-Torres, Israel (Inst Nac de Cardiologia "Ignacio Chávez", Mexico); Diaz-Diaz, Eulises (Inst Nac de Ciencias Medicas y Nutricion "Salvador Zubiran", Mexico)
- 582 B150 *Pharmacological doses of biotin administered during the post-weaning period accelerate morphological and functional development of pancreatic islet.* Flores-Aguilar, Maura; Díaz-Martínez, Emmanuel; Fernández-Mejía, Cristina (UNAM, Mexico)
- 583 B151 **Drosophila* survival can be altered by protein diet.* Pena Rangel, Maria Teresa; Riesgo, Juan (UNAM-Querétaro, Mexico)
- 584 B152 *Influence of dietary minerals on sex determination of mice embryos.* Faqih, Reham; Alhimaiddi, Ahmad (King Saud Univ, Saudi Arabia)
- 585 B153 *Study of behavior in a Herpes simplex virus UV radiation environment.* Arriaga Garza, Jesús; Torres López, Ernesto (UANL, Mexico); Castaño Meneses, Victor Manuel (UNAM-Queretaro, Mexico); Belmares Perales, Sergio; Elizondo Villarreal, Nora (UANL, Mexico)
- 586 B154 *Ultraviolet B radiation induces DNA damage and cell cycle impairments in embryos of freshwater prawn *Macrobrachium olfersi*.* Zeni, Eliane; Silva, Heloisa; Maia, Guilherme; Müller, Yara; Ammar, Dib; Nazari, Evelise (Univ Fedl de Santa Catarina, Brazil)
- 596 B161 *Vascular plastic response in the primary somatosensory cortex of birth-enucleated rats.* Zenteno De León, Silvia; Martínez Méndez, Raquel; Gutiérrez Ospina, Gabriel (Instituto de Investigaciones Biomédicas, UNAM, Mexico)

Emerging Technologies

- 587 B155 *Spectral confocal imaging with aberration correction as a tool for 3D rendering from whole mouse embryos.* Moody, Sally A.; Popratiloff, Anastas; Oakley, Beverly; Maynard, Thomas; Meechan, Daniel; Wang, Xin; Mendelowitz, David; LaMantia, Anthony (George Washington U, USA)

- 588 B156 *Doxycycline-controlled and Recombinase-Activated Gene Overexpression (DRAGON): an intersectional strategy for targeting precise and reversible gene expression in mice.* Rosello Diez, Alberto; Joyner, Alexandra (Sloan-Kettering Inst, USA)
- 589 B157 *Chemical control of Wnt/b catenin signalling during development.* Gonzalez Malagon, Sandra Guadalupe; Liu, Karen (King's College London, UK)
- 590 B158 *In vivo imaging of Xenopus laevis development using an Ultra-Compact MRI.* Huebner, Kelli R. (Knox College, USA); McDowell, Andrew (ABQMR, Inc., USA); Thorn, Judith (Knox College, USA)
- 591 B159 *Highly effective ex vivo gene manipulation to study kidney development using self-complementary adeno-associated viruses (scAAV).* Zhou, Qin; Chen, Tielin; Wang, Honglian (West China Hospital, China); Gao, Guangping (U Mass Med Sch, USA)
- 592 B160 withdrawn

Best Student Poster Competition Finalists

Thursday, June 20, 12:00-16:00 h – viewing

Set-up: Thu, June 20, 10:00-12:00 h

Finalists will be advised during the meeting.

Tear down: Thu, June 20, 16:00-17:00 h

SPONSORED SESSIONS

Presidential Symposium - Sunday, June 16, 14:30 - 18:30 Gran Cancun 5, A & 4. CCC 3rd floor
by *Developmental Dynamics* and *genesis*, Wiley

Education Symposium – Tuesday, June 18, 8:30 – 10:30 Gran Cancun 5 & A. CCC 3rd floor
by Society for Developmental Biology

Education Discussion Session - Tuesday, June 18, 14:00 – 16:00 Gran Cancun 5. CCC 3rd floor
by Society for Developmental Biology

TECHNICAL TUTORIAL

Light Sheet Fluorescence Microscopy in Developmental Biology
Scott Olenych, Carl Zeiss Microscopy GmbH, Germany

Wednesday June 19, 13:00-14:00 h Tulum, CCC 2nd floor

PLAN AHEAD!

British Society for Developmental Biology
Autumn Meeting on Axon Guidance and Regeneration
August 28-30, 2013
University of Aberdeen, UK
<http://abdn.ac.uk/bsdb2013>

VI Symposium of Developmental Biology
Sociedade Brasileira de Biologia de Desenvolvimento
November 1-4, 2013
Paraty, Rio de Janeiro, Brazil
Contact: sbbd2013@gmail.com

Latin American Embryology Course
January 5-17, 2014
Quintay, Chile
Application deadline: July 31, 2013
<http://http://biodesarrollo.unab.cl/>

Society for Developmental Biology 73rd Annual Meeting
July 17-21, 2014
University of Washington, Seattle, WA
With the 5th Boot Camp for New Faculty (July 16-17)
<http://www.sdbonline.org>

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Meyerhofstrasse 1
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CONTRIBUTORS

Company of Biologists (COB)

Bidder Building, 140 Cowley Road
Cambridge CB4 0DL, UK
www.biologists.com

Developmental Biology-Elsevier

525 B Street, Suite 1900
San Diego, California 92101
www.journals.elsevier.com/developmental-biology

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111 River Street
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Instituto de Ecología-UNAM

Apartado Postal 70-275
Ciudad Universitaria
UNAM 04510 México, D.F.
www.web.ecologia.unam.mx

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Boulevard Juriquilla 3001
Querétaro, 76230, México
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Mechanisms of Development-Elsevier

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Bethesda, Maryland 20814-3998, USA
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www.cic-ctic.unam.mx

Developmental Dynamics

111 River Street
Hoboken, New Jersey 07030, USA
www.wiley.com/developmentaldynamics

Instituto de Biotecnología-UNAM

2001 Universidad Autónoma del Estado de Morelos
62210 Cuernavaca, Morelos, Mexico
www.ibt.unam.mx

Instituto de Fisiología Celular-UNAM

Circuito Exterior S/N Ciudad Universitaria,
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2013 Society Awards

International Society of Developmental Biologists

Ross G. Harrison Medal: Janet Rossant, U Toronto and Sick Children's Hospital, Toronto, Canada

Latin American Society for Developmental Biology

LASDB Award: Roberto Mayor, University College London, London, United Kingdom

2012 LASDB International Meeting *genesis* Poster Award: M. Guadalupe Barrionuevo, Universidad Nacional de Tucumán, Argentina

British Society for Developmental Biology

Best Student Poster Competition Award: Aditya Saxena, University of Cambridge, United Kingdom

Society for Developmental Biology

Edwin G. Conklin Medal: Marianne Bronner, California Institute of Technology, USA

Developmental Biology-SDB Lifetime Achievement Award: John Fallon, University of Wisconsin-Madison, USA

Viktor Hamburger Outstanding Educator Prize: Bill Wood, University of Colorado-Boulder, USA

Latin America-Caribbean Faculty Scholars:

Nayelli Marsch Martinez, CINVESTAV, Mexico

Edwin Traverso, University of Puerto Rico-Humacao, Puerto Rico

Celeste Tribulo, Universidad Nacional de Tucumán, Argentina

Latin America-Caribbean Student Scholars:

Gerardo del Toro, CINVESTAV, Mexico

Maria de los Angeles Serrano, Universidad Nacional de Tucumán, Argentina

Karen Stanic, Universidad de Concepción, Chile

2013 SDB Regional Meeting Best Presenters:

Northwest: Postdoc – Jamie Nichols, University of Oregon

Student – Emily Fawcett, University of Washington

West Coast: Postdoc – Arnaud Martin, Cornell University/University of California-Irvine

Student – Jacques Bothma, University of California-Berkeley

Southwest: Postdoc – Jonathon Hill, University of Utah

Student – Allyson Merrell, University of Utah

Northeast: Student – Laura Jacox, Massachusetts Institute of Technology

Student – Chelsea Marcho, University of Massachusetts-Amherst

Southeast: Postdoc – Deirde Lyons, Duke University

Student – Katherine O'Shaughnessy, University of Florida

Mid-Atlantic: Postdoc – Pengfei Xu, University of Virginia

FASEB-MARC Travel Awards to SDB members:

Philip Abitua - University of California, Berkeley

Stephanie Agbu - Weill Cornell Medical College

Jeremy Fagan - Yeshiva University, Albert Einstein College of Medicine

William Munoz - The University of Texas MD Anderson Cancer Center

Valerie Olmo - University of Maryland, Baltimore County

Janel Rodriguez - Florida State University

Gloria Slattum - University of Utah

Julian Sosnik - University of California, Irvine

Niteace Whittington - Georgetown University

EXHIBITS
AT
POSTER
SESSIONS

Exhibit Hours

Sunday, June 16 18:30 - 22:00h (Opening Reception)
Monday, June 17 9:00 - 22:00h (Poster Session I)
Tuesday, June 18 9:00 - 13:00h (Poster Session II)
Wednesday, June 19 9:00 - 22:00h (Poster Session III)

The exhibit hall will be open for posters viewing throughout the meeting

Exhibitor**Booth/Display Table**

Abcam plc	Booth 2
Carl Zeiss	Booth 5
<i>Developmental Dynamics</i>	Booth 4
<i>Developmental Biology Mechanisms of Development</i> Elsevier	Booth 1
eMouseAtlas	Table A
FASEB MARC	Booth 20
Gene Tools, LLC	Booth 21
Intavis, Inc.	Table B
International Society of Developmental Biologists (ISDB)	Table K
Latin American Society for Developmental Biology (LASDB)	Table L
National Institutes of Health (NIH)	Table M
Nikon	Booth 8
National Science Foundation (NSF)	Table N
Pentair Aquatic Eco-Systems	Booth 12
RIKEN Center for Developmental Biology	Booth 3
Royal Society Publishing	Booth 7
Sinauer Associates, Inc. Publishers	Booth 9
Sociedad Mexicana de Biología del Desarrollo (SMBD)	Table J
Society for Developmental Biology (SDB)	Table D
St. Jude Children's Research Hospital	Table C
TECNIPLAST SPA	Booth 6
The Company of Biologists, Ltd	Booth 10
Wiley	Booth 11



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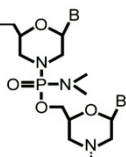
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EMAP and EMAGE together form the eMouseAtlas web resource. EMAP is an anatomy resource featuring sequential 3D models of mouse embryos with associated anatomy descriptions. EMAGE is a gene expression database, utilizing the EMAP models as a framework to visualize the expression data *in situ*, along with associated metadata. Together they provide a unique, free, online resource for users to execute simple or complex queries on mouse developmental anatomy and gene expression. www.emouseatlas.org



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In situ detection protocols are always tedious and time consuming, taking several days with laborious repeated washing and incubation steps. The **InsituPro VSi** fully automates all steps of these methods, thus allowing the user to concentrate on new scientific challenges. The **BioLane HTI 16V** is an economic solution that automates most steps and saves precious time. All these robots are operated by easy-to-use operation software and delivered with a growing collection of optimized, user tested protocols. www.intavis.com/



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<http://www.sinauer.com/developmental-biology-611.html>



St Jude Children's Research Hospital is a non-profit biomedical research institution in Memphis, TN, where 190 basic science and clinical researchers investigate the molecular basis of both normal cellular and diseased processes. Visit our booth to discuss and apply for Postdoctoral Fellowship positions. www.stjude.org



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SCHEDULE AT A GLANCE

updated June 12

June 15 (Saturday)

8:30 – 22:00 Satellite Symposium
Hyatt Regency - Estrella

14:00 – 16:00

Education Discussion Session
Gran Cancun 5. CCC 3rd floor
Free time

16:00 -

June 16 (Sunday)

8:00 – 12:00 Satellite Symposium
(cont.) *Hyatt Regency - Estrella*

June 19 (Wednesday)

8:00 – 18:00

ICDB Meeting registration
Foyer. CCC 3rd floor

12:00 – 18:00 ICDB Meeting registration
CCC ground floor

8:00 – 10:00

Poster Session III – Set Up
Gran Cancun 1, 2 & 3. CCC 3rd floor

9:00 – 10:00

LASDB Prize Lecture
Gran Cancun 5, A & 4. CCC 3rd floor

14:30 – 18:30 Presidential Symposium
Gran Cancun 5, A & 4. CCC 3rd floor

10:30 – 12:30

Concurrent Sessions 4
4.1 - *Gran Cancun 4. CCC 3rd floor*

18:30 – 20:00 Dinner on your own

12:30 – 13:00

4.2 - *Gran Cancun A. CCC 3rd floor*

20:00 – 22:00 Poster Session I &
Welcome Reception
Gran Cancun 1, 2 & 3. CCC 3rd floor

13:00 – 14:00

LASDB General Assembly
Tulum, CCC 2nd floor

June 17 (Monday)

8:00 – 18:00 ICDB Meeting registration
Foyer. CCC 3rd floor

12:30 – 14:00

Lunch on your own

8:30 – 10:30 Plenary Session 1
Gran Cancun 5, A & 4. CCC 3rd floor

14:00 – 16:00

Concurrent Sessions 5

10:30 – 12:30 Concurrent Sessions 1
1.1 - *Gran Cancun 4. CCC 3rd floor*

16:30 – 18:30

5.1 - *Gran Cancun 4. CCC 3rd floor*

12:30 – 13:30 LASDB Board meeting
Tulum, CCC 2nd floor

18:30 – 20:00

5.2 - *Gran Cancun A. CCC 3rd floor*

12:30 – 14:00 Lunch on your own

20:00 – 22:00

5.3 - *Gran Cancun 5. CCC 3rd floor*

14:00 – 16:00 Concurrent Sessions 2
2.1 - *Gran Cancun 4. CCC 3rd floor*

June 20 (Thursday)

8:00 – 18:00

ICDB Meeting registration
Foyer. CCC 3rd floor

16:00 – 19:00 Poster Session II – Set Up
Gran Cancun 1, 2 & 3. CCC 3rd floor

8:30 – 10:00

Plenary Session 2
Gran Cancun 5, A & 4. CCC 3rd floor

16:30 – 18:30 ISDB Harrison Medal Lecture
Gran Cancun 5, A & 4. CCC 3rd floor

10:00 – 12:00

Best Student Posters– Set Up
Gran Cancun 1, 2 & 3. CCC 3rd floor

18:30 – 20:00 Dinner on your own

10:30 – 12:30

Concurrent Sessions 6
6.1 - *Gran Cancun 4. CCC 3rd floor*

20:00 – 22:00 Poster Session II
Gran Cancun 1, 2 & 3. CCC 3rd floor

12:30 – 13:00

6.2 - *Gran Cancun A. CCC 3rd floor*

12:30 – 14:00 Lunch on your own

12:30 – 14:00

6.3 - *Gran Cancun 5. CCC 3rd floor*

12:30 – 16:00 ICDB Meeting registration
Foyer. CCC 3rd floor

12:30 – 16:00

Lunch on your own

8:00 – 18:00 Education Symposium
Gran Cancun 5 & A. CCC 3rd floor

14:00 – 15:45

Best Student Posters - Viewing
Gran Cancun 1, 2 & 3. CCC 3rd floor

8:30 – 10:30 Round table
Gran Cancun 4. CCC 3rd floor

19:00 – 24:00

Concurrent Sessions 7
7.1 - *Gran Cancun 4. CCC 3rd floor*

11:00 – 13:00 Concurrent Sessions 3
3.1 - *Gran Cancun 4. CCC 3rd floor*

19:00 – 24:00

7.2 - *Gran Cancun A. CCC 3rd floor*

13:00 – 14:00 Lunch on your own

June 21 (Friday)

Departure

7.3 - *Gran Cancun 5. CCC 3rd floor*

13:00 – 14:30 ISDB Board meeting
Tulum, CCC 2nd floor

8:00 – 15:00

Awards banquet and Closing party
Gran Cancun 5, A & 4. CCC 3rd floor

13:00 – 14:30 ISDB Board meeting
Tulum, CCC 2nd floor

SDB Board meeting
Hyatt Regency - Arena

