Society for Developmental Biology 71st Annual Meeting

Guest Society: Sociedad Española de Biologia del Desarrollo

Hilton Montreal Bonaventure Hotel, Montreal, Canada

July 19 – 23, 2012

PROGRAM

Program Committee: Mike Levine (Chair, SDB President), Marie Anne Felix, Richard Harland, Maria Leptin, Janet Rossant, Miltos Tsiantis
Local Organizers: Loydie Jerome-Majewska, Jacques Drouin, Paul Lasko

Notice: Only the meeting program will be published in this issue of *Developmental Biology*. The program and complete abstracts, including late abstracts and author index, will be posted on the meeting website, available to all, no subscription or registration required. URL: http://www.sdbonline.org/2012/abstracts.htm

§ - SEBD-sponsored speakers *italics* - program abstract number

Wednesday, July 18

12 pm – 9 pm ***SDB 4th Boot Camp for New Faculty*** Dept of Biology, McGill University
Co-Organizers: Mary Montgomery (Macalester) and Aimee Ryan (McGill, Canada)

Thursday, July 19

8 am – 2 pm ***SDB 4th Boot Camp for New Faculty*** (continuation)

1 pm – 6 pm Meeting Registration
Exhibits and Poster Session I set-up Fontaine

6:00 pm ***Welcome and Opening Remarks*** Ballroom Montreal
Mike Levine (SDB President) and Angela Nieto (SEBD President)

6:10 pm – 8 pm ***Presidential Symposium*** Ballroom Montreal
Sponsored by Mutant Mouse Resource Centers
Chair: Mike Levine (UC Berkeley)

6:10 pm *395* **Nicole King** (UC Berkeley). *Bacterial regulation of a developmental switch in choanoflagellates*

6:45 pm **Andy McMahon** (Harvard). *The role of chromatin and gene regulatory networks in Shh-mediated neural patterning*

7:20 pm **Elaine Ostrander** (NIH). *Mapping complex traits in the dog reveals surprising developmental pathways*

8 pm – 10 pm ***Opening Reception with Posters and Exhibits*** Fontaine

8 pm – 10 pm ***Education Poster Presentation*** Fontaine
Please see poster assignment in the end of the Meeting Program

Friday, July 20

7:30 am – 8:30 am ***Funding Opportunities in Developmental Biology*** Verdun
Moderator – Ida Chow (SDB)
Representatives of funding agencies.

8 am – 6 pm Meeting Registration

8:30 am – 12 pm ***Concurrent Sessions***

1. Regulatory Mechanisms Outremont

Chair: Eileen Furlong (EMBL-Heidelberg, Germany)

8:30 am *1* **Jim Kadonaga** (UCSD). *Role of the core promoter in the regulation of gene expression*

9:00 am *2* **Alistair Boettiger** (Harvard), Bothma, Jacques; Perry, Michael; Levine, Michael (UC Berkeley). *Measuring transcriptional dynamics of single cells reveals mechanisms that compensate for the cost of bistability*

9:15 am **Joan Conaway** (Stowers). *Function and regulation of the Mediator complex*

9:45 am *3* **Stewart Gillmor** (Langebio, CINVESTAV-IPN, Mexico); Willmann, Matthew (U Pennsylvania); Silva-Ortega, Claudia (Langebio, CINVESTAV-IPN, Mexico); Poethig, Scott (U Pennsylvania). *The MED12-MED13 module of Mediator regulates multiple developmental phase transitions during the Arabidopsis life cycle*

10:00 am *Coffee Break*

10:30 am *4* **Gregg L. Duester**; Cunningham, Thomas; Brade, Thomas (Sanford-Burnham); Trainor, Paul (Stowers); Sandell, Lisa (U Louisville). *RA-FGF antagonism during vertebrate body axis extension: feedback signaling from stem cell progeny to niche*

10:45 am *5* **Colin G. Crist** (McGill U, Canada); Montarras, Didier; Buckingham, Margaret (Institut Pasteur, France). *Muscle satellite cells are primed for myogenesis, but maintain quiescence with sequestration of Myf5 mRNA targeted by microRNA-31 in mRNP granules*

11:00 am **Joanna Wysocka** (Stanford). *Enhancer-mediated regulation of early development*

11:30 am *6* **Lucie Jeannotte**, Boucherat, Olivier; Montaron, Séverine; Aubin, Josée (U Laval, Canada); Philippidou, Polyxeni; Dasen, Jeremy (NYU School of Medicine). *Predominant role of Hoxa5 gene during mouse lung development*

11:45 am *7* **Kasey J. Basch**, Kong, Yong; Weatherbee, Scott D. (Yale). *Forward genetics identifies Tmem107 as a novel gene required for ciliary protein composition and Sonic hedgehog signaling*

2. Evo-Devo Westmount

Chair: Bill McGinnis (UC San Diego)

8:30 am **Philippe Hervé** (U Montreal, Canada). *A review on animal phylogeny*

9:00 am *8* **Mark Rebeiz**, Pileggi, Rachel; Elliot, Chas; Glassford, William; Johnson, Winslow (U Pittsburgh). *Towards a circuit-based understanding of the origins of a morphological novelty*

9:15 am *9* Barkoulas, Michalis (Ecole Normale Supérieure, CNRS-Inserm-ENS, Paris, France); Braendle, Christian (CNRS, Nice, France); Duveau, Fabien (Ecole Normale Supérieure, CNRS-Inserm-ENS, Paris, France); **Marie-Anne Felix** (U Paris, France). *Robustness, evolvability and evolution of Caenorhabditis vulva development*

9:45 am *10* **André Pires da Silva**, Kache, Vikas (UT Arlington); von Reuss, Stephan (Cornell); Chaudhuri, Jyotiska; Bateson, Christine (UT Arlington). *Evolution of sex determination in animals that produce males, females and hermaphrodites*

10:00 am *Coffee Break*

10:30 am *11* **John Doebley** (U Wisconsin). *Unraveling a developmental network involved in maize domestication*

11:00 am *12* **Clinton J. Whipple**; Bartlett, Madelaine; Williams, Steven (Brigham Young U). *Evolution of obligate heterodimerization among grass B class genes*

11:15 am *13* **Barbara A. Ambrose**, Smalls, Tynisha; Vasco, Alejandra (The New York Botanical Garden). *Evolution and development in Lycophytes*

11:30 am *14* **Kristen Yankura**, Koechlein, Claire; Hughes, Stephanie; Hinman, Veronica Frances (Carnegie Mellon U). *Development of a localized nervous system in a dipleurula-type larva*

11:45 am *15* **Walter L. Eckalbar** (Arizona State U); Elsey, Ruth (Louisiana Dept of Wildlife and Fisheries);

Lasku, Eris (Arizona State U); Allen, April; Corneveaux, Jason (Translational Genomics Res Inst); DeNardo, Dale; Wilson-Rawls, Jeanne (Arizona State U); Huentelman, Matthew (Translational Genomics Res Inst); Rawls, Alan; Kusumi, Kenro (Arizona State U). *Evolution of development in the Amniotes: New insights from genomic studies of somitogenesis in the lizard and alligator*

3. Cell Polarity/Asymmetry Mont Royal

Chair: Maria Leptin (EMBO-Heidelberg, Germany)

8:30 am **Liz Gavis** (Princeton) *Localization and inheritance of germ plasm RNAs*

9:00 am *17* **Haiting Ma** (Washington U); Li, Cunxi (Vanderbilt U); Sepich, Diane (Washington U); Coffey, Robert (Vanderbilt U); Solnica-Krezel, Lilianna (Washington U.). *Zebrafish Placenta-specific 8.1 (Plac8.1) links ubiquitination regulating protein Cops4 to motile cilia morphogenesis and function*

9:15 am *18* **Claire Hudson** (U Paris, France). *From neural fate specification to neural plate patterning in Ascidian embryos*

9:45 am *19* **Hwee Goon Tay** (SUNY Upstate Medical U); Schulze, Sabrina (Max Delbrück Ctr for Molec Med, Germany); Compagnon, Julien (Inst of Science and Technology, Austria); Foley, Fiona (SUNY Upstate Medical U). *Lethal Giant Larvae 2 functions in development of ciliated epithelia*

10:00 am *Coffee Break*

10:30 am *20* Boyle, Michael; Peters, Nathaniel; Zimmerman, Sandra; Altaras, Ariel; Thayer, Nathaniel; Tompa, Martin; **Celeste Berg** (U Washington). *Genetic and genomic approaches demonstrate that multiple signaling pathways shape epithelial tubes*

11:00 am *21* **Michael R. Deans**; Yin, Haifeng; Copley, Catherine (Johns Hopkins); Goodrich, Lisa (Harvard). *Phenotypic and molecular analyses of different vangl2 mutants demonstrates dominant effects of the Looptail mutation during hair cell development*

11:15 am *22* Yang, Li; Willmann, Matthew; Park, Mee Yeon; Wu, Gang; **Scott Poethig** (U Pennsylvania). *miRNA-mediated regulation of shoot maturation in plants*

11:45 am *347* **Marlow, Florence**; Heim, Amanda; Rothhamel, Sophie; Hartung, Odelya; Schwartz-Orbach, Lianna; Jenny, Andreas (Albert Einstein College of Medicine). *Oocyte asymmetry and the animal-vegetal axis in zebrafish*

12 pm – 12:45 pm Lunch on your own

12:45 pm – 3:45pm ***Poster/Exhibits Session I*** Fontaine

Poster themes: Education – Cell-cell Signaling – Cell Proliferation – Morphogenesis – Organogenesis – Germ Cells and Gametogenesis

Please see poster assignment in the end of the Meeting Program

12:45 pm – 2:15 pm Odd number boards presentation

2:15 pm – 3:45 pm Even number board presentations

12:45 pm – 3:45 pm Ice Cream Social Fontaine

Sponsored by *Developmental Dynamics* and *genesis* at tables #6 and # 7

3:45 pm – 5:45 pm ***Hilde Mangold Postdoctoral Symposium*** Ballroom Montreal

Sponsored by *genesis* and *Developmental Dynamics*

Co-chairs: James Dutko (U Pennsylvania) and Alistair Boettiger (Harvard)

§ Selected by SEBD + 6 selected from submitted abstracts and 2012 SDB Regional Meeting winners

3:45 pm *380* **Adele M. Doyle**; Zou, Ling-Nan; Jang, Sumin; Ramanathan, Sharad (Harvard FAS Center for Systems Biology). *Transcription factor dynamics in single mouse ES cells during germ layer commitment*

4:00 pm *201* **Sunjin Lee-Wölfel**; Kong, Yong; Weatherbee, Scott (Yale). *Forward genetics identifies Edf1 as a novel regulator of epidermal development and stem cell quiescence*.

4:15 pm *400* §**José Bessa**, Mario Luengo, Solangel Rivero-Gil, Ana Ariza-Cosano, Silvia Naranjo, Francisco Campaña, Pablo Caballero, and José Luis Gómez-Skarmeta (Centro Andaluz de Biología del Desarrollo, Spain). *The enhancer disruption (ED) screen in zebrafish*

4:30 pm *308* **Mariana Fregoso Lomas**; Hails, Fiona (McGill, Canada); Boisclair Lachance, Jean-François (Chicago); Nilson, Laura (McGill, Canada). *The Tbox-20 transcription factors Midline and H15 function as localized negative regulators of epidermal growth factor receptor signaling output*.

4:45 pm *283* **Elizabeth Rideout**; Marshall, Lynne; Grewal, Savraj (University of Calgary, Canada). *Drosophila Maf1 controls body size and developmental timing by modulating tRNAiMet synthesis and systemic insulin signaling*.

5:00 pm *399* §**Verona Villar-Cerviño**, Molano-Mazón, Manuel (U Miguel Hernandez, Spain); Catchpole, Timothy (UTSW Med Ctr); Valdeolmillos, Miguel (U Miguel Hernandez, Spain); Henkemeyer, Mark (UTSW Med Ctr); Martínez, Luis M.; Borrell, Víctor; Marín, Oscar (U Miguel Hernandez, Spain). *Cellular tiling in the cerebral cortex through contact repulsion*

5:15 pm *384* **David Q.Matus**; Kelley, Laura; Schindler, Adam; Chi, Qiuyi; Sherwood, David (Duke University). *Cell cycle exit is required for cell invasive behavior*.

5:30 pm *133* **Justin M.Nussbaum**; Hasan, Ayesha; Sakaguchi, Takuya (Lerner Research Institute). *Three-dimensional modeling of the zebrafish liver network reveals regulators of biliary morphogenesis*

5:45 pm – 6:00 pm *Coffee Break*

5:45 pm Poster Session I tear down and Poster Session II set-up

6:00 pm – 8:00 pm ***Plenary Session 1*** Ballroom Montreal

Chair: Maria Angela Nieto (U Miguel Hernandez, Spain)

6:00 pm **Janet Rossant** (U Toronto, Canada). *Exploring lineage commitment in the blastocyst*

6:30 pm **Konrad Hochedlinger** (Harvard). *Sox2, stem cell and epigenetic reprogramming*

7:00 pm *24* Gaertner, Bjoern; Chen, Kai; Shao, Wanqing; Meier, Sam; Johnston, Jeff ; **Julia Zeitlinger** (Stowers Inst for Medical Research). *The recruitment of poised Pol II is regulated over developmental time*

7:30 pm **Benoit Bruneau** (UCSF). *Epigenetic regulation of heart development*

8:00 pm – 9:00 pm ***SDB Board of Directors Reception for Students and Postdocs*** Portage

8:00 pm – 9:00 pm Dinner on your own

9:00 pm – 11:00 pm ***A "Speed-dating" Education Session*** Verdun

Chair: Diana Darnell (U Arizona)

A series of small group discussions on: active learning/teaching developmental biology, evolution and related subjects; making and using animation for teaching; inexpensive dev biol labs; taking dev biol to K-12; grant writing; career issues, etc, etc, guided by facilitators, over light refreshments.

Saturday, July 21

7:30 am – 8:30 am ***Technical Tutorial Session*** Verdun

Bioengineered approaches for cellular niche design, targeted differentiation of stem cells and tissue repair

Instructor: Dmitry Shvartsman (Harvard)

Pre-registration required: dimadok@seas.harvard.edu

7:30 am – 12:00 pm Poster Session II set-up

8:00 am – 6 pm Meeting Registration

8:30am – 12:30pm ***Concurrent Sessions***

4. Gene Networks Outremont

Chair: Benoit Bruneau (UCSF)

8:30 am *25* **Eileen Furlong** (EMBL-Heidelberg, Germany). *Understanding and predicting cis-regulatory activity*

9:00 am *26* **Jongmin Nam** (CALTECH). *On the combinatorial function of multiple cis-regulatory modules*

9:15 am **Kathryn Barton** (Stanford). *Unzipping leaf development: Understanding the establishment of top and bottom in the Arabidopsis leaf*

9:45 am *27* **Efrat Oron** (Yale); Wu, Jiaqian; Snyder, Michael (Stanford); Ivanova, Natalia (Yale). *Identifying regulators of early differentiation and primary germ layer induction*

10:00 am *Coffee Break*

10:30 am *28* **Scott Barolo** (U Michigan Med Sch). *Good at being bad: Counterintuitive genomic responses to developmental signals via low-affinity transcription factor binding sites*

11:00 am *29* **S. Zachary Swartz** (Brown U); Raz, Tal; Milos, Patrice (Helicos Biosciences); Hamdoun, Amro (Scripps Inst of Oceanography); Wessel, Gary (Brown U). *Maternal mRNA retention as a mechanism for maintaining totipotency in primordial germ cells*

11:15 am *30* **Chi-Chung Hui** (Hosp Sick Children, Canada) *Specification of the proximo-distal axis by Irx3 and Irx5 homeobox genes prior to limb bud initiation*

11:45 am *31* **Marina Yurieva**, De Kumar, Bony; Krumlauf, Robb (Stowers). *Identifying Hox targets by transcriptional profiling of the mouse hindbrain*

5. Imaging Dynamic Processes Westmount

Chair: Miltos Tsiantis (Oxford U, UK)

8:30 am **Olivier Pourquié** (IGBMC, France). *Patterning the vertebrate embryonic axis*

9 :00 am *32* **Ali Rosenberg**, Granato, Michael (U Pennsylvania). *Imaging in-vivo nerve-Schwann cell interactions during peripheral nerve regeneration*

9 :15 am *33* **Maria Barna**; Martin, Esther Llagostera; Sanders, Timothy (UCSF). *Dynamic filopodia tansmit long-range Shh signaling during tissue patterning*

9 :45 am *34* **Savo Lazic**, Scott, Ian (U Toronto, Canada). *mef2cb regulates late myocardial cell addition from a second heart field-like population of progenitors in zebrafish*

10:00 am *Coffee Break*

10:30 am *396* **Paul Kulesa** (Stowers). *Multiscale mechanisms of neural crest migration: Theory and experiment*

11:00 am *220* **Martin I. Garcia-Castro** (Yale) *Origin of the mammalian neural crest: from mouse, to rabbit, to human.*

11:15 am *16* **John B. Wallingford** (UT Austin). *Genomic control of morphogenesis in ciliated epithelia*

11:45 am *36* **Owen J. Tamplin**; Durand, Ellen; Lawson, Katy; Li, Pulin; Zon, Leonard (Children's Hospital Boston/Harvad). *Live imaging of hematopoietic niche colonization reveals distinct endothelial and stem cell interactions*

6. Morphogenesis Mont Royal

Chair: Jacques Drouin (Inst de Recherches Cliniques de Montreal, Canada)

8:30 am *37* **Stryder M. Meadows**, Fletcher, Peter (UT Southwestern Med Ctr); Moran, Carlos (U Arizona); Ratliff, Lyndsay; Xu, Ke (UT Southwestern Med Ctr); Neufeld, Gera (Haifa, Israel); Chauvet, Sophie; Mann, Fanny (Marseille, France); Krieg, Paul (U Arizona); Cleaver, Ondine (UT Southwestern Med Ctr). *Neuronal guidance cues direct early blood vessel*

formation

8:45 am *38* **Daniel Van Antwerp**, Weber, Mackenzie; Merzdorf, Christa (Montana State U). *Novel role for an Aquaporin gene in neural tube closure*

9:00 am *39* **Lynne M. Angerer** (NIH). *Maintenance of axial patterning in the sea urchin embryo: A role of Wnt1 signaling*

9:15 am *40* Jayan Nandanan, N; Mathew, Renjith (EMBL, Heidelberg, Germany); **Maria Leptin** (EMBO, Germany) *Membrane morphogenesis during tracheal tube development in Drosophila*

9:45 am *41* **Robert J. Huebner** (Johns Hopkins Sch of Med); Lechler, Terry (Duke); Ewald, Andrew (Johns Hopkins Sch of Med). *Asymmetric division of luminal cells produces low-polarity high-motility cells that collectively migrate to form mammary ducts*

10:00 am *Coffee Break*

10:30 am *42* §**Miguel Manzanares** (Centro Nacional de Investigaciones Cardiovasculares, Spain). *Regulation of early lineages in the mouse embryo*

11:00 am *371* **Stephanie Woo**; Housley, Michael; Weiner, Orion; Stainier, Didier (UCSF). *Nodal signaling regulates endodermal cell motility and actin dynamics via Rac1 and Prex1*

11:15 am **Richard Harland** (UC Berkeley). *Regulated splicing during Xenopus gastrulation*

11:45 am *44* **Michelle M. Collins**, Ryan, Aimee (McGill U, Canada). *Claudin-10 functions on the right side of Hensen's node to direct left-right patterning*

12 pm – 12:45 pm Lunch on your own

12:45 pm – 3:45 pm ***Poster/Exhibits Session II*** Fontaine

Poster themes: Stem Cells and Tissue Regeneration – Development and Evolution – Gene Regulation – Functional Genomics – Intracellular Signaling Pathways – Molecular Medicine and Development

Please see poster assignment in the end of the Meeting Program

12:45 pm – 2:15 pm Odd number boards presentation

2:15 pm – 3:45 pm Even number board presentations

3:45 pm – 5:45 pm ***Education Symposium - Broadening the Impact of Your Research*** Ballroom Montreal

Chair: Scott Gilbert (Swarthmore)

3:45 pm **Mary Mullins** (U Penn). *The PI's perspective*

4:05 pm **Steve Klein** (NSF). *Incorporating broader impacts into your research activities, NSF requirements and expectations*

4:25 pm **Stephanie Robertson** (CIHR). *Broadening international collaboration and impact*

4:45 pm **Susan Haynes** (NIH). *Broadening participation in your research program*

5:05 pm **Scott Gilbert** (Swarthmore). *Engaging the non-specialists*

5:25 pm Discussion with audience participation

5:45 pm – 6:00 pm ***SDB Business Meeting*** Ballroom Montreal

5:45 pm *Coffee Break*

5:45 pm Poster Session II tear down and Poster Session III set-up

6:00 pm – 8:00 pm ***Plenary Session 2*** Ballroom Montreal

Chair: Richard Harland (UC Berkeley)

6:00 pm **Christine Rushlow** (NYU). *Temporal coordination of early gene networks in Drosophila*

6:30 pm **Miltos Tsiantis** (U Oxford, UK). *Towards understanding development and diversity of leaf shape*

7:00 pm *397* §**Angela Nieto** (Inst Neuroc Alicante, Spain). *The reactivation of the epithelial-mesenchymal transition in organ degeneration*

7:30 pm *45* Juarez, Michelle; Kim, Myungjin; Pare, Adam; Patterson, Rachel ; **Bill McGinnis** (UC San

Diego). *The development and evolution of animal epithelial barriers*

8:00 pm – 9:00 pm Dinner on your own

9:00 pm – 10 pm ***Future Publishing Trends in Developmental Biology*** Verdun
An interactive workshop with a panel of editors of major scientific journals, over light refreshments
Chair: Mike Levine (SDB President, UC Berkeley)
Beverly Purnell (*Science*)
Florian Maderspacher (*Current Biology*)
Richard Harland (*Developmental Biology*)
Olivier Pourquié (*Development*)
Janet Rossant (*e-Life*)

Sunday, July 22

7:30 am – 8:30 am ***Technical Tutorials*** – TBD
7:30 am – 12:00 pm Poster Session III set up

8:00 am – 5 pm Meeting Registration

8:30 am – 12:30 pm ***Concurrent Sessions***

7. Genomes and Evolution Outremont
Chair: Marie Anne Felix (École Normale Supérieure, France)

8:30 am **Marty Kreitman** (U Chicago) *Enhancer structure-function and evolution*
9:00 am *46* **Debora R. Sobreira** (Univ Estadual de Campinas, Brazil); Dietrich, Susanne (Portsmouth, UK); Janousek, Ricardo (Univ Estadual de Campinas, Brazil); Schubert, Frank (Portsmouth, UK); Alvares, Lucia (Univ Estadual de Campinas, Brazil). *Evolution of Dact gene family*
9:15 am *47* Kalay, Gizem; Lusk, Richard; Dome, Mackenzie (U Michigan); Deplancke, Bart (École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland); **Patricia Wittkopp** (U Michigan). *Rapid evolution of cis-regulatory architecture in the Drosophila yellow gene*
9:45 am *48* **William Rogers**; Salomone, Joseph; Tacy, David; Williams, Thomas (U Dayton). *The mutations, molecular mechanisms, and constraints directing the evolution of a Drosophila cis-regulatory element*

10:00 am *Coffee Break*

10:30 am *49* **Bret Pearson**; Labbe, Roselyne (Hosp for Sick Children/U Toronto, Canada); Irimia, Manuel; Blencowe, Ben (Donnelly Centre, Canada). *A comparative transcriptomic analysis reveals conserved features of stem cell pluripotency in planarians and mammals*
10:45 am *50* **Elizabeth D. Hutchins**, George, Rajani; Markov, Glenn; Eckalbar, Walter; Geiger, Lauren; DeNardo, Dale (Arizona State U); Fisher, Rebecca (U Arizona College of Medicine); Rawls, Alan (Arizona State U); Huentelman, Matthew (Translational Genomics Res Inst); Wilson-Rawls, Jeanne; Kusumi, Kenro (Arizona State U). *Coordinated programs of cell growth and transcriptional regulation in lizard tail regeneration*
11:00 am *51* Natalia Pabon Mora (NY Botanical Garden) Sharma, Bharti; Kramer, Elena (Harvard); **Ambrose, Barbara**; Litt, Amy (NY Botanical Garden). *Functional analyses of APETALA1/ FRUITFULL genes in basal eudicots*
11:15 am *52* **Ilya Ruvinsky** (U Chicago). *Conservation, divergence, and epistasis in evolution of gene regulation*
11:45 am *53* **Christian Schmitt-Engel** (iBeetle Consortium, Germany); Klingler, Martin (U Erlangen, Germany); Bucher, Gregor (U Göttingen, Germany). *iBeetle: A genome wide RNAi-screen reveals new patterning genes involved in embryogenesis and metamorphosis*

8. Cell Growth & Regeneration Westmount

Chair: Janet Rossant (U Toronto, Canada)

8:30 am *54* **Ken Poss** (Duke). *A blueprint for heart regeneration*

9:00 am *55* **Gufa Lin**; Chen, Ying; Slack, Jonathan (U Minnesota). *Imparting regenerative capacity to limbs by progenitor cell transplantation*

9:15 am **Michael Rudnicki** (Ottawa Hosp Res Inst, Canada). *Molecular regulation of satellite stem cell function*

9:45 am *56* **Nicholas E. Baker** (Albert Einstein College of Medicine). *Mitotic neurons: failure to withdraw from the cell cycle produces anterograde transport of nuclei and nonautonomous neuronal toxicity*

10:00 am *Coffee Break*

10:30 am **Sabrina Sabatini** (Univ di Roma, Italy). *Growth and development of the Arabidopsis root meristem*

11:00 am *57* **Maria Dominguez-Castellano**; Garelli, Andres; Gontijo, Alisson; Miguela, Veronica; Caparros, Esther (Inst Neuroci Alicante, Spain). *Growing organs communicate and adapt their growth programs and maturation to ensure final correct size via a novel Drosophila Insulin-like peptide*

11:30 am *58* **Peter Lawrence** (U Cambridge, UK). *!): Trying to fathom the mechanisms of planar cell polarity*

9. Gene Regulation Mont Royal

Chair: Christine Rushlow (NYU)

8:30 am **Denis Duboule** (U of Geneva, Switzerland). *Structure and functions of regulatory Archipelagos*

9:00 am *59* **Robert P. Zinzen**; Bonn, Stefan; Girardot, Charles; Perez-Gonzalez, Alexis; Delhomme, Nicolas; Wilczynski, Bartek; Riddell, Andrew; Furlong, Eileen E.E. (EMBL, Germany). *Tissue specific analysis of chromatin identifies temporal enhancer activity in Drosophila mesoderm development*

9:15 am *60* **Alex Stark** (IMP-Vienna, Austria). *Regulatory genomics in Drosophila*

9:45 am *61* **Shigeru Sato**, Ikeda, Keiko (Jichi Med Univ Ctr for Molecular Medicine, Japan); Shioi, Go; Nakao, Kazuki (Kobe, Japan); Yajima, Hiroshi; Kawakami, Kiyoshi (Jichi Med Univ Ctr for Molecular Medicine, Japan). *Six1 expression is regulated by evolutionarily conserved enhancers*

10:00 am *Coffee Break*

10:30 am **Thomas Gregor** (Princeton). *Segmentation by the numbers*

11:00 am *62* **Jeffrey T. Burrows** (U Toronto, Canada), Pearson, Bret (Hospital for Sick Children, Canada); Scott, Ian (U Toronto, Canada). *A conserved requirement of MED14 for the maintenance of stem cell populations*

11:15 am *398* **Stas Shvartsman** (Princeton). *From signals to shapes in epithelial morphogenesis*

11:45 am *63* **Miguel Ramalho-Santos**; Guzman, Marcela; Koh, Fong Ming; Sachs, Michael; Lin, Chih-Jen (UCSF). *Essential role of the chromatin remodeler Chd1 in mouse embryonic and placental development*

12pm – 12:45pm Lunch on your own

12:45pm – 3:45pm ***Poster/Exhibits Session III*** Fontaine

Poster themes: Patterning and Transcription Factors – Cell Fate – Cell Motility – Early Embryo Patterning – Molecular Medicine and Development

Please see poster assignment in the end of the Meeting Program

12:45 pm – 2:15 pm Odd number boards presentation

2:15 pm – 3:45 pm Even number board presentations

3:45 pm – 4:30 pm Poster and Exhibits tear down

3:45 pm *Coffee Break*

4:00 pm – 6:00 pm ***Awards Lectures*** Ballroom Montreal

4:00 pm *Viktor Hamburger Outstanding Educator Prize*: BioEYES, **Steve Farber** (Carnegie Institution for Science) and **Jamie Shuda** (U Pennsylvania). Presentation by SDB PDEC Chair, Scott Gilbert

4:40 pm *Edwin G. Conklin Medal*: **Cliff Tabin** (Harvard). Presentation by SDB President-elect, Vivian Irish

5:20 pm *Developmental Biology-SDB Lifetime Achievement Award*: **Antonio Garcia Bellido** (Univ Autonoma de Madrid, Spain). Presentation by SDB President, Mike Levine

7:30 pm – 8 pm ***Awards Reception*** Portage

8 pm – 11 pm ***Closing and Awards Banquet*** Ballroom Montreal
Presentation of winners of Best Student Poster Competition and Best Postdoctoral Presentation

Monday, July 23
7 am - ***Departure***

8:30am – 4pm SDB Board of Directors Meeting Frontenac

ACKNOWLEDGMENTS
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Contributors: *Developmental Biology*-Elsevier, Aquatic Enterprises Inc, Carl Zeiss MicroImaging LLC, FASEB, FASEB-MARC Program, *genesis*, Mutant Mouse Resource Centers

Exhibitors: Abcam plc, Aquaneering, Aquatic Enterprises Inc, Aquatic Habitats Inc, Carl Zeiss MicroImaging LLC, Cedarlane®, Cold Spring Harbor Laboratory Press, *Developmental Biology*-Elsevier, *Developmental Dynamics*, FASEB-MARC, Gene Tools LLC, Intavis Inc, Sinauer Associates Inc Publ, St. Jude Children's Research Hospital, The Company of Biologists, Wiley-Blackwell

POSTER and EXHIBIT SESSIONS Fontaine

Exhibits Set-up: Thursday, July 19, 1-6 pm
Tear down: Sunday, July 22, 3:45- 4:30 pm

Education Posters Thursday, July 19, 8-10 pm

Poster Session I
Friday, July 20, 12:45-3:45 pm
Author Presentation Odd poster board numbers: 12:45 -2:15 pm
Even poster board numbers: 2:15-3:45 pm
Set-up: Thursday, July 19, 1-6 pm Tear down: July 20, 3:45-6 pm
Poster Themes: Education – Cell-cell Signaling – Cell Proliferation – Morphogenesis – Organogenesis – Germ Cells and Gametogenesis
italics – program abstract number **B#** - poster board number

Education

64	**B1**	***Educational activities of the Society for Developmental Biology***. SDB Professional Development and Education Committee, Bethesda, MD, United States
65	**B2**	***Exploring developmental biology in the kindergarten and first grade classroom***. Glickman Holtzman, Nathalia, Queens College, CUNY Biology; The Graduate Center, CUNY, Flushing, United States; Miller, Vanessa; Wilson, Christopher (Central Park East II (P.S. M964), New York, United States)
66	**B3**	***Determination of bisphenol A (BPA) levels in animal cages following different cleaning regimens***. Freeman, Edward; Chichester, Kimberly, St. John Fisher College, Rochester, NY, United States
67	**B4**	***About meiosis concept***. Sanz, Ana; Diosdado Salces, Esther, Universidad de La Habana, Havana, Cuba
68	**B5**	***C.R.E.A.T.E. Cornerstone: Adapting the C.R.E.A.T.E. strategy for freshmen, to encourage their persistence in STEM and participation in undergraduate research experiences***. Hoskins, Sally G., City College of New York Dept of Biology, New York, United States;
69	**B6**	***A thematic integration of development into an introductory Organismal Biology course***. Savage, Rob, Williams College Dept of Biology, Williamstown, United States;
	B7	***Withdrawn***
71	**B8**	***Inquiry-based laboratory exercises in the Biology of Stem Cells***. Meyers, Jason, Colgate University Department of Biology, Hamilton, United States
72	**B9**	***Development of a first year Biology Lab containing a strong research element***. Olena, Abigail; Talley, Jennell M.; Bairley, Robin; Sissom, Charles Brian; Baskauf, Steven J., Vanderbilt University, Nashville, United States
74	**B10**	***A developmental biologist's foray into science policy***. Grant, Kelly A., Gannon University Biology, Erie, United States

Cell-cell Signaling

476	**B11**	***Ectoderm-mesoderm separation is controlled through selective repulsion generated by specific pairs of ephrins and Eph receptors***. Rohani Larijani, Nazanin, McGill University, Montreal, Canada; Winklbauer, Rudolf (Toronto, Canada); Fagotto, Francois (Montreal, Canada)
477	**B12**	***The role of Wnt9b-signaling in kidney development.*** Kitzler, Thomas; Iglesias, Diana; Corsini, Rachel; Saban, Jeremy; Zhang, Zhao; Goodyer, Paul, McGill University, Montreal, Canada
76	**B13**	***Characterization of a Wls knockdown in the developing chick spinal chord***. Allen, Sean, San Francisco State University, United States
77	**B14**	***RA and ROS act in similar signaling pathways during extraembryonic endoderm formation***. Hwang, Jason TK, University of Western Ontario Biology, London, Canada; Wen, Jason (University of Toronto, Toronto, Canada); Kelly, Gregory (University of Western Ontario, London, Canada)
78	**B15**	***The role of Notch signaling during cell fate determination in the postnatal mouse retina***. Ronellenfitch, Kara; Chow, Robert, University of Victoria, Victoria, Canada
79	**B16**	***Uif, a large transmembrane protein with EGF-like repeats, antagonizes the Notch signaling pathway in Drosophila***. Jiao, Renjie, Institute of Biophysics, CAS, Beijing, China; Xie, Gengqiang; Zhang, Hongtao (Beijing, China); Ma, Jun (Cincinnati, United States)
80	**B17**	***Tenascin is a correlative marker in uterine fibroid***. Choi, YunJeong; Park, HyoSang; Lee, Seulkina; Park, YoungHoon; Kang, Sua; Kim, DaeYoung; Hwang, YouJin (Gachon University of Medicine and Science, Incheon, Republic of Korea)
81	**B18**	***Correlation of progressing human gastric intestinal metaplasia and fibrogenesis.***. Lee, Seulkina; Park, Younghun; Choi, Yunjeong; Park, Hyosang; Kim, Daeyoung; Hwang, Youjin (Incheon, Republic of Korea)
82	**B19**	***Forward genetics reveals Xylt1 as a key, conserved regulator of bone development***. Mis, Emily K., Yale University Genetics, New HavenUnited States; Kong, Yong (Yale University, New Haven, United States); Liem, Karel (Yale University Pediatrics, New Haven, United States); Domowicz, Miriam; Schwartz, Nancy (Chicago, United States); Weatherbee, Scott (Yale University, New Haven, United States)
83	**B20**	***BMP heterodimer signaling in the developing vertebrate embryo***. Mullins, Mary; Dutko, James A. Perelman Sch of Med At Univ of Penn Cell & Developmental Biology, Philadelphia, United States
84	**B21**	***acal is a novel negative regulator of Drosophila JNK signaling during embryonic dorsal closure.*** Rios-Barrera, L. Daniel, Universidad Nacional Autonoma de Mexico (UNAM), Juriquilla, Mexico; Riesgo-Escovar, Juan R. (UNAM, Queretaro, Mexico)

Cell Proliferation

85	**B22**	***Notch controls daughter cell proliferation in Drosophila neural lineages.*** Bivik, Caroline, Linkoping University, Linköping, Sweden

86 **B23** ***A global genomic survey of genes that mediate PAR-4/LKB1-dependent germline stem cell quiescence in C. elegans.*** Chaouni, Rita, McGill University, Montreal, Canada

87 **B24** ***LKB1 dependent and independent roles in the establishment and maintenance of germline stem cell quiescence in C. elegans.*** Kadekar, Pratik; Navidzadeh, Nathan; Wendland, Emily; Roy, Richard, McGill Univesity, Montreal, Canada

88 **B25** ***Centrosome elimination during C. elegans development.*** Lu, Yu, Department of Biology McGill University, Montreal, Canada; Roy, Richard, McGill University, Montreal, Canada

89 **B26** ***Profiling expression of cell cycle regulators during zebrafish development.*** Dobbs-McAuliffe, Betsy L., Central Connecticut State Univ Biomolecular Sciences, New Britain, United States

90 **B27** ***Barhl2 contribute to a cell-intrinsic mechanism that limits the proliferative response of neural progenitors to their mitogen.*** Durand, Béatrice; Juraver-Geslin, Hugo; Duval, Nathalie, CNRS UMR, Paris, France

91 **B28** ***Identification and expression analysis of two homologs from Xenopus laevis of the Tumorhead Putative Binding Protein, FBXO30.*** Traverso, Edwin, University of Puerto Rico at Humacao, United States; Zbinden, Theodor (Univ of Puerto Rico, Rio Piedra, PR, United States); Flores, Noelia; Núñez, Dariana; Ayala, Jesús (University of Puerto Rico at Humacao, Humacao, PR, United States)

92 **B29** ***Transition between two types of oscillators during Xenopus laevis early embryonic cell cycle.*** Tsai, Tony; Theriot, Julie; Ferrell, James, Stanford University, Stanford, United States

401 **B30** ***Capicua regulates proliferation and survival of RB-deficient cells in Drosophila.*** Krivy, Kate; Bradley-Gill, Mary-Rose ; Moon, Nam McGill University, Montreal, Canada

Morphogenesis

94 **B31** ***Dynamic cell shape changes are required for mesenchymal condensation***. Ray, Poulomi; Chapman, Susan, Clemson University, Clemson, United States

95 **B32** ***Mechanism of cranial neural crest cell migration.***. Alfandari, Dominique; Abbruzzese, Genevieve; Cousin, Helene, Univ of Massachusetts, Amherst, United States

96 **B33** ***Elucidating the role of Stat3 signaling in development of early Cranial Neural Crest Stem cells, Cranial NC cell derived tissue and Coronal Suture formation***. Dasgupta, Krishnakali, Keck School of Medicine - USC, United States

97 **B34** ***Fat-Dachsous signaling coordinates polarity and differentiation of the craniofacial skeleton in zebrafish***. Le Pabic, Pierre; Schilling, Thomas, University of California, Irvine, United States

98 **B35** ***Response genes regulate the severity of craniofacial defects***. Sheehan-Rooney, Kelly; Seritrakul, Pawat; Eberhart, Johann, Univ of Texas at Austin, United States

99 **B36** ***The molecular mechanisms of SP8 activity during craniofacial development***. Kasberg, Abi; Brunskill, Eric; Potter, Steve, Cincinnati Children's Hospital Research Foundation, Cincinnati, United States

100 **B37** ***Regulation of jaw development by LAR receptor protein tyrosine phosphatases***. Stewart, Katherine, McGill University, Montreal, Canada

101 **B38** ***The influence of novel FGF inhibitors on craniofacial and limb development***. Horakova, Dana; Cela, Petra; Buchtova, Marcela, University of Veterinary and Pharmaceutical Sciences Brno, Brno, Czech Republic

102 **B39** ***Ectodermal cell rearrangements in the early limb bud***. Lau, Kimberly; Sorfazlian, Natalie; Sturgeon, Kendra; Tao, Hirotaka; Hopyan, Sevan, Hospital for Sick Children, Toronto, Canada

103 **B40** ***The role of Cad99C, the Drosophila orthologue of human Usher cadherin PCDH15, in apical membrane dynamics***. Chung, SeYeon; Andrew, Deborah, Johns Hopkins Univ Sch of Med, Baltimore, United States

104 **B41** ***The Role of tbc-1 in Drosophila salivary gland development***. Johnson, Dorothy M.; Andrew, Deborah Johns Hopkins School of Medicine, Baltimore, United States

105 **B42** ***Wnt/ß-catenin has progressive, spatially-restricted roles in taste epithelium development.*** Barlow, Linda; Thirumangalathu, Shoba, University of Colorado AMC, Aurora, United States

105 **B43** ***Shh is required for development of the circumvallate taste papilla complex***. Thirumangalathu, Shoba, Univ of Colorado Health Sci Ctr, United States; Barlow, Linda (UC Denver Anschutz Medical Campus, Aurora, United States)

107 **B44** ***Shroom3-dependent apical constriction requires an association with the adherens junctions through p120 catenin***. Plageman, Timothy F.; Lang, Richard, Cincinnati Children's Hospital, Cincinnati, United States

108 **B45** ***An essential role for claudins in neural tube closure in chick***. Baumholtz, Amanda; Collins, Michelle; Simard, Annie; Ryan, Aimee (McGill University, Montreal, Canada)

109 **B46** ***Cofilin1 and PTEN are involved in two cell autonomous processes required for cephalic neural tube closure.***. Grego-Bessa, Joaquim; Anderson, Kathryn, Memorial Sloan Kettering Cancer Center, New York, United States

110 **B47** ***Cdon mutation and fetal ethanol exposure synergize to produce midline signaling defects and holoprosencephaly spectrum disorders in mice***. Hong, Mingi; Krauss, Robert, Mount Sinai School of

Medicine, New York, United States

111 **B48** ***FGF8 regulates multiple levels of neurogenesis in the zebrafish, from neural progenitor maintenance to differentiation***. Dean, Benjamin, Vanderbilt University, Nashville, United States

112 **B49** ***miR-153 regulates SNAP-25, synaptic transmission and neuronal development***. Wei, Chunyao, Vanderbilt University, United States; Thatcher, Elizabeth (Worcester, United States); Olena, Abigail; Carter, Bruce; Broadie, Kendal; Patton, James (Nashville, United States)

113 **B50** ***Requirement of microtubule based processes in dendrite maintenance***. Lee, Jiae, University of Washington

114 **B51** ***Talin: A master regulator of cell-ECM adhesion-dependent morphogenesis***. Ellis, Stephanie; Fairchild, Michael; Czerniecki, Stefan; Pines, Mary; Tanentzapf, Guy, University of British Columbia, Vancouver, Canada

115 **B52** ***Regulation of nonmuscle myosin II during Drosophila cellularization***. Thomas, Jeffrey; Chougule, Ashish; Rosales, Rafael, Texas Tech University Health Sciences Center, Lubbock, United States

116 **B53** ***Structural changes of the nuclear envelope impact murine embryonic stem cell differentiation***. Moore, Robert; Smith, Elizabeth; Rosario, Santas; Yeasky, Toni; Xu, Xiang-Xi, University of Miami Dept. of Medicine, United States

117 **B54** ***Eya1 mice as models for understanding middle ear developmental defects***. Joshi, Leena, King's College London, United Kingdom

118 **B55** ***In-vivo knock down of Wnt signalling components via shRNA in the inner ear anlage***. Funke, Constanze; Sienknecht, Ulrike J., Carl von Ossietzky University Oldenburg, Germany

119 **B56** ***Cardiac contractility and blood flow regulate cardiac form***. Glickman Holtzman, Nathalia S., Queens College, CUNY Biology, United States; Estevez, Jaymie; Kigler, Gabriella (Queens College, Flushing, United States); Leung, Alanna (Townsend Harris High School, Flushing, United States); Karp, Ariel (Queens College, Flushing, United States); Singleman, Corinna (Queens College, CUNY Biology; Th

120 **B57** ***Myocardial progenitors in the pharyngeal regions migrate to distinct conotruncal regions***. Nakajima, Yuji; Takahashi, Makiko; Terasako, Yumi; Yanagawa, Nariaki; Kai, Masatake; Yamagishi, Toshiyuki, Osaka City Univ Med Sch, Japan

121 **B58** ***Ectodysplasin regulates hormone-independent mammary ductal morphogenesis via NF-kappaB***. Voutilainen, Maria; Lindfors, Päivi; Lefebvre, Sylvie; Ahtiainen, Laura; Fliniaux, Ingrid; Rysti, Elisa; Murtoniemi, Marja (University of Helsinki, Helsinki, Finland); Schneider, Pascal (University of Lausanne, Epalinges, Switzerland); Schmidt-Ullrich, Ruth (Center for Molecular Medicine, Berlin,, Germany); Mikkola, Marja (University of Helsinki, Helsinki, Finland)

122 **B59** ***Twisted gastrulation, an extracellular BMP binding protein, is required for postnatal mammary gland morphogenesis***. Forsman, Cynthia, University of Minnesota Genetics, Minneapolis, United States

123 **B60** ***Planar cell polarity proteins differentially regulate ECM organization during zebrafish gastrulation***. Jessen, Jason; Williams, Blairanne; Mundell, Nathan, Vanderbilt University Medical Center Medicine, Nashville, United States

124 **B61** ***Dynamin is required for the maintenance of EVL integrity and the progression of epiboly***. Lepage, Stephanie; Bruce, Ashley, Univ of Toronto, Canada

125 **B62** ***Functional studies of Fam132a/C1qdc2, a secreted molecule downstream of Stat3 signaling, during zebrafish gastrulation***. Liu, Yinzi; Sepich, Diane; Shin, Jimann; Solnica-Krezel, Lilianna, WUSTL, Saint Louis, United States

126 **B63** ***Gastrulation in high-resolution: New insights into an important process of development.***. Martik, Megan; McClay, David, Duke University, Durham, United States

127 **B64** ***Functions of p120-catenin in the developing mouse embryo.***. Hernández-Martínez, Rocío, Sloan-Kettering Institute, United States; Anderson, Kathryn, V., Sloan-Kettering Institute, New York, U.S.A.

128 **B65** ***The polarity complex Par6b/Par3 is required for the normal pattern and function of cadherins in ectoderm cells***. Wang, Sha; Cha, Sang-wook; Wylie, Christopher Cincinnati Children's Hospital Med Center, Cincinnati, United States)

129 **B66** ***Claudins are required for ureteric bud branching during kidney morphogenesis***. Khairallah, Halim; El Andalousi, Jasmine; Ryan, Aimee; Gupta, Indra (McGill, Monntreal, Canada)

130 **B67** ***MAPK pathway is required for branch point determination***. Kuure, Satu; Ihermann, Anneliis; Lume, Maria (University of Helsinki, Helsinki, Finland); Charron, Jean (Université Laval, Quebec, Canada); Saarma, Mart (University of Helsinki, Helsinki, Finland); Costantini, Frank (Columbia University Medical Center, New York, United States)

131 **B68** ***Calcium/NFAT signaling is essential for mesenchymal-epithelial transition during nephron formation***. Tanigawa, Shunsuke; Sharma, Nirmala; Tarasova, Nadya; Yamaguchi, Terry; Perantoni, Alan, National Cancer Institute, Frederick, United States

132 **B69** ***Incidence of vesicoureteric reflux and other urinary tract abnormalities in OSR1 deficient mice***. Watt,

Christine; El Andalousi, Jasmine; Fillion, Marie-Lyne; Gupta, Indra, McGill, Montreal, Canada

	B70	
134	**B71**	***Apical contraction of the actomyosin network initiates branching morphogenesis of the embryonic chicken lung***. Kim, Hye Young; Nelson, Celeste M, Princeton University Chemical and Biological Engineering, United States
135	**B72**	***Computational mechanobiology of peristalsis in embryonic lung***. Lubkin, Sharon; Krishna, Kishore, North Carolina State University, Raleigh, United States
136	**B73**	***Over-expression of receptors for advanced glycation end-products (RAGE) causes anomalous epithelial cell survival and differentiation in the embryonic murine lung***. Reynolds, Paul, Brigham Young University, United States
137	**B74**	***Glycosaminoglycan biosynthesis is required non-cell-autonomously for correct patterning of the dorso-anterior Drosophila eggshell by the Epidermal Growth Factor Receptor ligand Gurken***. LeMosy, Ellen K.; Neiswender, Hannah, Georgia Health Sciences University, Augusta, United States
138	**B75**	***Mirror and Paxillin act downstream of Tramtrack69 to regulate tube morphogenesis in the Drosophila ovary***. Peters, Nathaniel C., University of Washington Genome Sciences, United States
139	**B76**	***ErbB signaling within Schwann cells controls quiescence of Zebrafish lateral line progenitor cells through regulation of Wnt and FGF signaling.***. Lush, Mark E., Stowers Institute for Medical Research Research, United States; Piotrowski, Tatjana (Stowers Institute for Medical Research, Kansas City, MO, United States)
140	**B77**	***In vitro embryonic axial elongation morphogenesis using mammalian stem cells***. Marikawa, Yusuke; Tamashiro, Dana Ann A., University of Hawaii, Honolulu, United States
141	**B78**	***A single-cell resolution Notch signaling reporter strain of mice***. Nowotschin, Sonja; Xenopoulos, Panos; Weiner, Evan; Hadjantonakis, Kat, Memorial Sloan Kettering Cancer Ctr, New York, United States
142	**B79**	***Crosstalk between cell cycle and cytoskeletal rearrangements during hair follicle morphogenesis***. Ouspenskaia, Tamara; Stokes, Nicole; Fuchs, Elaine, Rockefeller University, New York, United States
143	**B80**	***Mechanisms of Integrin-linked kinase modulation of hair follicle morphogenesis.*** Rudkouskaya, Alena; Dagnino, Lina, University of Western Ontario, London, Canada
405	**B121**	***Understanding the craniofacial defects produced by inhibition of folic acid metabolism***. Ahlgren, Sara C., Northwestern Univ Feinberg Sch of Med, Chicago, United States; Erhard, Stephanie (Children's Memorial Research Center, Chicago, U.S.A.)
406	**B122**	***Hypertrophic chondrocytes contribute directly to the osteoblast and osteocyte lineage in endochondral bones in vivo***. Cheah, Kathryn S.; Yang, Liu; Tang, Tiffany; Tsang, Kwok Yeung; Dung, Nelson WF; Chan, Danny, University of Hong Kong, Hong Kong
407	**B123**	***Development of the autopod, but not of proximal skeletal elements, is impaired by misexpression of the BMP-binding molecule Chordin-like 1 in the chick limb***. Allen, Justin, Boston Children's Hospital, Brookline, United States; McGlinn, Edwina; Tabin, Cliff; Warman, Matthew (Boston, United States)
408	**B124**	***Hedgehog Signaling Acts Upstream of Foxd1 to Control the Renal Capsule***. Martirosyan, John; Rosenblum, Norman (Toronto, Canada)
463	**B125**	***ß-catenin controls branching morphogenesis via the Gdnf Ret signaling axis during kidney development***. Sarin, Sanjay, , Hamilton, Canada; Li, Aihua; Bridgewater, Darren (Hamilton, Canada)
410	**B126**	***Elucidation of the role of Rasip1 and Arhgap29 in blood vessel lumen formation***. Koo, Yeon, , Dallas, United States; Xu, Ke; Fu, Stephen; Chong, Diana; Skaug, Brian; Chen, Zhijian (Dallas, United States); Davis, George (Columbia, United States); Cleaver, Ondine (Dallas, United States)
411	**B127**	***GTPase control of blood vessel development***. Cleaver, Ondine, UT Southwestern Medical Center, Dallas, United States; Koo, Yeon; Barry, David (UT Southwestern Medical Center, Dallas, TX, United States); Xu, Ke (Harvard University, Cambridge, MA, United States)
412	**B128**	***RhoA signaling controls development of Kupffer's vesicle and cardiac left-right asymmetry in zebrafish***. Wang, Guangliang; Foley, Fiona; Amack, Jeffrey, SUNY-Upstate Medical University, Syracuse, United States
413	**B129**	***The dimple mutation uncovers a link between mouse gastrulation and mitochondrial function***. Garcia-Garcia, Maria J.; Duran, Ivan, Cornell University, Ithaca, United States
415	**B131**	***Spatiotemporal biomechanical variation in the avian embryo during primitive streak morphogenesis***. Henkels, Julia; Zamir, Evan, Georgia Institute of Technology, Atlanta, United States
416	**B132**	***PCP pathway controls polarized actomyosin localization through septin 7 during collective cell movements***. Shindo, Asako; Wallingford, John, University of Texas at Austin, Austin, United States
417	**B133**	***Uncovering the function of TMED2 during trophoblast differentiation***. H, Taghreed; Abeer Zakariyah, Loydie A. Jerome-Majewska, McGill University, Montreal, Canada
418	**B134**	***Epithelial intercalation drives elongation of the mouse neural plate***. Williams, Margot L.K.; Yen, Weiwei; Lu, Xiaowei (University of Virginia, Charlottesville, United States); Lewandoski, Mark (National Cancer Institute, Frederick, United States); Sutherland, Ann (University of Virginia, Charlottesville, United States)

419 **B135** ***Prolonged FGF signaling is necessary for lung and liver induction in Xenopus***. Shifley, Emily T.; Kenny, Alan; Rankin, Scott; Zorn, Aaron, Cincinnati Childrens Hospital Med Ctr, Cincinnati, United States

Organogenesis

144 **B81** ***Olfactory microvillous neurons arise from the neural crest in a Sox10-dependent manner***. Saxena, Ankur; Peng, Brian; Bronner, Marianne, California Institute of Technology, Pasadena, United States

145 **B82** ***Development of gustatory papillae in the absence of Six1 and Six4.***. Ikeda, Keiko, Hyogo College of Medicine, Hyogo, Japan, Suzuki, Yuko (Health Sci. Univ. Hokkaido, Hokkaido, Japan); Kawakami, Kiyoshi (Jichi Med. Univ., Tochigi, Japan)

146 **B83** ***WNT signaling controls parasympathetic ganglion formation during submandibular gland development***. Knosp, Wendy, NIDCR LCDB, Bethesda, United States; Knox, Sarah (University of California, San Francisco, U.S.A.); Martin, Gail (UC San Francisco, United States); Hoffman, Matthew (Bethesda, United States)

327 **B84** ***Investigating the role of the transcription factor Gata3 during post-natal prostate development***. Shafer, Maxwell, McGill University, Montreal, Canada; Nguyen, Alana; Bouchard, Maxime (McGill University, Montreal, PQ, Canada)

148 **B85** ***Reprogramming of thymic epithelial cells in response to hyperactivation of Wnt/Beta-Catenin signaling during embryonic development***. Gordon, Julie; Manley, Nancy, University of Georgia, Athens, United States

149 **B86** ***YY1 control of Vegf expression in the visceral endoderm is essential for yolk sac angiogenesis***. Rhee, Siyeon, UMass Amherst, Amherst, United States,

150 **B87** ***Uncovering the function of TMED2 during trophoblast differentiation***. Heba, Taghreed, , Montreal, Canada,

151 **B88** ***Interference with glutamate signaling induces neural tube defects: Implications for antiepileptic drug action during neural tube formation***. Sequerra, Eduardo; Borodinsky, Laura, UC Davis, United States

152 **B89** ***Developmental retardation of male rat brain, testis gonocytes according to bisphenol A in vivo exposure time***. Park, Cheol Ho; Park, Soo Jung; Kim, Sung Won; Kim, Ji Sun; Hwang, You Jin; Kim, Dae Young, Gachon University of Medicine and Science, Incheon, Republic of Korea

153 **B90** ***Requirement of Co-Smad independent BMP canonical Smad signaling for the specification process of the anterior rhombic lip during cerebellum development***. Kwan, Kin Ming; Tong, Ka Kui, The Chinese University of Hong Kong School of Life Sciences, Shatin, Hong Kong

154 **B91** ***Embryonic DNA repair and gender are risk factors in ethanol embryopathies in oxoguanine glycosylase 1 (OGG1) knowckout mice: A role for oxidatively damaged DNA and protection by a free radical spin trapping agent***. Miller, Lutfiya; Wells, Peter, University of Toronto, Toronto, Canada

155 **B92** ***Valproic acid induces p53 activation via hyperacetylation and increases cellular apoptosis leading to limb malformations in murine limb buds***. Paradis, France Helene; Hales, Barbara, McGill University, Montreal, Canada

156 **B93** ***Renal lineage and self-renewing potential of GDNF-expressing cells***. Cebrian, Cristina, Columbia University, New York, United States; Asai, Naoya (Nagoya University Graduate School of Medicine, Nagoya, Japan); D'Agati, Vivette; Costantini, Frank (Columbia University, New York, United States)

157 **B94** ***Pdx-1 as a potential regulator of epithelial organization in the developing pancreas***. Marty Santos, Leilani; Cleaver, Ondine, UT-Southwestern Medical Center, Dallas, United States

158 **B95** ***Transdifferentiation of liver to pancreas***. Srivastava, Akash; Horb, Marko, Marine Biological Laboratory, Woods Hole, United States

159 **B96** ***Discovering the molecular pathways controlling progenitor differentiation in pancreatic development and regeneration***. Parsons, Michael J.; Huang, Wei; Delaspre, Fabien, Johns Hopkins University, Baltimore, United States

160 **B97** ***Loss of Brachyury in the mouse notochord results in axial skeletal defects and urorectal malformations***. Pennimpede, Tracie; Proske, Judith; König, Andrea; Vidigal, Joana (Max Planck Institute for Molecular Genetics, Berlin, Germany); Morkel, Markus (Charité University Medicine Berlin, Berlin, Germany); Herrmann, Bernhard; Wittler, Lars (Max Planck Institute for Molecular Genetics, Berlin, Germany)

161 **B98** ***The chromatin remodeling complex subunit Baf60c regulates essential gene expression programs in heart development***. Sun, Xin, University of Toronto, Toronto, Canada; Wylie, John (Gladstone Institute, San Francisco, United States); Zhou, Yuqing (Mouse Imaging Centre, Toronto, Canada); Christodoulou, Danos; Seidman, Christine; Seidman, Jonathan (Harvard Medical School, Boston, MA, United States)

162 **B99** ***Role of endothelin-A receptor in cardiac neural crest cell development***. Ruest, Louis-Bruno, Baylor College of Dentistry Biomedical Sciences, Dallas, United States; Zhang, Yanping; Jansen, Erik P.; Alleman, Zachary D. (TAMHSC-Baylor College of Dentistry, Dallas, TX, United States)

163 **B100** ***Ccm3 functions in a manner distinct from Ccm1 and Ccm2 in a zebrafish model of CCM vascular disease***. Yoruk, Bilge, University of Toronto, Toronto, Canada; Scott, Ian (The Hospital for Sick Children, Toronto,

Canada)

164 **B101** ***Fibroblast-growth factor 8a (fgf8a) synergistically interacts with ethanol to perturb proper skull development.***. McCarthy, Neil; Swartz, Mary; Eberhart, Johann, Austin, United States

165 **B102** ***Zebrafish craniofacial cartilage morphogenesis is controlled by elements of the Wnt/PCP signaling pathway***. Sisson, Barbara, Ripon College Biology Department, Ripon, United States; Dale, Rodney; Mui, Stephanie; Topczewska, Jolanta; Topczewski, Jacek (Northwestern University Feinberg School of Medicine, Chicago, United States)

166 **B103** ***A comprehensive timeline of quail small intestine development***. Thomason, Rebecca T.; Winters, Niki; Bader, David, Vanderbilt University, Nashville, United States

167 **B104** ***Identification of a novel developmental mechanism in the generation of mesothelia***. Winters, Nichelle I.; Thomason, Rebecca; Bader, David, Vanderbilt University, Nashville, United States

168 **B105** ***Lasp regulates actin filament dynamics in Drosophila myofibril assembly.***. Fernandes, Isabelle; Schoeck, Frieder, McGill University, Montreal, Canada

169 **B106** ***Muscle type-specific expression and function of Zasp52 isoforms in Drosophila***. Schoeck, Frieder; Katzemich, Anja; Fernandes, Isabelle, McGill University, Montreal, Canada

170 **B107** ***Drosophila Zasp52 has a dual role in Z-disc maintenance and myofibril assembly***. Katzemich, Anja; Schoeck, Frieder, McGill University, Montreal, Canada

171 **B108** ***Sulf1 modulates FGF and BMP signaling to pattern trunk muscle, pigmentation, and lateral line***. Meyers, Jason; Planamento, Jessica; Krulewitz, Neil (Colgate University, Hamilton, United States); Pownall, Mary (University of York, York, United Kingdom)

172 **B109** ***Prox1 modulates the neuromast deposition frequency in the migrating posterior lateral Line Primordium***. Yoo, Kyeong-Won; Dalle-Nogare, Damian; Chitnis, Ajay (NICHD/NIH, Bethesda, United States)

Germs Cells and Gametogenesis

173 **B110** ***The role of non-muscle myosins in C. elegans gonad architecture.*** Pisio, Amanda; Kachur, Torah; Pilgrim, Dave, University of Alberta, Edmonton, Canada

174 **B111** ***Profilin controls soma-germline interaction and differentiation upon exit from the stem cell niche in the Drosophila testes.*** Fairchild, Michael J.; Tanentzapf, Guy, University Of British Columbia, Vancouver, Canada

175 **B112** ***Gap junction-mediated regulation of germline differentiation and soma proliferation.*** Smendziuk, Christopher M.; Messenberg, Anat; Islam, Fayeza; Tanentzapf, Guy, University of British Columbia, Vancouver, Canada

176 **B113** ***The role of DAZ family proteins in heat stress response of male germ cells.*** Kim, Byunghyuk; Rhee, Kunsoo, Seoul, Republic of Korea

177 **B114** ***Effects of ginsenoside-Rg1 on activity of mitochondria of cryopreserved boar sperm after thawing.*** Kim, Joo Won; Kim, Sung Won; Park, Cheol Ho; Park, Soo Jung; Hwang, You Jin; Kim, Dae Young, Gachon University, Incheon, Republic of Korea

178 **B115** ***Effects of erythritol on boar sperm during washing through Percoll gradients.*** Kim, Sung Won; Park, Cheol Ho; Park, Soo Jung; Hwang, You Jin; Kim, Dae Young, Gachon University, Incheon, Republic of Korea

179 **B116** ***Effects of the Wnt/ß-catenin signaling pathway on zebrafish primordial germ cell migration.*** Boldt, Clayton, UT Southwestern, Dallas, United States; Moro, Enrico; Argenton, Francesco (University of Padua, Padua, Italy); Amatruda, James (UT Southwestern, Dallas, TX, United States)

180 **B117** ***Spermatogenesis in Peltophryne gundlachi and P. cataulaciceps (Anura: Bufonidae), two Cuban endemic toads***. Sanz, Ana, University of Havana, Havana, Cuba; Segura-Valdez, María de Lourdes (Universidad Nacional Autónoma de México, DF, Mexico); Rodríguez-Gómez, Yamilka (Universidad de La Habana, Havana, Cuba); Lara-Martínez, Reyna; Jiménez-García, Luís Felipe (Universidad Nacional Autónoma de México, DF, Mexico)

402 **B118** ***An investigation of Blastoderm specific gene 25D, a potential pole cell specifying gene.*** Kowanda, Michelle A.; Yee, Stephanie; Liu, Niankun, McGill University, Montreal, Canada; Lécuyer, Eric (Institut de Recherches Cliniques de Montréal, Montreal, Canada); Lasko, Paul (McGill University, Montreal, Canada)

403 **B119** ***Identification of a conserved motif in mRNAs that localize to RNA islands during Drosophila embryogenesis.*** Yee, Stephanie; Kowanda, Michelle, McGill University Biology, Montreal, Canada; Li, Xiao; Morris, Quaid; Lipshitz, Howard (University of Toronto, Toronto, Canada); Lecuyer, Eric (Institut de Recherches Cliniques de Montreal, Montreal, Canada); Lasko, Paul (McGill University Biology, Montreal, Canada)

404 **B120** ***A structure-function study of Vasa in Drosophila early development.*** Dehghani, Mehrnoush; Lasko, Paul, McGill University, Montreal, Canada

Poster Session II

Saturday, July 21, 12:45-3:45 pm

Author Presentation Odd poster board numbers: 12:45 -2:15 pm
Even poster board numbers: 2:15 -3:45 pm

Set-up: July 20, 3:45-6 pm, July 21, 7:30 am-12 pm Tear down: July 21, 3:45-6 pm

Poster Themes: Stem Cells and Tissue Regeneration – Development and Evolution – Gene Regulation – Functional Genomics – Intracellular Signaling Pathways – Molecular Medicine and Development

italics – program abstract number **B#** - poster board number

Stem Cells and Tissue Regeneration

181	**B1**	***Atypical Wnt Receptor Involvement in Hematopoietic Stem Cell Specification and Leukemia***. Clements, Wilson K.; Traver, David, University of California at San Diego, La Jolla, United States
182	**B2**	***Interactions between transplanted mouse embryonic stem cell-derived neural progenitors and endogenous brain vasculature***. Becker, Sandy; Lassiter, Chelsea; McGill, Sean; Grabel, Laura, Wesleyan University, Middletown, United States
183	**B3**	***Presynaptic input from corticotropin-releasing hormone-expressing neurons promotes adult-born neuron circuit integration***. Garcia, Isabella; Huang, Longwen; Arenkiel, Benjamin, Baylor College of Medicine, Houston, United States
184	**B4**	***Genome-wide analysis of the basic Helix-Loop-Helix gene family in planarians identifies factors involved in neurogenesis***. Cowles, Martis W., San Diego State University, San Diego, United States; Brown, David R. (Toronto, Canada); Stanley, Brianna; Nisperos, Sean V. (San Diego, United States); Pearson, Bret J. (Toronto, Canada); Zayas, Ricardo M. (San Diego, United States)
185	**B5**	***Epigenetic regulation of planarian stem cells by the SET1/MLL family of histone methyltransferases***. Hubert, Amy M.; Henderson, Jordana M.; Torres, Jessica; Ross, Kelly G.; Zayas, Ricardo M., San Diego State University Biology, San Diego, United States
186	**B6**	***Follistatin is required for head regeneration in the planarian, Schmidtea mediterranea***. Roberts-Galbraith, Rachel H.; Newmark, Phillip, Howard Hughes Medical Institute and University of Illinois in Urbana-Champaign, Urbana, United States
187	**B7**	***Novel antibodies to track cell differentiation in planarians***. Ross, Kelly; Taylor, Matthew; Munday, Roma; Hubert, Amy; Zayas, Ricardo, San Diego State University, San Diego, United States
188	**B8**	***Blastemal growth in regenerating Giraradia tigrina is inhibited by Xenoestrogens***. Minicozzi, Michael R.; Ridgeway, Corinna; Anandan, Anna; Gallagher, Heather; Mass, Spencer, Department of Biology, SUNY New Paltz, New Paltz, United States
189	**B9**	***Elucidating the mechanism of proximal tubule regeneration in the pronephros Xenopus laevis tadpoles***. Caine, Shoshoni T., Tufts University Biology, Medford, United States;
190	**B10**	***Calcium-mediated electrical activity manifests in regenerating tissues and is required for appropriate muscle regeneration***. Tu, Michelle, , Sacramento, U.S.A.;
191	**B11**	***An investigation of the role of transforming growth factor beta (TGFß) during multi-tissue regeneration.***. Gilbert, Richard WD; Vickaryous, Matt; Viloria-Petit, Alicia, University of Guelph, Guelph, Canada
192	**B12**	***Retinal regeneration following targeted rod photoreceptor destruction***. Rao, Mahesh; Patton, James, Vanderbilt University, Nashville, United States
193	**B13**	***Analysis of gene expression in mantle and interneuromast cells reveals genes that are differentially regulated during hair-cell regeneration***. Steiner, Aaron; Kim, Taeryn; Hudspeth, A. James, The Rockefeller University and HHMI, New York, United States
194	**B14**	***Expression of stem pluripotency-inducing factors during RPE reprogramming***. Luz-Madrigal, Agustin; Grajales-Esquivel, Erika; Di-Lorenzo, Ashley; Dannenfelser, Janessa; Del Rio-Tsonis, Katia, Miami University, Oxford, United States
195	**B15**	***The role of microRNAs as downstream effectors of RARß-mediated retinoid signalling during spinal cord regeneration in the adult newt.***. Lepp, Amanda C.; Carlone, Robert, Brock University, St. Catharines, Canada
196	**B16**	***Two-Photon microscopy to capture live cell behavior in the hair follicle stem cell niche***. Greco, Valentina; Rompolas, Pantelis, Yale School of Medicine, New Haven, United States
197	**B17**	***Uncovering the conserved stem cell functions of the Piwi/piRNA pathway in Hydra***. Juliano, Celina E.; Liu, Na, Yale University, New Haven, United States; Reich, Adrian (Brown University, Providence, United States); Zhong, Mei (Yale University, New Haven, United States); Steele, Robert (UC-Irvine, United States); Lin, Haifan (Yale University, New Haven, United States)
198	**B18**	***Derivation of a phylogenetically conserved pluiripotent stem cell signature using transcriptomic analyses***.

Labbe, Roselyne M., Sick Kids Hospital, Toronto, Canada; Irimia, Manuel (The Donnelly Centre, University of Toronto, Toronto, Canada); Currie, Ko; Lin, Alexander; Zhu, Shu Jun (The Hospital for Sick Children, Toronto, Canada); Ross, Eric (Stowers Institute for Medical Research, Kansas, United States); Voisin, Veronique; Bader, Gary; Blencowe, Benjamin (The Donnelly Centre, University of Toronto, Toronto, Canada); Pearson, Bret (The Hospital for Sick Children, Toronto, Canada)

199	**B19**	***MicroRNA mediated regulation of naïve and primed pluripotent states***. Pernaute, Barbara, National Heart and Lung Institute, Imperial College London, London, United Kingdom; Spruce, Thomas (MRC National Institute for Medical Research, London, United Kingdom); Manzanares, Miguel (Centro Nacional de Investigaciones Cardiovasculares-CNIC, Madrid, Spain); Rodriguez, Tristan (National Heart and Lung Institute, Imperial College London, United Kingdom)
200	**B20**	***Examining the evolutionarily conserved functions of Piwi proteins in Hydra***. Lim, Robyn, Temasek Life Sciences Laboratory, Singapore, Singapore; Nishimiya-Fujisawa, Chiemi (National Institute for Basic Biology, Okazaki, Japan); Kai, Toshie (Temasek Life Sciences Laboratory, Singapore, Singapore)
	B21	
202	**B22**	***Hh signalling is a key regulator for somatic stem cells in the Drosophila testis***. Michel, Marcus; Kupinski, Adam P.; Raabe, Isabel; Boekel, Christian, TU Dresden CRTD, Dresden, Germany
203	**B23**	***Regulating the transition from proliferation towards differentiation in the zebrafish retinal stem cell niche***. Cerveny, Kara L., Reed College Biology Department, Portland, United States; Cavodeassi, Florencia (CBMSO, Madrid, Spain); Turner, Katherine; Gestri, Gaia (London, United Kingdom); Young, Rodrigo (London, United States); Hawkins, Thomas A; Stickney, Heather L; Wilson, Stephen W (London, United Kingdom)
424	**B124**	***Dietary cholesterol triggers Hedgehog-dependent follicle stem cell proliferation in the Drosophila ovary.*** Hartman, Tiffiney; O'Reilly, Alana, Fox Chase Cancer Center, Philadelphia, United States
425	**B125**	***Notum/Wnt antagonism controls planarian brain patterning and size in regeneration.*** Hill, Eric M.; Petersen, Christian P., Northwestern University, Evanston, United States
426	**B126**	***Head to heart: transformation of skeletal muscle stem cells to cardiac muscle.*** Daughters, Randy; Keirstead, Sue; Slack, Jonathan, University of Minnesota, Minneapolis, United States

Development and Evolution

204	**B24**	***Fern leaf evolution and development.*** Vasco, Alejandra, The New York Botanical Garden Genomics, Bronx, United States; Smalls, Tynisha; Moran, Robbin C.; Ambrose, Barbara A. (The New York Botanical Garden, Bronx, NY, United States)
427	**B25**	***Specification of the ascidian larval PNS.*** Zeller, Robert W.; Chen, Jerry; Tang, Joyce (San Diego State University, United States)
206	**B26**	***Conservation of Myogenic Regulatory Factor Function.*** Meedel, Thomas H., Rhode Island Col Dept of Biol, Providence, United States; Izzi, Stephanie; Colantuono, Bonnie; Sullivan, Kelly (Rhode Island College, Providence, RI, United States)
207	**B27**	***Evolution of Gene Regulatory Networks for Novelty.*** McCauley, Brenna, , Pittsburgh, United States; Hinman, Veronica (Carnegie Mellon U., Pittsburgh, United States)
208	**B28**	***Hedgehog signaling is dependent on ciliary trafficking proteins in the sea urchin embryo.*** Warner, Jacob, Duke University, Durham, United States; McClay, David (Duke University, Durham, United States)
209	**B29**	***Drosophila Zasp52 and Zasp66 act partially redundantly in Z-disc assembly and maintenance.*** Liao, Kuo-An, , Montreal, Canada; Katzemich, Anja; Schöck, Frieder (Montreal, Canada)
210	**B30**	***Identifying cis-regulatory element changes that underlie gene expression and phenotypic evolution between species..*** Salomone, Joseph R., University of Dayton Biology, Dayton, United States; Rogers, William; Williams, Thomas (University of Dayton, Dayton, United States)
211	**B31**	***The role of toolkit genes in the evolution of complex wing, thorax, and abdominal color patterns in Drosophila guttifera.*** Werner, Thomas, Michigan Technological University Biological Sciences, Houghton, United States; Shigeyuki, Koshikawa (University of Madison-Wisconsin, Madison, United States); Williams, Thomas (University of Dayton, Dayton, OH, United States); Bollepogu Raja, Komal K. (Michigan Technological University, Houghton, MI, United States); Carroll, Sean (University of Wisconsin-Madison)
212	**B32**	***A potential patterning difference underlying the oviparous and viviparous development in the pea aphid.*** Bickel, Ryan, University of Nebraska, Lincoln, Lincoln, United States; Cleveland, Hillary; Barkas, Joanna; Belletier, Nicollette; Davis, Gregory K., Bryn Mawr College Dept of Biology, Bryn Mawr, United States
428	**B33**	***Requirements for posterior growth in sequentially segmenting arthropods.*** Nagy, Lisa M.; Nakamoto, Ayaki; Ettling, Alexandria; Harrison, Christy (University of Arizona, Tucson, AZ, United States); Kim, S.; Lazo del la Vega, Lorena; Tewksbury, Austin; Wambaa, Sam; Williams, Terri (University of Connecticut, Hartford, United States)

214 **B34** ***Key regulator for developmental and evolutionary switch from Rohon-Beard cells to dorsal root ganglia.*** Yajima, Hiroshi, , Shimotsuke, Japan; Suzuki, Makoto (Okazaki, Japan); Ochi, Haruki (Ikoma, Japan); Ikeda, Keiko; Sato, Shigeru (Shimotsuke, Japan); Ogino, Hajime (Ikoma, Japan); Ueno, Naoto (Okazaki, Japan); Kawakami, Kiyoshi (Shimotsuke, Japan)

215 **B35** ***Characterization of the bone-forming cells of the turtle plastron.*** Cebra-Thomas, Judith A.; Mangat, Gulnar; Branyan, Kayla; Shah, Sonal, Millersville University, Millersville, United States; Gilbert, Scott (Swarthmore College, Swarthmore, United States)

216 **B36** ***Raising the shield: the origin and loss of periodic patterning in the turtle shell.*** Moustakas, Jacqueline, University of Helsinki, Helsinki, Finland; Cebra-Thomas, Judith (Millersville University, Millersville, United States); Mitchell, Katherine (Swarthmore College, Swarthmore, United States); Jernvall, Jukka (University of Helsinki, Helsinki, Finland); Gilbert, Scott F. (Swarthmore College, Swarthmore, United States)

217 **B37** ***Determining the role of maternal IRF6 in extra-embryonic development.*** Smith, Arianna; Klavanian, Jeannie; Siegersma, Kendra; Schutte, Brian, Michigan State University, East Lansing, United States

218 **B38** ***Is TMED2 essential in the chorion for normal interaction between the allantois and the chorion in mice?*** Hou, Wenyang (Dominic), McGill University Human Genetics, Montreal, United States; Sarikaya, Didem (Cambridge, MA, United States)

219 **B39** ***Cis-regulatory analysis of Ets1 expression in neural crest reveals important inputs from Sox and Hox factors.*** Barembaum, Meyer, California Inst of Technol, Pasadena, United States; Bronner, Marianne (Pasadena, CA, United States)

B40

221 **B41** ***Hindlimb Evolution and the Bilateral Loss of Digits in the Bipedal Jerboa.*** Cooper, Kimberly L., Harvard Medical School Genetics, Boston, United States; Uygur, Aysu; Tabin, Clifford (Harvard Medical School, Boston, MA, United States)

222 **B42** ***Functional characterization of Dlx intergenic enhancers in the developing mouse.*** Esau, Crystal, University of Ottawa, Ottawa, Canada; Poitras, Luc; Yu, Man; Lesage-Pelletier, Cindy; Fazel Darbandi, Siavash; Ekker, Marc (University of Ottawa, Ottawa, Canada)

223 **B43** ***Ectodysplasin regulates activator-inhibitor balance in murine tooth development through modulation of Fgf20 signaling.*** Haara, Otso, Institute of Biotechnology, University of Helsinki, Finland, Helsinki, Finland; Harjunmaa, Enni; Lindfors, Päivi (Helsinki, Finland); Huh, Sung-Ho (St Louis, United States); Fliniaux, Ingrid; Åberg, Thomas; Jernvall, Jukka (Helsinki, Finland); Ornitz, David M. (St Louis, United States); Mikkola, Marja L.; Thesleff, Irma (Helsinki, Fi

224 **B44** ***Prenatal administration of dexamethasone during early pregnancy negatively affects placental development and function in mice.*** Lee, Ji-Yeon, Yonsei University College of Medicine, Seoul, Korea, Republic of; Park, Sung Joo; Kim, Sang Hoon; Kim, Myoung Hee (Yonsei University College of Medicine, Seoul, Korea, Republic of)

225 **B45** ***Live imaging analysis of dorsal aortae formation in the mouse gastrula embryo.*** Sanchez, Veronica, Rosalind and Morris Goodman Cancer Research Centre, Montreal, Canada; Yamanaka, Yojiro (The Rosalind and Morris Goodman Cancer Research Centre-McGill University, Montreal, PQ, Canada)

226 **B46** ***Tracking a rudimentary colon in the vertebrate lineage..*** Theodosiou, Nicole, Union College Dept of Biological Sciences, Schenectady, United States;

227 **B47** ***Conserved genetic mechanisms for bilaterian gut regionalization.*** Verardo, Andrew L., Georgetown University Biology, Washington, United States; Casey, Elena S (Georgetown University Biology, Washington, DC, United States)

228 **B48** ***Evolution of spinal cord expression and function of Lbx transcription factors..*** Juarez-Morales, Jose-Luis, Department of Biology, Syracuse University USA, Syracuse, United States; Weierud, Frida (Physiology, Development and Neuroscience Department, Cambridge University UK, Cambridge, United Kingdom); Lewis, Katharine (Department of Biology, Syracuse University USA, Syracuse, NY, United States)

229 **B49** ***Transcription factors with an ancient function in the specification of immunocytes.*** Solek, Cynthia M., University of Ottawa Department of Biology, Ottawa, Canada; Oliveri, Paola (University College London, London, United Kingdom); Rast, Jonathan (Sunnybrook Research Institute, Toronto, ON, Canada)

230 **B50** ***Role of ADAM metalloproteases in craniofacial development of Zebrafish.*** Cousin, Helene, Univ of Massachusetts Vet & Animal Sci, Amherst, United States;

231 **B51** ***Intracellular localization and regulation of matrix metalloproteinase 2 in zebrafish muscle.*** Fallata, Amina, University of New Brunswick, Fredericton, Canada;

232 **B52** ***Swim-training changes the spatio-temporal dynamics of skeletogenesis in zebrafish larvae (Danio rerio).*** Fiaz, Ansa, Wageningen University Experimental Zoology, Wageningen, Netherlands; Léon-Kloosterziel, Karen M.; Gort, Gerrit (Wageningen University, Wageningen, Netherlands); Schulte-Merker, Stefan (Hubrecht Institute-KNAW & UMC Utrecht and Wageningen University, Utrecht, Netherlands); van

Leeuwen, Johan L.; Kranenbarg, Sander (Wagening

427 **B25** ***Specification of the ascidian larval PNS.*** Zeller, Robert W., Chen, Jerry; Tang, Joyce, San Diego St Univ, San Diego, United States

429 **B127** ***A genetic circuit conferring robustness to dorsal patterning in Drosophila.*** Gavin-Smyth, Jackie, University of Chicago Ecology and Evolution, Chicago, United States; Ferguson, Chip (University of Chicago, Chicago, IL, United States)

430 **B128** ***Gastrulation in Drosophila melanogaster and Drosophila pseudoobscura: a comparison of folded gastrulation and T48 expression profiles.*** Hoang, Rachel, Haverford College Dept. of Biology, Haverford, United States; Arnold, Frederick J.; Dao, Kimberly; Garrett, William; Geratowski, Jill D.; Sohail, Faraz (Haverford College Dept of Biology, Haverford, PA, United States)

431 **B129** ***Dissecting physiologically and developmentally relevant genetic regulation of mammalian chromosome biology with murine interspecific backcrosses, Y chromosomes, unstable inverted repeat (IR) Sry loci, sex reversal phenotypes, viral Oris and HJ-replication.*** Nallaseth, Ferez S., Rutgers Univ, CABM Dept Molec Biol & Biochem, Piscataway, United States; Tracey, Martin L. (Division of Biological Sciences, Florida International University, Miami, FL, United States); Felder-Gibbions, Regina (Department of Microbiology and Immunology, DNA Core Facility, UMDNJ/Robert Wood Johnson Medical School, Piscataway, NJ, United States); Guo, Z. Sheng (University of Pittsburgh Cancer Institute, Pittsburgh, PA, United States); Whitney, III, J. Barry (Department of Cell and Molecular Biology, Augusta, GA, United States); Dewey, Michael J. (Department of Biological Sciences, University of South Carolina, Columbia, SC, United States); Ceci, Jeffrey D. (HJKRS, University of Buffalo, Buffalo, NY, United States); Han, In-Seob (Department of Biological Science, University of Ulsan, Ulsan, Korea, Republic of); DeLisio, Robert (Roche Institute of Molecular Biology, Roche Research Center, Nutley, NJ, United States); Woodbury, Dale (Ira B. Black Center for Stem Cell Research, Department of Neuroscience and Cell Biology, UMDNJ-RWJMS, Piscataway, NJ, United States); Schein, Lee Ann (Department of Microbiology and Immunology, DNA Core Facility, UMDNJ/Robert Wood Johnson Medical School, Piscataway, NJ, United States)

Gene Regulation

233 **B53** ***Epigenetic restriction of neural crest emigration by DNMT3B***. Hu, Na, Caltech BiologyPasadena, United States

234 **B54** ***Investigating the roles of the Argonaute CSR-1 in modulating chromatin and building kinetochores***. Wedeles, Christopher, U OF TToronto, Canada; Claycomb, Julie M. (U of T, Toronto, ON, Canada)

235 **B55** ***Dissecting the role of D2096.8/NAP-1 in small RNA-mediated chromatin regulation***. Francisco, Michelle Ann, University of TorontoToronto, Canada; Claycomb, Julie M. (University of Toronto, Toronto, ON, Canada)

236 **B56** ***Investigating the roles of Argonaute proteins in C. elegans development***. Wu, Monica, Toronto, Canada; Claycomb, Julie M. (Toronto, ON, Canada)

237 **B57** ***Investigating glial cell abnormalities in lpr-1 and let-4 mutants.*** Ayala, Jesus; Mancuso, Vincent P; Sundaram, Meera, Univ of Pennsylvania, Philadelphia, PA, United States

238 **B58** ***microRNA Regulation of Notch Signaling in Zebrafish Retinal and Vascular Development***. Olena, Abigail F., Vanderbilt University Biological SciencesNashville, United States; Thatcher, Elizabeth J. (University of Massachusetts Medical School, Worcester, MA, United States); Wittgrove, Carli M.; Patton, James G. (Vanderbilt University Biological Sciences, Nashville, TN, United States)

239 **B59** ***Identification and characterization of a long-range enhancer element in the dPax2 cone cell specific enhancer sparkling***. Evans, Nicole C., University of Michigan Cell and Developmental BiologyAnn Arbor, United States; Strom, Amy; Barolo, Scott (University of Michigan, Ann Arbor, MI, United States)

240 **B60** ***Multiple enhancers integrate patterning signals to drive rhombomere-specific gene expression in the hindbrain***. Gongal, Patricia, Ecole Normale Superieure Insitut de BiologieParis, France; Labalette, Charlotte; Le Men, Johan; Bouchoucha, Yassine; Gilardi-Hebenstreit, Pascale; Charnay, Patrick (Paris, France)

241 **B61** ***Identification of a 2.1 Mb region associated with the rumpless phenotype in the Araucana chicken breed***. Freese, Nowlan H., Clemson University Biological SciencesClemson, United States; Noorai, Rooksana; Clark, Leigh Ann; Chapman, Susan (Clemson University, Clemson, SC, United States)

242 **B62** ***Mutational and biochemical analysis of a UBX-responsive regulatory element***. Hersh, Brad; Biery, Amy; Sharpnack, William, Allegheny College BiologyMeadville, United States

243 **B63** ***Transcriptional repression of Fgf8 by retinoic acid signaling during early mouse embryogenesis***. Kumar, Sandeep; Duester, Gregg, Sanford-Burnham Med Research Institute, La Jolla, United States

244 **B64** ***The promoter regulates the dynamics of gene activation in development***. Lagha, Mounia, UC Berkeley, United States

245 **B65** ***Fhl1 promotes myogenesis of C2C12 in response to Wnt signaling***. Lee, Hu-Hui, National Chiayi

ersityChiayi City ,, Taiwan; Lee, Jing-Yu; Chien, I-Chun; Lin, Win-Yu; Wu, Shao-min; Wei, Bo-Huei; Lee, Yu-En, Univ Chiayi City, Taiwan

246 **B66** ***Novel enhancers regulate patched in Drosophila embryos***. Lorberbaum, David S.; Ramos, Andrea; Barolo, Scott, University of Michigan, Ann Arbor, United States

247 **B67** ***Tlx3 modulates Prrxl1 promoter activity via two distinct mechanisms***. Regadas, Isabel; Soares-dos-Reis, Ricardo; Matos, Mariana; Pessoa, Ana; Falcão, Miguel; A. Monteiro, Filipe; Lima, Deolinda; Reguenga, Carlos, University of Porto, Portugal

248 **B68** ***Meis gene regulation during embryonic development***. Zerucha, Ted; Barrett, Cody; Nelson, Kyle; Wellington, Allen, Appalachian State University, Boone, United States

249 **B69** ***Characterization of Sprouty2 cis-acting elements responsive to FGF and BMP signals***. Zhang, Ying; Lewandoski, Mark, National Cancer Institute CDBL/Genetics of Vertebrate Development Section, Frederick, United States)

250 **B70** ***Probing the endogenous HAND2 target gene range using next generation genome-wide approaches in mouse embryos***. Osterwalder, Marco, Univ . of Basel Developmental GeneticsBasel, Switzerland; Lopez-Rios, Javier (Department of Biomedicine, Basel, Switzerland); Kohler, Manuel; Beisel, Christian (D-BSSE, Basel, Switzerland); Zeller, Rolf (Department of Biomedicine, Basel, Switzerland)

251 **B71** ***Prdm1a regulation of the gene network for zebrafish neural crest specification***. Powell, Davalyn R.; Hernandez-Lagunas, Laura; Artinger, Kristin, University of Colorado Denver, Aurora, United States

B72 ***Withdrawn***

253 **B73** ***A characterization of regulatory linkages in a genetic network for a derived fruit fly trait.***. Butts, John C.; McNamee, Connor, University of Dayton, Dayton, United States; Rebeiz, Mark (University of Pittsburgh, Pittsburgh, United States); Williams, Thomas (University of Dayton, Dayton, United States)

254 **B74** ***Inspecting the regulatory architecture of a toolkit gene locus governing trait development and evolution***. Camino, Eric; Francis, Kaitlyn; Velky, Jordan; Williams, Thomas, University of Dayton, Dayton, United States

255 **B75** ***Fbxo16 Mediated Protein Degradation Regulates Neurogenesis in Xenopus laevis***. Saritas-Yildirim, Banu; Casey, Elena Silva, Georgetown University, Washington, DC, United States

256 **B76** ***Increased Levels of Hydrogen Peroxide Induce a HIF-1-dependent Remodeling of Lipid Metabolism in C. elegans***. Xie, Meng; Roy, Richard, McGill University, Montreal, Canada

257 **B77** ***AMPK is essential to mediate survival during nutrient stress in C.elegans***. Demoinet, Emilie; Mantovani, Julie; Roy, Richard, McGill University, Montreal, Canada

258 **B78** ***Regulation of Pax3 neural expression by the Wnt-Cdx pathway***. Sanchez, Oraly; Coutaud, Baptiste; Samani, Taraneh; Tremblay, Isabelle; Souchkova, Ouliana; Pilon, Nicolas, UQAM, Montreal, Canada

259 **B79** ***The transcription factor Sal-like 1 (Sall-1) is a direct transcriptional target of Wnt/beta-catenin signaling and regulates neural patterning along with morphogenesis.***. Young, John J.; Harland, Richard, University of California, Berkeley, United States

260 **B80** ***SOCS36E Attenuates STAT Signaling to Facilitate Proper Cell Migration in the Drosophila Ovary***. Monahan, Amanda; Starz-Gaiano, Michelle (University of Maryland in Baltimore County, Baltimore, United States

Functional Genomics

423 **B81** ***Identification of predominant pattern of co-regulation among kinetochore genes.*** Erliandri, Indri; Reinhold, William (National Cancer Institute, Bethesda, United States); Liu, Hongfang (Lombardi Cancer Centre, Washington, United States); Zopilli, Gabrielle (Department of Internal Medicine, Genoa, Italy); Pommier, Yves; Larionov, Vladimir (National Cancer Institute, Bethesda, United States)

262 **B82** ***Nematostella Reference Transcriptome and High Throughput Gene Regulatory Network Construction.*** Tulin, Sarah, MBL, Woods Hole, United States; Aguiar, Derek; Istrail, Sorin (Brown University, Computer Science Department, Providence, RI, United States); Smith, Joel (MBL, Woods Hole, MA, United States)

263 **B83** ***Functional Characterization of the Upstream Regulatory Regions of XMSR, a Gene Involved in Vascular and Neural Development.*** Brahe, Catherine A.; Saha, Margaret, The College of William and Mary, Williamsburg, United States

264 **B84** ***Genomic Copy Number Variation During Trophoblast Giant Cell Endoreplication.*** Hannibal, Roberta L.; Chuong, Edward; Baker, Julie, Stanford University, Stanford, United States

265 **B85** ***FACS-assisted deep sequencing of the zebrafish neural crest transcriptome.*** Hultman, Keith; LaBonne, Carole, Northwestern University, Evanston, United State)

266 **B86** ***Hearing regeneration: zebrafish as a model for a large-scale mutation screening.*** Pei, Wuhong; Varshney, Gaurav; Huang, Sunny; Liang, jin; Gildea, Derek; Wolfsberg, Tyra; Burgess, Shawn, NHGRI, NIH, Bethesda, United States

Intracellular Signaling Pathways

267	**B87**	***Extracellular regulation of FGF signaling in the early Xenopus embryo***. Acosta, Helena, Lund University, Lund, Sweden; Iliev, Dobromir; Min Grahn, Tan Hooi; Pera, Edgar M. (Lund University, Lund, Sweden)
	B88	***Withdrawn***
269	**B89**	***The relationship between centrosomal PKA and Hedgehog signaling***. Agbu, Stephanie, Sloan-Kettering Institute, New York, United States; Bazzi, Hisham; Anderson, Kathryn (Sloan-Kettering Institute, New York, NY, United States)
270	**B90**	***The role of hedgehog signaling pathway in the development of the mouse patellar tendon***. Liu, Chia-Feng; Aschbacher-Smith, Lindsey (Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States); Butler, David (University of Cincinnati, Cincinnati, OH, United States); Wylie, Christopher (Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States)
271	**B91**	***Drosophila G-protein-coupled receptor kinase 2 regulates cAMP-dependent Hedgehog signaling***. Maier, Dominic, IRCM, Montreal, Canada; Cheng, Shuofei; Hipfner, David (IRCM, Montreal, Canada)
272	**B92**	***Do Mek1 and Mek2 regulate distinct functions during mouse development?*** Aoidi, Rifdat, Centre de recherche en cancérologie de l'Université Laval, CRCHUQ, Québec, Canada; Catling, Andrew D (LSU Health Sciences Center, New Orleans, United States); Charron, Jean (Centre de recherche en cancérologie de l'Université Laval, CRCHUQ, Quebec, Canada)
273	**B93**	***Role of ERK/MAPK pathway in syncytiotrophoblast formation during the establishment the Blood-Placental Barrier***. Nadeau, Valerie; Charron, Jean, Centre de recherche en cancérologie de l'Université Laval, CRCHUQ, Quebec, Canada
274	**B94**	***A mass spectrometry-based approach to identify new interaction partners of the tyrosine phosphatase DEP-1***. Walser, Michael; Hajnal, Alex, University of Zurich, Switzerland)
275	**B95**	***Prioritized differentiation of stressed placental and embryonic stem cells***. Rappolee, Daniel; Xie, Yufen; Slater, Jill; Puscheck, Elizabeth; Zhou, Sichang Wayne State University, Detroit, United States
276	**B96**	***The f-box protein atrogin enhances foxo in Drosophila melanogaster***. Connors, Colleen; Staveley, Brian, Memorial University of Newfoundland, St. John's, Canada
277	**B97**	***JNK phosphorylation of hnRNP K is required for axon outgrowth during nervous system development in Xenopus laevis***. Hutchins, Erica J.; Szaro, Ben G., State University of New York, Albany, United States
278	**B98**	***Heterogeneous nuclear ribonucleoprotein K (hnRNP K) is crucial for the regeneration of Xenopus optic axons***. Szaro, Ben G.; Liu, Yuanyuan; Yu, Hurong, State University of NY at Albany, United State)
279	**B99**	***Buffy rescues and debcl enhances a-synuclein induced phenotypes in Drosophila***. M'Angale, Peter; Staveley, Brian, Memorial University, St. John's, Canada
280	**B100**	***The role of calcium signaling and voltage-gated calcium channels in neurotransmitter phenotype specification***. Schleifer, Lindsay; Lewis, Brittany; Saha, Margaret, College of William and Mary, Williamsburg, United States
281	**B101**	***Identification and functional characterization of Nrdp1 as a potential new regulator of planar cell polarity signaling***. Hutchinson, Sarah; Trinh, Jason; Naito, Mizue; Ciruna, Brian, The Hospital for Sick Children, Toronto, Canada
282	**B102**	***The adhesion GPCR Gpr125 modulates Dishevelled distribution and planar cell polarity signaling***. Li, Xin, Vanderbilt University, Nashville, United States; Sepich, Diane (WUSTL, St. Louis, United States); Ni, Mingwei (Flushing, United States); Hamm, Heidi (Nashville, United States); Marlow, Florence L. (Bronx, New York, United States); Solnica-Krezel, Lilianna (St. Louis, United States)
	B103	
284	**B104**	***Investigation of novel hypomorphic alleles of akt in Drosophila melanogaster***. Slade, Jennifer; Staveley, Brian, Memorial University, St. John's, Canada)
285	**B105**	***Regulation of vesicle endocytosis and acidification by Rabconnectin-3a in zebrafish neural crest migration***. Tuttle, Adam M.; Hoffman, Trevor; Schilling, Tom, Univ. of California Irvine, United States
432	**B130**	***Mechanisms of ROS mediated longevity in C. elegans.*** Yee, Callista; Yang, Wen; Hekimi, Siegfried, McGill University, Montreal, Canada
433	**B131**	***Characterising the role of a regulator of G protein signalling in cranial sensory ganglia formation.*** Fleenor, Stephen; Begbie, Jo, University of Oxford, Oxford, United Kingdom
434	**B132**	***The Role of NFAT/calcium Pathway During Kidney Development and Polycystic Kidney Disease.*** Saban, Jeremy; Miller, Michelle; Corsini, Rachel; Iglesias, Diana; Goodyer, Paul (MCHRI, Westmount, Canada)
435	**B133**	***TNF regulates dual death pathways in mice at E10.5.*** Dillon, Christopher; Oberst, Andrew; Weinlich, Ricardo; Janke, Laura; Green, Douglas, St. Jude Children's Research Hospital, Memphis, United States
436	**B134**	***Gata3 antagonizes prostate cancer progression through modulation of PI3K-Akt pathway.*** Tremblay, Mathieu, McGill University Biochemistry, Montreal, Canada; Nguyen, Alana (McGill University Montreal,

Canada); Haigh, Katharina (Ghent University, Ghent, Belgium); Koumakpayi, Ismael Herve (Université de Montréal, Montreal, Canada); Paquet, Marilene (McGill University, Montreal, Canada); Pandolfi, Pier Paolo (Harvard University, Boston, United States); Mes-Masson, Anne-Marie (Université de Montréal, Montreal, Canada); Saad, Fred (Université de Montreal, Montreal, Canada); Haigh, Jody J. (Ghent University, Ghent, Belgium); Bouchard, Maxime (McGill University Goodman Cancer Research Center, Montreal, Canada)

Molecular Medicine and Development

286 **B106** ***Modulation of Smooth Muscle Contraction in the Zebrafish Intestine by the High Molecular Weight Caldesmon Isoform***. Abrams, Joshua M.; Davuluri, Gangarao; Seiler, Christoph; Pack, Michael, Philadelphia, United States

287 **B107** ***The Integrity of the Hippocampus in SIV-infected Infant Primates***. Burke, Mark; Curtis, Kimberly; Carryl, Heather; Haddad, Georges, College of Medicine, Howard University, Washington, United States; Abel, Kristina (School of Medicine, University of North Carolina, Chapel Hill, United States)

288 **B108** ***Temporal polar and anterior cingulate cortical thinning in psychopath offenders***. Calzado, Ana, Institute of Legal Medicine, Havana City, Cuba; Valdes-Sosa, Mitchell; Alvarez-Amador, Alfredo; Galán-García, Lídice; Melie-García, Lester; Alemán-Gómez, Yasser (Cuban Center of Neuroscience, Havana City, Cuba)

289 **B109** ***Identification of MPPED1 as a protein interacting with human FOXP2 R553H mutant protein associated with speech and language disorder***. Liu, Fu-chin; Chen, Yi-Chuan; Fong, Weng-Lam; Lu, Kuan-Ming, National Yang-Ming University, Taipei, Taiwan

290 **B110** ***A molecular and genetic approach to identifying a clinical rabbit craniosynostotic model and its relevance to craniofacial development***. Gallo, Phillip, University of Pittsburgh, Pittsburgh, United States; Cray Jr, James (Augusta, GA, United States); Durham, Emily; Losee, Joseph; Mooney, Mark; Cooper, Gregory; Kathju, Sandeep (Pittsburgh, PA, United States)

291 **B111** ***Effect of low molecular weight chitosan oligosaccharides reduces pulmonary fibrosis in a Bleomycin mouse model***. Hong, Heejoo, Gachon University, Inchon, Korea, Republic of; Kim, Ji sun; Kim, Sung Won; Park, Soo Jong; Park, Cheol Ho; Park, Jae Kweon; Hwang, You Hin; Kim, Dae Yong (Gachon University, Inchon, Republic of Korea)

292 **B112** ***Identification of KLF13 interacting partners in the heart***. Darwich, Rami; Nemer, Mona (University of Ottawa, Ottawa, Canada)

293 **B113** ***Essential role for KLF13 in heart development***. Yamak, Abir, University of Ottawa, Ottawa, Canada; Hayek, Salim (Emory University, Atlanta, United States); Maharsy, Wael; Darwich, Rami; Komati, Hiba (University of Ottawa, Ottawa, Canada); Andelfinger, Gregor (Sainte Justine Hospital, Montreal, Canada); Nemer, Mona (University of Ottawa, Ottawa, Canada)

294 **B114** ***Akt mediates acute alcohol inotropic effects on the heart***. Haddad, Georges, Howard University, Washington, United States; Walker, Robin; Cousins, Valerie; Umoh, Nsini; Burke, Mark (Howard University, Washington, DC, United States)

295 **B115** ***A Xenopus-based system to study the biochemical and genetic etiology of Fetal Alcohol Spectrum Disorder***. Fainsod, Abraham, Faculty of Medicine, Hebrew University Developmental Biology and Cancer Research, Jerusalem, Israel; Shabtai, Yehuda (Faculty of Medicine, Hebrew University of Jerusalem, Jerusalem, Israel)

296 **B116** ***Human BMP receptor mutations causing fibrodysplasia ossificans progressiva lead to ligand-independent receptor activation in zebrafish embryos***. Mucha, Bettina E, Division of Human Genetics and Molecular Biology, and Division of Biochemical Genetics, Philadelphia, United States; Zinski, Joseph; Hashiguchi, Megumi (Department of Cell and Developmental Biology, Philadelphia, PA, United States); Shore, Eileen M (Departments of Orthopedic Surgery and Genetics, and the Center for Research in FOP and Related Disorders, Philadelphia, PA, United States); Mullins, Mary C (Department of Cell and Developmental Biology, Philadelphia, PA, United States)

297 **B117** ***GATA4 A New Biomarker for Rhabdomyosarcoma ?*** Nemer, Georges; Haidar, Wiam; Saab, Raya, American University of Beirut, Beirut, Lebanon; Nemer, Mona (University of Ottawa, Ottawa, Canada)

298 **B118** ***The Gene Expression Database (GXD): a resource of mouse gene expression data for developmental biologists***. Xu, Jingxia; Smith, Constance; Finger, Jacqueline; Hayamizu, Terry; McCright, Ingeborg; Chu, Jianhua; Eppig, Janan; Kadin, James; Richardson, Joel; Ringwald, Martin, The Jackson Laboratory, Bar Harbor, United States

299 **B119** ***The chromatin-remodelling factor CHD7 controls multiple developmental programmes during development of the cerebellum***. Basson, M. Albert; Yu, Tian; Danielsen, Katrin; Shah, Apar; Smachetti, Eugenia; Scambler, Peter, Department of Craniofacial Development, London, United Kingdom

300 **B120** ***The inhibition of Tenascin-C, well-known for its role in regeneration and development, through RNAi in breast cancer***. Young Hoon, Park; Seul Ki Na, Lee; Hyo Sang, Park; Yun Jeong, Choi; Su A, Kang; Dae

Young, Kim; You Jin, Hwang, Gachon University, Incheon, Republic of Korea

420 **B121** ***A mouse model for juvenile hydrocephalus.*** Appelbe, Oliver; Glick, Elena; Ramalie, Jenniffer; Steshina, Ekaterina; Attarwala, Ali; Triebes, Lindy; Schmidt, Jennifer, University of Illinois at Chicago, Chicago, United States

421 **B122** ***The Bardet-Biedl syndrome modifier CCDC28B participates in ciliogenesis and modulates mTORC2 function.*** Cardenas, Magdalena, Institut Pasteur de Montevideo, Montevideo, Uruguay; Osborn, Daniel P.S. (Institute of Child Health, University College London, London, United Kingdom); Irigoín, Florencia; Gascue, Cecilia (Institut Pasteur de Montevideo, Montevideo, Uruguay); Katsanis, Nicholas (Center for Human Disease Modeling, Duke University, Durham, NC, United States); Beales, Philip L. (Institute of Child Health, University College London, London, United Kingdom); Badano, José L. (Institut Pasteur de Montevideo, Montevideo, Uruguay)

422 **B123** ***Dosage effect of Six3 in the pathogenesis of holoprosencephaly.*** Geng, Xin; Oliver, Guillermo, St. Jude Children's Research Hospital, Memphis, United States

Fertilization

437 **B135** ***Exploring the roles of two ciliary genes, Cluap1 and Ccdc42, in mammalian development and reproduction***. Pasek, Raymond, University of Alabama at Birmingham, Birmingham, United States; Laura L. Tres; Neeraj Sharma1, Robert A. Kesterson (Univ of Alabama at Birmingham); Abraham L. Kierszenbaum (The City Univ of New York Med Sch.); Bradley K. Yoder ((Univ of Alabama at Birmingham)

Poster Session III

Sunday, July 22, 12:45-3:45 pm

Author Presentation Odd poster board numbers: 12:45 -2:15 pm
Even poster board numbers: 2:15 -3:45 pm

Set-up: July 21, 3:45-6 pm, July 22, 7:30 am-12 pm Tear down: July 22, 3:45-4:30 pm

Poster Themes: Patterning and Transcription Factors – Early Embryo Patterning – Cell Motility – Cell Fate Specification – Late Abstracts

italics – program abstract number **B#** - poster board number

Patterning and Transcription Factors

301 **B1** ***Dual roles for canonical and non-canonical Wnt signaling in craniofacial development and patterning.***. Alexander, Courtney, University of California, Irvine, Irvine, United States; Piloto, Sarah; Schilling, Thomas (Irvine, United States)

302 **B2** ***The levels of Sox21 alter its function in neurogenesis***. Whittington, Niteace C., Georgetown University Biology, Washington, United States; Cunningham, Doreen; Casey, Elena S. (Georgetown University, Washington, DC, United States)

303 **B3** ***Relationship between Calcium Activity, Neurotransmitter Phenotype, and Expression of the Transcription Factor Ptf1a in the Developing Xenopus laevis Retina***. Allen, Chelsea, The College of William and Mary, Williamsburg, United States; Saha, Margaret (The College of William and Mary, Williamsburg, VA, United States)

304 **B4** ***Lineage Commitment and Differentiation of Renal Progenitor Cells***. Sharma, Richa, Goodman Cancer Centre, Mcgill University, Montreal, Canada; Bouchard, Maxime (Goodman Cancer Centre, Mcgill University, Montreal, PQ, Canada)

305 **B5** ***Kruppel-like factor 5 is Required for Villus Morphogenesis and Terminal Differentiation of the Intestinal Epithelium***. Bell, Sheila, Cincinnati Children's Hospital Medical Center, Cincinnati, United States; Zhang, Liqian (Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States); Xu, Yan (Cincinnati, United States); Whitsett, Jeffrey (Cincinnati, OH, United States)

306 **B6** ***KIF17 controls the ciliary localization of GLI2 and GLI3***. Carpenter, Brandon S., University of Michigan Cell and Developmental Biology, Ann Arbor, United States; Blasius, Teresa; Verhey, Kristen; Allen, Benjamin (Ann Arbor, United States)

307 **B7** ***Negative regulation of Epidermal Growth Factor Receptor signalling in the Drosophila ovary***. De Vito, Scott, , Outremont, Canada; Biosclair Lachance, Jean-François (Chicagp, U.S.A.); Fregoso Lomas, Mariana (Montreal, PQ, Canada); Nilson, Laura (Montreal, Canada)

B8

309 **B9** ***Cdx1 and Cdx2 have context dependent functional specificity in the intestine***. Grainger, Stephanie L., University of Ottawa Cellular & Molecular Medicine, Ottawa, Canada; Hryniuk, Alexa (Ottawa, ON,

Canada); Lohnes, David (Department of Cellular and Molecular Medicine, Ottawa, ON, Canada)

310 **B10** ***Cdx and FGF interactions establish a molecular switch for posterior nervous system specification***. Hayward, Albert, University of Miami, Coral Gables, United States; Skromne, Isaac (University of Miami, Coral Gables, FL, United States)

311 **B11** ***Interneuron Specification in Zebrafish Spinal Cord***. Hilinski, William, SUNY Upstate Medical University, Syracuse, United States; England, Samantha; Jager, Sarah; Rodriguez-Larrain, Gisella; Lewis, Kate (Syracuse Unviersity, Syracuse, NY, United States)

312 **B12** ***Specific Requirement of Floor Plate Shh in Spinal Cord Development***. Kwanha, Yu, UMDNJ-Piscataway Neuroscience and Cell Biology, Piscataway, United States; Matise, Michael (Piscataway, NJ, United States)

313 **B13** ***PTCH1, PTCH2, and HHIP1 Feedback Antagonism is Required for Hedgehog-Dependent Vertebrate Neural Patterning***. Holtz, Alexander M., University of Michigan Cell and Molecular Biology, Ann Arbor, United States; McMahon, Andrew P. (Harvard University, Cambridge, MA, United States); Allen, Benjamin L. (University of Michigan, Ann Arbor, MI, United States)

314 **B14** ***Endodermal requirement for Prdm1 in mouse craniofacial development***. Lamonica, Kristi, UC Denver Dept of Craniofacial Biology, Aurora, United States; Clouthier, David; Artinger, Kristin (UC Denver Department of Craniofacial Biology, Aurora, CO, United States)

315 **B15** ***Reciprocal repression of Six1/Eya1 and Irx1 in the pre-placodal ectoderm, the embryonic precursor of cranial sensory organs***. Sullivan, Charles H., Grinnell Col Dept of Biol, Grinnell, United States; Neilson, Karen M.; Moody, Sally A. (George Washington University Medical Center, Washington, DC, United States)

316 **B16** ***Examining the role of C. elegans forkhead genes in neuron development***. Nelms, Brian, Fisk University, Nashville, United States; Smith, Erica; Ridgeway, Naccolaine (Fisk University, Nashville, TN, United States)

317 **B17** ***Foxa Genes in the Development of the Intervertebral Disk***. Maier, Jennifer, Univ of Florida Molecular, Genetics & Microbiol, Gainesville, United States; Lo, Yinting; Harfe, Brian (University of Florida, Dept. of Molecular Genetics & Microbiology, Gainesville, United States)

318 **B18** ***Irx3 and Irx5 homeobox genes link the anteroposterior and proximodistal axes prior to hindlimb formation***. Li, Danyi, Department of Molecular Genetics, University of Toronto, Toronto, Canada; Sakuma, Rui (Program in Developmental & Stem Cell Biology, The Hospital for Sick Children, Toronto, Canada); Vakili, Niki (Department of Molecular Genetics, University of Toronto, Toronto, Canada); Mo, Rong; Hopyan, Sevan (Program in Developmental & Stem

319 **B19** ***Hyaluronic Acid Synthase 2 expression in the limb mesenchyme is regulated by Shh and plays an essential role in joint pattern formation***. liu, jiang, vanderbilt university, Nashville, United States; li, qiang (The University of Texas at Austin, Austin, TX, United States); Litingtung, Ying (vanderbilt university, Nashville, TN, United States); Vokes, Steven (The University of Texas at Austin, Austin, TX, United States); Chiang, Chin (vanderbilt univer

320 **B20** ***Characterizing the Role of Pitx1, Tbx4 and Tbx5 Genes in Regulation of Limb Growth, Patterning and Identity***. Nemec, Stephen, Institut de recherches cliniques de Montréal, Montreal, Canada; Drouin, Jacques (Institut de recherches cliniques de Montréal, Montreal, PQ, Canada)

321 **B21** ***Identification of Pitx2c N-terminal domain interacting proteins***. Wong, Shian Yea, RI-MUHC Human Genetics, Montreal, United States; Siontas, Dora; Ryan, Aimee (Montreal, PQ, Canada)

322 **B22** ***Dynamic CREB Activity Coordinates the Formation and Patterning of Mammalian Somites***. Lopez, T Peter, Johns Hopkins University, Baltimore, United States; Fan, Chen-Ming (Carnegie insitution for Science Department of Embryology and Johns Hopkins Univerisity Deptarment of Biology, Baltimore, MD, United States)

323 **B23** ***A role for long-chain polyunsaturated fatty acid metabolism in zebrafish dorsoventral patterning and BMP receptor-regulated Smad activity***. Farber, Steven, Carnegie Institution, Baltimore, United States; Miyares, Rosa Linda (Carnegie Institution for Science, Baltimore, MD, United States); Stein, Cornelia (University of Cologne, Cologne, Germany); Hammerschmidt, Matthias (Cologne, Germany)

324 **B24** ***Foxh1-Groucho Transcriptional Switching and Spatiotemporal Regulation of Nodal Expression During Early Embryonic Development***. Halstead, Angela M., Vanderbilt University Cell and Developmental Biology, Nashville, United States; Wright, Chris (Nashville, TN, United States)

325 **B25** ***A Sub-Circuit of the Sea Urchin GRN Integrates Spatial Information to Pattern the Embryonic skeleton***. McIntyre, Daniel C., Duke University Biology, Durham, United States; McClay, David (Duke University, Durham, NC, United States)

326 **B26** ***Gata3 regulates branching morphogenesis and differentiation of the developing prostate.***. Nguyen, Alana, McGill University, Boston, United States; Beland, Melanie (University of Quebec at Montreal (UQAM), Montreal, PQ, Canada); Bouchard, Maxime (McGill University, Montreal, PQ, Canada)

	B27	
328	**B28**	***Novel Shadow Enhancers Regulate HoxB Gene Expression During Heart and Gut Development***. Nolte, Christof D., Stowers Institute for Medical Research Robb Krumlauf Lab, Kansas City, United States; Krumlauf, Robb (Stowers Institute for Medical Research, Kansas City, MO, United States)
329	**B29**	***The role of Hoxa3 in the developing 3rd pharyngeal pouch endoderm and its derivatives, early and late***. Chojnowski, Jena L., University of Georgia Genetics, Athens, United States; Masuda, Kyoko; Trau, Heidi; Manley, Nancy (University of Georgia, Athens, GA, United States)
43	**B112**	***Investigating body axis extension in the mouse embryo using a single-cell resolution fluorescent Wnt reporter.*** Ferrer Vaquer, Anna; Tian, Guangnan; Hadjantonakis, Anna-Katerina, Sloan-Kettering Institute, New York, United States
458	**B113**	***The function of Sox11 in neurogenesis.*** Jin, Jing, Georgetown University, Washington, United States; Kubiak, Jeffrey (University of Pennsylvania, Philadelphia, United States); Casey, Elena (Georgetown University, Washington, United States)
459	**B114**	***Identifying the Critical Amino Acids of SOBP that Mediate Interaction with the Transcriptional Regulator Sine oculis.*** Kenyon, Kristy L.; Monaco, Brian, Hobart and William Smith Colleges, Geneva, United States; Moody, Sally (George Washington University, Washington, United States); Pignoni, Francesca (Syracuse, NY, United States); Stout, Josephine (Hobart and William Smith Colleges, Geneva, United States)
460	**B115**	***A role for Casz1, a homolog of the Drosophila fate determination gene Castor, in murine retinal development.*** Mattar, Pierre, IRCM, Montréal, Canada; Blackshaw, Seth (Johns Hopkins University School of Medicine, Baltimore, United States); Cayouette, Michel (IRCM, Montréal, Canada)

Early Embryo Patterning

330	**B30**	***The E protein E2a/TCF3 plays an essential role in Nodal signaling transduction.*** Wills, Andrea, , Stanford, United States; Yoon, Se-Jin; Chuong, Edward; Gupta, Rakhi; Gonzalez-Maldonado, Eduardo; Baker, Julie (Stanford, CA, United States)
331	**B31**	***A functional assay for paternal genome activation during early Arabidopsis embryogenesis.*** Del Toro, Gerardo, CINVESTAV-IPN LANGEBIO, Irapuato, United States; Gillmor, Stewart (Langebio, CINVESTAV-IPN, Irapuato, Mexico)
332	**B32**	***Effect of high glucose concentration on the expression of matrix metalloproteinase 9 and its inhibitor TIMP-1 during blastocyst development in vitro..*** Baiza-Gutman, Luis, UNAM, Tlalnepantla, Mexico; Sánchez Santos, Alejandra; Martínez Hernández, María Guadalupe (FES Iztacala, UNAM, Tlalnepantla, Mexico)
333	**B33**	***Effect of high glucose concentration on reactive oxygen species and the expression of urokinase plasminogen activator and its inhibitor PAI-1 in cultured mouse blastocyst..*** Sánchez Santos, Alejandra, FES Iztacala, UNAM, Tlalnepantla, Mexico; Martínez Hernández, María Guadalupe (FES Iztacala, UNAM, Tlalnepantla, Mexico); Contreras Ramos, Alejandra (Laboratorio de Biología del Desarrollo y Teratogénesis Experimental, Hospital Infantil de México, Federico Gómez., México, DF, Mexico); Ortega Camarillo, Clara (Unidad de Investigación Médica en Bioquímica, Hospital de Especialidades, Centro Médico Nacional Siglo XXI, IMSS, México, DF, Mexico); Baiza-Gutman, Luis Arturo (FES Iztacala, UNAM, Tlalnepantla, Estado de México, Mexico)
334	**B34**	***The role of Lkb1 in the control of cell polarity and epithelial morphogenesis in the pre-implantation mouse embryo.*** Krawchuk, Dayana, McGill University Human Genetics, Montreal, Canada; Yamanaka, Yojiro (McGill University Human Genetics, Montréal, Canada)
335	**B35**	***Identification of ectodermal cells during early mouse embryonic development and EpiSC differentiation.*** Li, Lingyu, The Hospital for Sick Children, Toronto, Canada;
336	**B36**	***Essential roles for Aurora A in mouse embryonic and extraembryonic development.*** Yoon, Yeonsoo, University of Massachusetts Medical School, Worcester, United States; Cowley, Dale (Research Triangle Park, NC, United States); Van Dyke, Terry (National Cancer Institute, Frederick, MD, United States); Rivera-Perez, Jaime (University of Massachusetts Medical School, Worcester, MA, United States)
337	**B37**	***Sp5l is a novel transcription factor involved in the development of left-right asymmetry in zebrafish.*** Inglis, Rachael, University of Cambridge, Cambridge, United Kingdom; Cutty, Stephen; Soong, Daniel (King's College London, London, United Kingdom); Tay, Hwee Goon; Amack, Jeffrey (SUNY Upstate Medical University, Syracuse, NY, United States); Wardle, Fiona (King's College London, London, United Kingdom)
338	**B38**	***Vacuolar Type (H)-ATPase in Zebrafish Left-Right Asymmetric Development..*** Gokey, Jason; Amack, Jeffrey (SUNY Upstate Medical University, Syracuse, United States)
339	**B39**	***The role of the adherens junction protein aN-catenin in cranial ganglia formation.*** Hooper, Rachel; Taneyhill, Lisa (University of Maryland, College Park, United States)

340 **B40** ***FOXA2 Regulates cell behaviors to induce median hinge point in the neural plate.*** Amarnath, Smita; Bayly, Roy; Eom, Dae Seok; Agarwala, Seema (University of Texas at Austin, TX, United States)

341 **B41** ***Coordination between canonical and non-canonical Wnt signaling patterns the neuroectoderm along the anterior-posterior axis of the sea urchin embryo.*** Range, Ryan, National Institutes of Health NIDCR, Bethesda, United States; Angerer, Robert; Angerer, Lynne (National Institutes of Health NIDCR, Bethesda, MD, United States)

447 **B42** ***A putative role for Yap1 phosphorylation during trophoblast differentiation in the laboratory opossum, Monodelphis domestica.*** Safa, Nadia (Oberlin College, Oberlin, OH, United States)

343 **B43** ***Multiple Wnt signaling phenotypes in Porcupine homolog mutant mouse embryos.*** Biechele, Steffen, Sickkids Research Institute Developmental & Stem Cell Biology, Toronto, Canada; Cox, Brian J. (University of Toronto, Department of Physiology, Toronto, Canada); Lanner, Fredrik; Rossant, Janet (The Hospital for Sick Children Research Institute, Developmental & Stem Cell Biology, Toronto, Canada)

448 **B44** ***O-fucosylation regulates zebrafish dorsal-ventral patterning by inhibiting BMP signaling.*** Feng, Lei; Jiang, Hao; Marlow, Florence; Wu, Peng (Albert Einstein College of Medicine, Bronx, United States)

344 **B45** ***Retinoic acid is required for head development and is involved in syndromes with craniofacial malformations.*** Gur, Michal, The Hebrew University of Jerusalem, Jerusalem, Israel; Pillemer, Graciela (Jerusalem, Israel); Niehrs, Christof (Hidelberg, Germany); Fainsod, Abraham (Jerusalem, Israel)

345 **B46** ***The role of maternal Dpp/BMP pathway in the early Drosophila embryo..*** Fontenele, Marcio, , Rio de Janeiro, Brazil; Pentagna, Nathalia; Araujo, Helena (Rio de Janeiro, Brazil)

346 **B47** ***Split top: A Maternal Regulator of Dorsal-Ventral Patterning and Cell Migration in Zebrafish.*** Langdon, Yvette G., University of Pennsylvania Cell and Development, Philadelphia, United States; Gupta, Tripti (Cambridge, MA, United States); Marlow, Florence (Bronx, NY, United States); Abrams, Elliott (421 Curie Blvd, PA, United States); Mullins, Mary (Philadelphia, PA, United States)

449 **B48** ***Role of acyl Co-A synthases in Drosophila embryonic development.*** Johri, Shaili; Letsou, Anthea (University of Utah, Salt Lake City, UT, United States)

348 **B49** ***A Novel, Maternally Expressed Gene, SMCR7L1, Is Important For Xenopus Early Development.*** Grant, Paaqua A., The George Washington University Biology, Arlington, United States; Johnson, Diana (The George Washington University, Washington, DC, United States); Moody, Sally (The George Washington School of Medicine and Health Sciences, Washington, DC, United States)

349 **B50** ***DV and AP axial patterning are coordinated by an identical patterning clock.*** Hashiguchi, Megumi, University of Pennsylvania Cell and Developmental Biology, Philadelphia, United States; Mullins, Mary (University of Pennsylvania, Philadelphia, PA, United States)

350 **B51** ***Characterization of the Presomitic Mesoderm Progenitor Cell and its Niche.*** Jakuba, Caroline M., University of Connecticut Molecular and Cell Biology, Storrs, United States; Kudra, Randy; El-Sessi, Sahar; Mandoiu, Ion; Nelson, Craig (Storrs, United States)

351 **B52** ***Roles of Noggin, a BMP antagonist, in development of craniofacial skeletal elements.*** Matsui, Maiko, Duke University, Durham, United States; Klingensmith, John (Duke University, Durham, NC, United States)

352 **B53** ***Effects of Methoxychlor (MXC) on Expression of SOX9/WNT4 Genes in Development of the Male Reproductive System.*** Soo Jung, Park, Gachon University of Medicine and Science, Incheon, Korea, Republic of; Sung Won, Kim; Cheol Ho, Park; You Jin, Hwang; Dae Young, Kim (Gachon University of Medicine and Science, Incheon, Korea, Republic of)

353 **B54** ***Retinoic acid role in forelimb initiation is mediated by repression of axial FGF signaling.*** Cunningham, Thomas J., Sanford-Burnham Med Research Institute Development and Aging, La Jolla, United States; Sandell, Lisa (Louisville, KY, United States); Evans, Silvia (La Jolla, United States); Trainor, Paul (Kansas City, MO, United States); Duester, Gregg (La Jolla, CA, United States)

450 **B105** ***Timing of southpaw initiation in lateral plate mesoderm is altered in ccdc40 and pkd2 morphants.*** McSheene, Jason; Burdine, Rebecca, Princeton University, Princeton, United States

451 **B106** ***The integrator complex subunit 6 is a negative regulator of the vertebrate organizer.*** Kapp, Lee D.; Abrams, Elliott; Marlow, Florence; Mullins, Mary, Univ of Pennsylvania School of Medicine, Philadelphia, United States

452 **B107** ***PIAS-like protein Zimp7 is required for Zebrafish organizer formation and dorsal mesoderm development.*** Moreno, Roberto; Schnabel, Denhi; Salas, Enrique; Lomelí, Hilda, Institute of Biotechnology, National Autonomous University of Mexico, Cuernavaca, Mexico

453 **B108** ***Direct visualization of retinoic acid gradients in zebrafish embryos.*** Sosnik, Julian; Gratton, Enrico; Schilling, Thomas, University of California Irvine, United States;

454 **B109** ***The role for proteoglycans in regulating early embryonic patterning and ,orphogenesis.*** Superina, Simone; Ciruna, Brian, Hospital for Sick Children, Toronto, Canada

455 **B110** ***The role of HSPG in anterior-posterior axis formation.*** Yamamoto, Masamichi, Gunma University,

maebashi-city, Gunma, Japan

Cell Motility and Guidance

354 **B55** ***Spot, a new mouse model for Hirschsprung disease and Waardenburg-Shah syndrome.*** Bergeron, Karl-Frederik, UQAM Sciences Biologiques, Montreal, United States; Silversides, David W. (Centre de recherche en reproduction animale (CRRA), St-Hyacinthe, Canada); Pilon, Nicolas (UQAM, Montreal, Canada)

355 **B56** ***cAMP promotes retinal midline crossing by regulating Nrp1 expression.*** Dell, Alison, University of Pennsylvania, Philadelphia, United States; Xu, Hong (Nanchang University, Nanchang, China); Raper, Jonathan (University of Pennsylvania, Philadelphia, PA, United States)

356 **B57** ***Tetraspanin18 restricts neural crest migration by stabilizing epithelial Cadherin6B.*** Fairchild, Corinne L., Univ of Minnesota-Twin Cities Genetics, Cell Bio, Development, Minneapolis, United States; Gammill, Laura (Minneapolis, MN, United States)

357 **B58** ***Paladin is an antiphosphatase that modulates neural crest formation and migration.*** Gammill, Laura S., University of Minnesota Genetics, Cell Biology & Development, Minneapolis, United States; Roffers-Agarwal, Julaine; Hutt, Karla (University of Minnesota, Minneapolis, MN, United States)

358 **B59** ***Loss-of-function analysis of RAC1 function in development of the zebrafish olfactory bulb.*** Horne, Jack, Pace University Biology, Pleasantville, United States; Fisher, Kelly (Pace University, Pleasantville, NY, United States)

359 **B60** ***The methyltransferase NSD3 is required for neural crest migration.*** Jacques-Fricke, Bridget, University of Minnesota Genetics, Cell Biology and Development, Minneapolis, United States; Gammill, Laura (Minneapolis, MN, United States)

360 **B61** ***The interplay of actomyosin contraction and post-translationally modified microtubules regulates adhesion maturation and cell migration.*** Joo, E. Emily, NIH/NIDCR/CBS, Bethesda, United States; Yamada, Kenneth (NIH/NIDCR/CBS, Bethesda, MD, United States)

361 **B62** ***Golgi orientation directs early cerebellar Purkinje cells migration through axon specification.*** Kwan, Kin Ming, School of Life Sciences, The Chinese University of Hong Kong, Shatin, Hong Kong; Au, June Sin Man (School of Life Sciences, The Chinese University of Hong Kong, Sha Tin, Hong Kong)

362 **B63** ***Characterizing M9.17, a strong dominant enhancer of the trio and abl mutant phenotypes.*** Liebl, Eric C., Denison University Dept of Biol, Granville, United States; Dean, Katie; Fields, April; Geer, Marcus; King, Eric (Granville, OH, United States); Lynch, Brian; Palozola, Katie; Steenkiste, Elizabeth; Zhang, Yan (Granville, United States)

363 **B64** ***TrkB, TRPC3, and Ca2+ Regulation of Primary Afferent Extension in the Embryonic Avian Spinal Cord.*** McNamara, Michelle A., University of Vermont Neuroscience, Burlington, United States; Ezerman, Elizabeth; Romaner, Brian; Clason, Todd; Forehand, Cynthia (University of Vermont, Burlington, VT, United States)

364 **B65** ***Cdc42ep1 facilitates the efficient migration of cranial neural crest cells.*** Nie, Shuyi, , Pasadena, United States;

457 **B66** ***Role of zebrafish Vangl2, a Wnt/Planar Cell Polarity pathway component, in cell behaviors underlying convergence and extension gastrulation movements.*** Roszko, Isabelle, Washington University School of Medicine, St. Louis, United States; Jessen, Jason R (Vanderbilt University, Nashville, U.S.A.); Sepich, Diane; Solnica-Krezel, Lilianna (Washington University School of Medicine, St Louis, United States)

365 **B67** ***Proteolytic processing of cadherins in chick cranial neural crest cells.*** Schiffmacher, Andrew T., University of Maryland, College Park Animal and Avian Sciences, College Park, United States; Taneyhill, Lisa (University of Maryland, College Park, College Park, MD, United States)

366 **B68** ***Regulation of Slit-Robo Signaling by Comm-family Members in Insects.*** Seeger, Mark, , Columbus, United States; Carver, Laura; Jowdy, Casey (Columbus, United States)

367 **B69** ***Behavioral phenotypes after selective abrogation of Arx from the developing dorsal telencephalon.*** Simonet, Jacqueline C., University of Pennsylvania Cell and Developmental Biology, Philadelphia, United States; Marsh, Eric; Golden, Jeffrey (Children's Hospital of Philadelphia, Philadelphia, PA, United States)

368 **B70** ***A screen to identify interactors of the antiphosphatase Paladin in the neural crest.*** Stronge, Edward J., University of Minnesota, Minnneapolis, United States; Roffers-Agarwal, Julaine; Gammill, Laura S. (University of Minnesota, Minnneapolis, MN, United States)

369 **B71** ***TashT: A New Model for Hirschsprung Disease.*** TOURE, Aboubacrine M., UQAM, Montréal, Canada; Bergeron, Karl-F.; Cardinal, Tatiana; Beland, Melanie (UQAM, Montreal, PQ, Canada); Silversides, David W. (UdeM, St-Hyacinthe, PQ, Canada); Pilon, Nicolas (UQAM, Montreal, PQ, Canada)

370 **B72** ***Parallel integrin-associated pathways regulate gonadal distal tip cell migration and turning in***

Caenorhabditis elegans. Wong, Ming-Ching, Princeton University Department of Molecular Biology, Princeton, United States; Kennedy, William P.; Schwarzbauer, Jean E. (Princeton, United States)

456 **B73** ***Thoracic primary afferents bundle in segmentally distinct patterns during longitudinal extension in the embryonic avian spinal cord.*** Ezerman, Elizabeth B.; Forehand, Cynthia (University of Vermont, Burlington, United States)

372 **B74** ***Annexin A6 modulates cranial neural crest cell migration.*** Wu, Chyong-Yi, University of Maryland Animal Sciences, College Park, United States; Taneyhill, Lisa (University of Mayland, College Park, MD, United States)

373 **B75** ***Pku190 Controls the Spacing and Periodical Deposition of Neuromasts by Regulating Cxcr7 and Fgf Signals in Zebrafish.*** Zhang, Bo, Peking University, Beijing, China; Zheng, Naizhong; Wang, Dongmei; Zhu, Zuoyan (Beijing, China); Lin, Shuo (Los Angeles, United States)

Cell Fate Specification

374 **B76** ***Pax3 splice form expression and isoform function in the trigeminal placode***. Adams, Jason S., Brigham Young Univ Physiol & Develop Biology, ProvoUnited States; Stark, Michael (Provo, UT, United States)

375 **B77** ***Functional characterization of Rdh10 during pancreas development in the mouse***. Arregi, Igor, Lund University, LundSweden; Iliev, Dobromir; Ahmed, Emad; Steinkogler, Karina; Semb, Henrik (Lund University, Lund, Sweden); Liliana, Minichiello (University of Edinburgh, Edinburgh, United Kingdom); Pera, Edgar (Lund University, Lund, Sweden)

376 **B78** ***Apical/basal polarity and differentiation within ESC-derived neural rosettes***. Banda, Erin, Wesleyan University, MiddletownUnited States; Germain, Noelle (Middletown, CT, United States); Szmurlo, Theodore (New Britain, CT, United States); Grabel, Laura (Middletown, CT, United States)

377 **B79** ***The Bmp antagonist Noggin paradoxically induces the chondrogenic program in post-migratory, neural crest-derived facial mesenchyme***. Buchtova, Marcela, Academy of Sciences Instit of Animal Physiology & Genetics, BRNOCzech Republic; Richman, Joy (University of British Columbia, Vancouver, Canada)

378 **B80** ***The Hippo pathway member Nf2 regulates trophectoderm/inner cell mass specification.***. Cockburn, Katherine, University of Toronto Molecular Genetics, TorontoCanada; Rossant, Janet (University of Toronto, Toronto, ON, Canada)

379 **B81** ***Identification of Transcription Factors Involved in Differentiation of Late-Born Ventral Spinal Neurons***. Di Bella, Daniela, Fundación Instituto Leloir, Buenos AiresArgentina; Carcagno, Abel; Petracca, Yanina; Sartoretti, Micaela (Fundación Instituto Leloir, Buenos Aires, Argentina); Goulding, Martyn (Salk Institute, La Jolla, CA, United States); Lanuza, Guillermo (Fundación Instituto Leloir, Buenos Aires, Argentina)

446 **B82** ***FGF signaling is required for lineage restriction but not onset of primitive endoderm program in the mouse blastocyst.*** Kang, Minjung; Artus, Jerome; Piliszek, Ania; Hadjantonakis, Anna-Katerina (Sloan-Kettering Institute, New York, United States)

381 **B83** ***The Role of Voltage-Gated Calcium Channels in Neuronal Phenotype Specification***. Herbst, Wendy; Saha, Margaret; Rabe, Brian; Welch, Zoe (The College of William and Mary, Williamsburg, VA, United States)

382 **B84** ***A low level of Hedgehog signaling in the notochord is sufficient for normal ventral pattering in the embryonic spinal cord.***. Iulianella, Angelo, Dalhousie University Anatomy and Neurobiology, HalifaxCanada; Trainor, Paul (Stowers Institute, Kansas City, MO, United States)

383 **B85** ***CCAR1 is required for Ngn3-mediated endocrine differentiation***. Lu, Chung-Kuang, , Chiayi CountyTaiwan;

B86

385 **B87** ***InvBestigating the Role of lin-42, the C. elegans period Homolog, in Developmental Timing***. McCulloch, Katherine, University of Minnesota, MinneapolisUnited States; Wohlschlegel, James (Los Angeles, CA, United States); Rougvie, Ann (Minneapolis, United States)

386 **B88** ***Plasticity of patterning information in the blastema during limb regeneration in Ambystoma mexicanum.***. McCusker, Catherine D., University Of California Developmental and Cell Biology, IrvineUnited States; Gardiner, David (University of California at Irvine, Irvine, CA, United States)

387 **B89** ***The role of Notch signaling in neurotransmitter phenotype specification and secondary neurogenesis in X. laevis***. McDonough, Molly, College of William and Mary Biology, WilliamsburgUnited States; Tellis, Athena (College of William and Mary, Williamsburg, U.S.A.); Koshiya, Hitoshi; Saha, Margaret (College of William and Mary, Williamsburg, United States)

388 **B90** ***The Dkk1 receptor Kremen1 regulates progenitor cell identity during mechanosensory organ formation.***. McGraw, Hillary F., Oregon Heath & Sciences Univ Cell & Developmental Biology, PortlandUnited States; Culbertson, Maya; Nechiporuk, Alexei (Portland, OR, United States)

389 **B91** ***Re-examination of the primordial germ cells of the mouse: a general stem cell pool for building the posterior region?***. Mikedis, Maria, University of Wisconsin-Madison Cell and Regenerative Biology,

MadisonUnited States; Downs, Karen (University of Wisconsin - Madison, Madison, United States)

B92 ***Withdrawn***

391 **B93** ***The Characterization of GABAA a and GABAB Receptor Subunits and the Role of Calcium Activity in the Developing Nervous System of Xenopus***. Rabe, Brian A., The College of William and Mary Biology, WilliamsburgUnited States; Kaeser, Gwendolyn; Saha, Margaraet (The College of William and Mary, Williamsburg, VA, United States)

392 **B94** ***C. elegans as a model to investigate the molecular functions of CHD-7, the homolog of the CHARGE syndrome gene***. Roiz Lafuente, Daniel, Intitute Molecular Life Science, University of Zurich, ZurichSwitzerland; Rimann, Ivo; Hajnal, Alex (Intitute Molecular Life Science, University of Zurich, Zurich, Switzerland)

393 **B95** ***Roles Revealed: Compound mutants define cooperative activities for BMP antagonist genes***. Stafford, David A., UC Berkeley, CA, United States

394 **B96** ***An Lmx1b-miR135a2 Regulatory Circuit Modulates Wnt1/Wnt Signaling and Determines the Boundaries of the Midbrain Dopaminergic Progenitor Pool.*** Awatramani, Raj B., Northwestern U – Neurology, Chicago, IL, United States

438 **B97** ***Prdm13, a direct target of Ptf1a, executes neuronal specification in dorsal spinal cord***. Chang, Joshua C.H., UT Southwestern Medical Center Neuroscience, Dallas, United States;

439 **B98** ***Sulfatase 1, an extracellular regulator of the motoneuron to oligodendrocyte cell fate choice in the ventral spinal cord***. Touahri, Yacine, , toulouse, France; Escalas, Nathalie; Danesin, Cathy; Soula, Cathy (toulouse, France)

440 **B99** ***Removal of Polycomb Repressive Complex 2 makes C. elegans germ cells susceptible to direct conversion into specific somatic cell types***. Patel, Tulsi, Genetics and Development, New York, United States; Tursun, Baris (The Berline Institute for Medical Systems Biology, Berlin, Germany); Rahe, Dylan; Hobert, Oliver (Columbia University, New York, NY, United States)

441 **B100** ***Regulatory logic of pan-neuronal gene expression in C. elegans***. Stefanakis, Nikolaos, Columbia University Biological Sciences, New York, United States; Carrera, Ines; Hobert, Oliver (New York, United States)

442 **B101** ***Intercellular calcium signaling in a gap junction-coupled cell network establishes asymmetric neuronal fates in C. elegans***. Chuang, Chiou-Fen, Cincinnati Children's Research Foundation Division of Developmental Biology, Cincinnati, United States; Schumacher, Jennifer; Hsieh, Yi-Wen; Chang, Chieh (Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States)

443 **B102** ***Voltage- and Calcium-activated BK potassium channels establish left-right neuronal asymmetry in C. elegans***. Schumacher Tucker, Jennifer, Cincinnati Children's Hospital Research Foundation, Cincinnati, United States; Chang, Chieh; Chuang, Chiou-Fen (Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States)

444 **B103** ***Sox genes in C. elegans: sox-2 role in postembryonic development***. Vidal Iglesias, Berta, Columbia University Medical Center Biochemistry and Molecular Biophysics, New York, United States; Hobert, Oliver (Columbia University Medical Center, New York, NY, United States)

445 **B104** ***The induction of pluripotent mesoderm from axolotl animal caps by Brachyury and BMP-4***. Ferjentsik, Zoltan, University of Nottingham, Nottingham, United Kingdom; Chatfield, Jodie (University of Nottingham, Nottingham, United Kingdom); Johnson, Andrew (University of Nottingham School of Biology, Nottingham, United Kingdom)

Organogenesis

461 **B116** ***Distinct lineage-specific roles for GLI3R mediated control of ureteric induction, branching morphogenesis, and Urinary Tract Patterning.***. Blake, Josh, University of Toronto, Toronto, Canada; Rosenblum, Norman (SickKids, Toronto, ON, Canada)

462 **B117** ***Stromal signals regulate differentiation of the kidney progenitor population.***. Carroll, Thomas J., UT Southwestern Med Ctr Internal Medicine and Molecular Biology, Dallas, United States;

409 **B118** ***Stromally expressed ß-catenin regulates branching morphogenesis and nephrogenesis during kidney development***. Boivin, Felix, McMaster University, Dundas, Canada; Bridgewater, Darren (Hamilton, Canada)

464 **B119** ***Integrin-linked Kinase (ILK) controls ureteric bud (UB) gene expression via p38MAPK-dependent and -independent mechanisms***. Smeeton, Joanna M.; Rosenblum, Norman, SickKids Toronto, Canada

465 **B120** ***Hox6 genes are important niche factors that play critical roles in the proper formation and naintenance of the ancreas***. Larsen, Brian; Hrycaj, Steven; Gong, Ke-Qin; Baker, Nicholas C; Wellik, Deneen M, University of Michigan, Ann Arbor, United States

466 **B121** ***An unexpected role of the vagal enteric neural crest cells on digestive smooth muscle differentiation***.

Faure, Sandrine; McKey, Jennifer; De Santa Barbara, Pascal, INSERM U1046, Montpellier, France

467 **B122** ***Multiple roles of Polycomb Ezh2 in regulating cerebellum development***. Feng, Xuesong; Juan, Aster; Zare, Hossein; Sartorelli, Vittorio, NIAMS/NIH, Bethesda, United States

468 **B123** ***Numb mediated trafficking of Cyclic Nucleotide-gated channel to rod photoreceptor sensory cilia***. Ramamurthy, Vasanth, IRCM, Montreal, Canada; Johanna Mühlhans (University of Erlangen-Nuremberg, Erlangen, Germany); Demetra Koutroumbas (McGill University, Montreal, Canada); Yun-Zheng Le (Univ of Oklahoma, Oklahoma, United States); William Hauswirth (University of Florida, United States)

469 **B124** ***Tissue Specific Porcupine Deletion Reveals a Novel Role for Ectodermal Wnts in Musculotendon Development***. Smith, Aaron, Brigham Young University, Provo, United States; Murtaugh, L. Charles (University of Utah, Salt Lake City, United States); Barrow, Jeffery R. (Brigham Young Univ, Provo, United States)

Gene Regulation

470 **B125** ***The microRNA pathway and its central role in the hypoxia response in Drosophila melanogaster***. Bertolin, Agostina; De Lella Ezcurra, Ana; Dekanty, Andres; Wappner, Pablo, Instituto Leloir, Ciudad Autonoma de Buenos Aires, Argentina

471 **B126** ***Dicer1 knock down in the Sim1 domains affects mouse survivability***. Al Mahmud, Abdullah, University of Montreal CHU Sainte-Justine Research Center, Montreal, Canada; Boucher, Francine; Michaud, Jacques (CHU Sainte-Justine Research Center, Montreal, Canada)

472 **B127** ***WT1 is critical for the normal development of the peripheral taste system***. Denmon, Dane; Toska, Eneda; Roberts, Stefan; Medler, Kathryn, University at Buffalo, Buffalo, United States

473 **B128** ***Identifying Key Early Activators of Rax Expression using Transient BAC Transgenesis in Xenopus tropicalis***. Fish, Margaret B.; Nakayama, Takuya; Fisher, Marilyn; Grainger, Robert M., University of Virginia, Charlotesville, United States

474 **B129** ***Imprinting centre acts simultaneously as promoter for lncRNA-mediated epigenetic silencing and insulator function in vivo***. Lefebvre, Louis; Gu, T.; Bogutz, A.B.; Jones, MJ, University of British Columbia, Vancouver, Canada

475 **B130** ***Proteolytic Carving of the Mammalian Head by the Taspase1-TFIIA-CDNKN2A Axe***. Takeda, Shugaku, Memorial Sloan-Kettering Cancer Center, New York, United States; Sasagawa, Satoru (Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan); Hsieh, James (Memorial Sloan-Kettering Cancer Center, New York, NY, United States)