

# **MIDWEST SDB** **IN CINCINNATI** **2026 REGIONAL MEETING**

**September 25-27**

**hosted by Cincinnati Children's  
at the Graduate by Hilton Hotel  
[midwestsdbincincy.org](http://midwestsdbincincy.org)**



The logo for the Midwest SDB In Cincinnati 2026 event. It features the text "MIDWEST SDB" in a large, stylized, white font with a purple outline, and "IN CINCINNATI" in a smaller, similar font below it. The background consists of horizontal stripes in light blue, teal, lime green, pink, and purple.

# **MIDWEST SDB**

## **IN CINCINNATI**

**2026**

### **Table of contents:**

**Sponsors**

**Venue Floor Plan and Event Space Designation**

**Meeting Program**

**Poster Session Details**



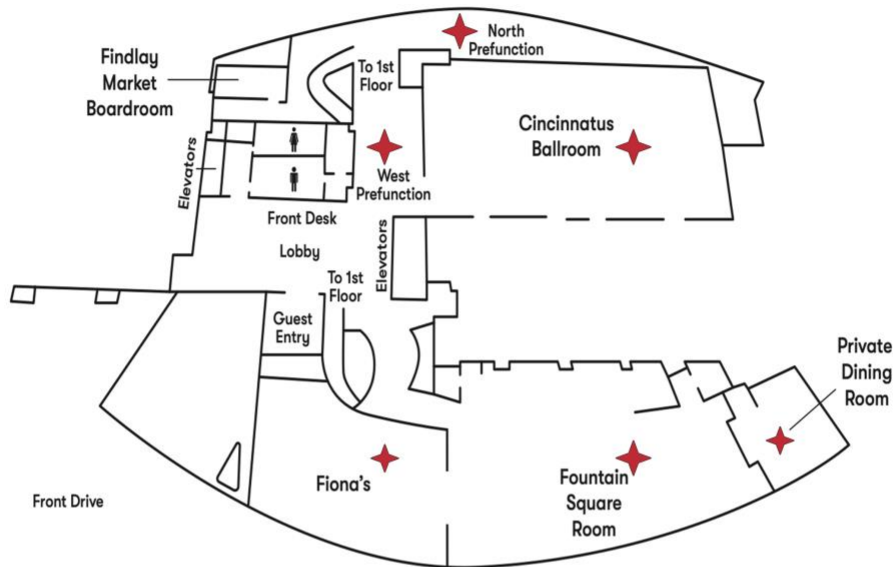




# EVENT SPACE floor plans

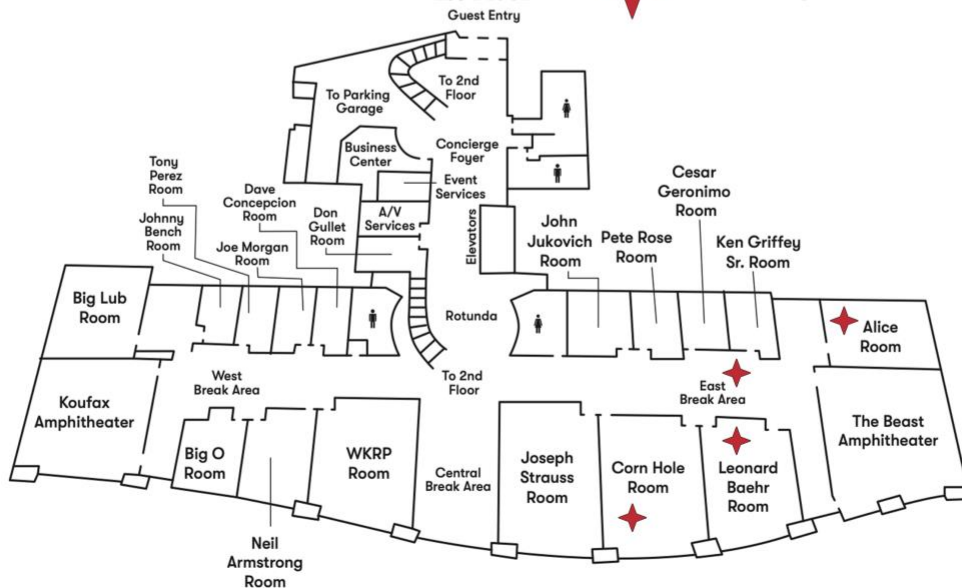
151 Goodman Street, Cincinnati, OH 45219

2nd Floor



1st Floor

meeting event spaces





## Midwest Society for Developmental Biology Meeting

Friday, September 25 – 27, 2026

Graduate Hotel, 151 Goodman Dr., Cincinnati, OH 45219

Talks to be upload to the conference computer before each session.

|                                |                            |
|--------------------------------|----------------------------|
| 2 Keynote:                     | 40 minutes + 5 minutes Q&A |
| 4 Invited speakers:            | 25 minutes + 5 minutes Q&A |
| 30 Selected Abstract talks:    | 12 minutes + 3 minutes Q&A |
| 20 Poster Preview Flash talks: | 90 seconds                 |

Predocs speakers are indicated in **blue**, Postdocs in **green**, Faculty in **black**.

Prizes will be awarded for best postdoc, predoc, prebac presentations (talk or poster), as well as for trainees who ask the best question(s).

### Friday, September 25

|              |                                                                                                                                                                                                                              |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:30-4:00 pm | <b>Registration &amp; Poster Setup (West Pre-function)</b>                                                                                                                                                                   |
| 4:00-4:15 pm | <b>Welcome &amp; Opening Remarks (Cincinnati Ballroom):</b><br><b>Aaron Zorn</b> , Cincinnati Children's                                                                                                                     |
| 4:15-4:30 pm | <b>Society of Developmental Biology Update:</b><br><b>Sharon Amacher</b> , Ohio State University, Midwest Representative                                                                                                     |
| 4:30-5:15 pm | <b>Session 1 (Cincinnati Ballroom)</b><br>Chair: <b>Samantha Brugmann</b> , Cincinnati Children's<br><br>Keynote: <b>Deneen Wellik, PhD</b> , University of Wisconsin-Madison<br><i>Hox genes in Development and Disease</i> |

Sponsored by: **DSHB** 

**5:15-6:30 pm**

**Session 2 (Cincinnatus Ballroom)**

Chair: **Ben Allen**, University of Michigan

5:15-5:30

**Nicole Pek**, Cincinnati Children's Hospital Medical Center

*Vessel Organoids Reveal FOXF1 Variant-Specific Regulation of Mesoderm and Capillary Development*

5:30-5:45

**George Roy**, The Ohio State University

*Characteristics of sRNA-Driven Transposon Methylation in Plant Zygotic Genome Activation*

5:45-6:00

**Joydip Barua**, Miami University

*Müller Glia Ion Homeostasis Preserves Retinal Integrity and Protects Retinal Ganglion Cells*

6:00-6:15

**Blair Leach**, Cincinnati Children's Hospital Medical Center

*Fibroblast-Derived FOXF1 Coordinates Alveolar Development and Capillary Maturation*

6:15-6:20

**Marian Piekarczyk**, Senior Technical Specialist Regenerative Medicine, Cell Biology, and Cell Therapy workflows, Thermo Fisher Scientific

*Building relevant and reproducible organoids: Controlled 3D PSC-derived workflows for improved maturity and function*

6:20-6:35

**Poster preview flash talks**

Poster #1 **Eric Wu**, University of Michigan - Ann Arbor

Poster #2 **Sarah Alhilu**, Miami University

Poster #3 **Maxim Shajenko**, ADA Forsyth Institute

Poster #9 **Taylor Simmons**, University of Iowa

Poster #10 **Omodasola Ola**, Cincinnati Children's Hospital Medical Center

Poster #11 **Paige Ramkisoom**, Cincinnati Children's Hospital Medical Center

Poster #12 **Quentin Phillips**, Cincinnati Children's Hospital Medical Center

Poster #13 **Parna Dutta**, Cincinnati Children's Hospital Medical Center

Poster #25 **Gopal Kushawah**, Stowers Institute for Medical Research

**6:35-9:30 pm**      **Poster Session 1 - Sponsor Display (Fountain Square Room)**

heavy hors d'oeuvres and bar

**6:35-8:00**      **Odd numbers** Posters 1-33

**8:00-9:30**      **Even numbers** Posters 2-34

**ThermoFisher**  
SCIENTIFIC

Sponsored by:

## **Saturday, September 26**

**8:00-8:30 am**      **Coffee and light pastries (North Pre-function Area)**

**8:30-10:00 am**      **Session 3 (Cincinnatus Ballroom)**

Chair: **Cristina Cebrian**, Cincinnati Children's

**8:30-8:45**      **Shelbie Wenner**, Cincinnati Children's Hospital Medical Center  
*HSPA2 Regulates Translation During Meiosis*

**8:45-9:00**      **Josy Joseph**, Indiana University Bloomington  
*Identifying the molecular mechanism of beetle horn formation*

**9:00-9:15**      **Anthony Treichel**, Stowers Institute for Medical Research  
*Streamlined mRNA targeting and phenotyping reveal non-essential roles of maternally encoded zebrafish microproteins during MZT*

**9:15-9:30**      **Omodasola Adekeye**, University of Maine  
*Loss of Ptpaq disrupts podocyte development, structure, and function*

**9:30-9:45**      **Electra Coffman**, The Ohio State University  
*Adherens junctions and the spectrin-actin cytoskeleton function interdependently to maintain cortical lens transparency with age*

**9:45-10:00**      **Benjamin Gilbert**, Nationwide Children's Hospital  
*Pathogenic variation in MECOM is associated with non-syndromic congenital heart disease*

**10:00-10:30 am**      **Break: Coffee, Lemonade & Cookies (North Pre-function Area)**

**10:30-12:00 pm**      **Session 4 (Cincinnatus Ballroom)**

Chair: **Rosa Ventrella**, Midwestern University **Sarah Petersen**, Kenyon College

**10:30-10:45**      **Grace Gottschamer**, University of Iowa  
*Periderm-like cells are present on the surface of *Irf6* knockout mouse embryos*

- 10:45-11:00 **Avelina Lee**, Cincinnati Children's Hospital Medical Center  
*Investigating the role of ESRP2 in craniofacial development using the cleft primary palate (cpp) avian model*
- 11:00-11:15 **Jaclyn Olberding**, University of Iowa  
*Ectoderm-mediated patterning of the mandible during mouse development*
- 11:15-11:30 **Lisa Wirtz**, University of Michigan  
*Striatin-Interacting Phosphatases and Kinases complex is an important cytoskeletal organizer during skin epidermal development*
- 11:30-12:00 **Invited talk-1, Education Session (attendees bring your laptop)**  
**Anna Cunningham, MEd, PhD**, Washington University in St. Louis  
*Optimizing Your Research with Artificial Intelligence Tools*
- 12:00-2:00 pm** **Box Lunch and Career & Mentoring Workshops (1<sup>st</sup> floor locations)**  
Topics offered in both sessions:  
**AI in Education (attendees bring your laptops)**  
**Junior Faculty Mentoring**  
**Science Outreach to the Public**  
**Successful Mentor-Mentee Relationships**  
**Applying for Graduate School & Post-doc Positions**  
**Faculty Careers at Primarily Undergraduate Institutions**  
 Sign up ahead of time. Space is limited. Walk-ins welcome if seats remain.
- 12:15-1:00 **Career & Mentoring Workshop Session - 1**
- 1:00-1:45 **Career & Mentoring Workshop Session - 2**
- 2:00-3:30 pm** **Session 5 (Cincinnatus Ballroom)**  
Chair: **Sarah Petersen**, Kenyon College
- 2:00-2:30 **Invited talk-2**  
**Chris Wolverton, PhD**, Ohio Wesleyan University,  
*Fractional Gravity on the ISS Uncovers a Novel Plant Gravity Sensory System*
- 2:30-2:45 **Patrizia Tornabene**, Cincinnati Children's Hospital Medical Center  
*Modeling Cystic Fibrosis pancreatic disease using human iPSC-derived pancreatic organoids*

- 2:45-3:00 **Rei Yagasaki**, University of Michigan  
*How fluid dynamics and cellular mechanics shape colonic crypts*
- 3:00-3:15 **Bailey Weatherbee**, Cincinnati Children's Hospital Medical Center  
*Multifunctional RNA-binding transcription factors coordinate cell states in development*
- 3:15-3:30 **Sushant Bangru**, Morgridge Institute for Research  
*Adaptive osteoblast behaviors permitting regeneration of plucked scales from disabled progenitor pools*
- 3:30-4:00 pm Break: Coffee, Lemonade & Cookies (North Pre-function Area)**
- 4:00-5:30 pm Session 6 (Cincinnatus Ballroom)**  
Chair: **Debora Sinner**, Cincinnati Children's
- 4:00-4:30 **Invited talk-3**  
**Kevin Cox Jr., PhD**, Washington University in St. Louis,  
*Building a Spatial and Transcriptomic Framework for Transcription Factor Regulation in Duckweed*
- 4:30-4:45 **Matthew Riccetti**, Cincinnati Children's Hospital Medical Center  
*Dorsal respiratory group neurons specified by Gsx2 drive the hypoxic ventilatory response*
- 4:45-5:00 **Josefina Doffo**, Stowers Institute for Medical Research  
*Regulated Intron Removal as a Post-Transcriptional Strategy in Neural Development and Disease*
- 5:00-5:15 **Jacob Gafranek**, Cincinnati Children's Hospital Medical Center  
*Atrial regeneration profiling reveals chamber-specific recovery dynamics within the zebrafish epicardium*
- 5:15-5:30 **Poster preview flash talks**
- Poster #35 **Paloma Jolly**, Miami University
  - Poster #36 **Amalia Hunt**, Kenyon College
  - Poster #37 **Taylor Roy**, Cincinnati Children's Hospital Medical Center
  - Poster #47 **Shantanu Karandikar**, University of Wisconsin - Milwaukee
  - Poster #48 **Hariharan Karthikeyan**, Cincinnati Children's Hospital
  - Poster #49 **Sachin Wagh**, Creighton University
  - Poster #50 **Benjamin Akande**, Miami University

Poster #51 **Tayo Adeke**, Mount Desert Island Biological Laboratory  
Poster #63 **Archana Singh**, Cincinnati Children's Hospital Medical Center  
Poster #64 **Mohammad Fazle Azim**, Kenyon College

**5:30-6:30 pm** **Poster Session 2 set up (Fountain Square Room)**  
**6:30-9:30 pm** **Poster Session 2 - Sponsors Display (Fountain Square Room)**  
heavy hors d'oeuvres/bar  
**6:30-8:00** **Odd numbers** Posters 35-71  
**8:00-9:30** **Even numbers** Posters 36-72



Sponsored by: **Division of Developmental Biology**

## **Sunday, September 27**

**8:00-8:30 am** **Coffee and pastries (North Pre-function Area)**

**8:30-9:15 am** **Session 7 (Cincinnati Ballroom)**  
Chair: **Aaron Zorn**, Cincinnati Children's

Keynote: **James Wells, PhD**, Cincinnati Children's Hospital  
*Modeling human GI development and disease with organoids*



Sponsored by: **Nikon**

**9:15-10:30 am** **Session 8 (Cincinnati Ballroom)**  
Chair: **Jennifer Gutzman**, University of Wisconsin-Milwaukee

**9:15-9:30** **Timothy Nguyen**, Cincinnati Children's Hospital Medical Center,  
*A BIRC5 molecular rheostat regulates cranial neural crest differentiation timing*

**9:30-9:45** **Kongju Zhu**, Harvard Medical School  
*Defective human somitogenesis in the absence of HOX genes*

**9:45-10:00** **Jingyue Xu**, Cincinnati Children's Hospital Medical Center  
*Foxf2 and Twist1 acts cooperatively to pattern the embryonic palatal mesenchyme and regulate palatal musculoskeletal integration*

- 10:00-10:15 **Paul Huber**, University of Kentucky  
*Modeling neural plate border differentiation using a Xenopus organoid system*
- 10:15-10:30 **Rebecca Clements**, Kenyon College  
*Developmental regulation of antigen presentation machinery in human erythroid progenitors may contribute to fetal and perinatal immunity*
- 10:30-11:00 am Break: Coffee, Lemonade & Cookies (North Prefunction Area)**
- 11:00-12:30 pm **Session 9 (Cincinnatus Ballroom)**  
Chair: **Mark Charlton-Perkins**, Miami University
- 11:00-11:30 **Invited talk-4**  
**Noah Mitchell, PhD**, The University of Chicago  
*TDB*
- 11:30-11:45 **Kemal Keseroglu**, Northwestern University  
*Two distinct timers control vertebrate embryo segmentation*
- 11:45-12:00 **Peter Kropp**, Kenyon College  
*Mitochondrial control of germ cell differentiation and death in a C. elegans model of MEPAN syndrome*
- 12:00-12:15 **Isha Verma**, University of Michigan  
*Education, Emulation, And Ethics-Based Teaching Activity Helps Learners Appreciate the Importance of Neurodiversity*
- 12:15-12:30 **Timothy Plageman**, The Ohio State University  
*Retinal dystrophy-associated morphological defects are caused by disruption of Shroom3-dependent cell contractions within the outer limiting membrane*
- 12:30-12:45 pm **Awards Ceremony** Chairs: **Debora Sinner and Rosa Ventrella**
- 12:45-1:00 pm Closing – Aaron Zorn**, Cincinnati Children's



# MIDWEST SDB IN CINCINNATI

2026

**Friday, September 25**

**6:35-9:30 pm                      Poster Session 1 (Fountain Square Room)**

6:30-8:00                      **Odd numbers** Posters 1-33

8:00-9:30                      **Even numbers** Posters 2-34

## **Poster #1**

Eric Wu, Idse Heemskerk, Zong-Yuan Liu, Kyoung Jo, Gauri Patel, Zhiyuan Yu, LiAng Yao, Seth Teague, Craig Johnson, Jason Spence

**Endogenous FGFs drive ERK-dependent cell fate patterning in 2D human gastruloids**

*University of Michigan - Ann Arbor, United States*

## **Poster #2**

Sarah Alhilu<sup>1</sup>, Benjamin Callaway<sup>1</sup>, Caiden Duskey<sup>1</sup>, Aiden Kraan<sup>1</sup>, Diego Pareja<sup>1</sup>, Kwangmin Choi<sup>2</sup>, Lisa Martin<sup>2</sup>, Carlo Prada<sup>3</sup>, Nancy Ratner<sup>2</sup>, Mark Charlton-Perkins<sup>1</sup>

**Modeling NF1 Tumor Initiation and Genetic Modifier Effects in Zebrafish.**

<sup>1</sup>Miami University, Oxford, USA; <sup>2</sup>CCHMC, Cincinnati, USA; <sup>3</sup>Lurie Children's, Chicago, USA

## **Poster #3**

Maxim Shajenko, Jack Sheehan, Subbroto Saha, Chengji Zhou

**Surface Ectodermal Transcriptomics of Spinal Neural Tube Closure**

*ADA Forsyth Institute, United States*

## **Poster #4**

Brendan Teiken<sup>1</sup>, Wenying Zhang<sup>2</sup>, Ammar Husami<sup>2</sup>, Quinn LaFave<sup>1</sup>, Mosab Alquraish<sup>1</sup>, William Balistreri<sup>1</sup>, Akihiro Asai<sup>1</sup>, Chunyue Yin<sup>1,3,4</sup>

**Utilizing Zebrafish to Model Liver Disease Caused by ANKS3 Deficiency**

<sup>1</sup>Division of Gastroenterology, Hepatology and Nutrition, Cincinnati Children's Hospital Medical Center, USA; <sup>2</sup>Division of Human Genetics, Cincinnati Children's Hospital Medical Center, USA; <sup>3</sup>Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, USA; <sup>4</sup>Center for Undiagnosed and Rare Liver Disease, Cincinnati Children's Hospital Medical Center, USA

#### Poster #5

Shoshana Marcus<sup>1</sup>, Eleonora Scalia<sup>2</sup>, Marcus Keatinge<sup>2</sup>, Rafael Almeida<sup>2</sup>, Daniel Soong<sup>2</sup>, David Lyons<sup>2</sup>, Sarah Petersen<sup>1</sup>

#### **Dynamics of Glial-Specific Damage and Remyelination in the Peripheral Nervous System**

<sup>1</sup>Kenyon College, USA; <sup>2</sup>University of Edinburgh, Scotland

#### Poster #6

Hannah Truong<sup>1</sup>, Bailey Weatherbee<sup>1</sup>, Shreyasi Mukherjee<sup>2</sup>, Aaron Zorn<sup>1</sup>

#### **Multifunctional RNA-binding Transcription Factors Coordinate Cell States in Development**

<sup>1</sup>Cincinnati Children's Hospital Medical Center, United States of America; <sup>2</sup>Harvard Medical School and Massachusetts General Hospital, United States of America

#### Poster #7

Laura Romano, Immanuel Mamphey, Anna Pak

#### **Investigating the effect of exposure to chemicals associated with agricultural runoff on the embryogenesis and reproductive output of freshwater snails**

Denison University, United States

#### Poster #8

Peyton Morrow

#### **Unlocking Regeneration: How Newts Develop and Restore Their Eyes**

Miami University, USA

#### Poster #9

Taylor Simmons, Dayton Gatewood, Jaclyn Olberding, Timothy Nguyen, Fan Shao, Colin Kenny, Huojun Cao, Eric Van Otterloo

#### **Identifying redundant functions of AP-2 $\alpha$ and AP-2 $\beta$ in epidermal development.**

University of Iowa, USA

#### Poster #10

Omodasola Ola<sup>1,2</sup>, Shelbie Wenner<sup>1,2</sup>, Natalie Pfaltgraff<sup>1</sup>, Esther Ushuhuda<sup>1</sup>, Maria Mikedis<sup>1,2</sup>

#### **DAZL-dependent regulation of RA signaling in progenitors during spermatogenesis**

<sup>1</sup>Cincinnati Children's Hospital Medical center, USA; <sup>2</sup>University of Cincinnati, USA

#### Poster #11

Paige Ramkissoo, Kimberly Cochran, Samantha Brugmann

#### **Uncovering an Ectodermal Role of ARID1A during Craniofacial Morphogenesis**

Cincinnati Children's Hospital, USA

## Poster #12

Quentin Phillips

**SOX factors modulate WNT/ $\beta$ -Catenin-mediated transcription during embryonic lung development**

*Cincinnati Children's Hospital Medical Center, USA*

## Poster #13

Parna Dutta<sup>1,2</sup>, Nathaniel King<sup>1</sup>

**Gbx2 defines pharyngeal foregut endoderm identity and regulates pharyngeal pouch transcriptional programs**

<sup>1</sup>Cincinnati Children's Hospital Medical Center, USA; <sup>2</sup>University of Cincinnati, USA

## Poster #14

Irene Jingyun Jin, Tyler Huycke

**Architectural regeneration of intestinal villi**

*University of Michigan, USA*

## Poster #15

Isabella Ford, Thomas Taylor, Matthew Riccetti, Jenna Green, Kimberly Wagner, Cheng-Lun Na, Anne-Karina Perl

**Meox2 Controls Myofibroblast Function Through Indirect Regulation of Hedgehog**

*Cincinnati Children's Hospital Medical Center, USA*

## Poster #16

Andrew Fernandes, Christopher Ahn, Hee-Woong Lim

**Retinoic acid signaling promotes myocardial Wnt signaling necessary for atrioventricular valve development in zebrafish**

*Cincinnati Children's Medical Center, USA*

## Poster #17

Karla Garcia, Katie Cameron, J. Raul Pérez-Estrada, Erika Grajales-Esquivel, Katia Del Rio-Tsonis

**The Two Sides of Lens Regeneration: The Dorsal-Ventral Axes**

*Miami University, USA*

## Poster #18

Irina Voda, Joseph Finks, Aden Jamal, Blair Leach, Courtney Stockman, Jenna Green, Kimberly Wagner, Anne Karina Perl

**Fibroblast-Derived CXCL12 Maintains Pulmonary Capillary Endothelial Identity During Postnatal Alveologenesis**

*Cincinnati Children Hospital Medical Center, USA*

## Poster #19

Aidan Goodwin<sup>1,2</sup>, Erika Grajales-Esquivel<sup>1,2</sup>, Stacy Bendezu Sayas<sup>1,2</sup>, Katia Del Rio-Tsonis<sup>1,2</sup>

### **Uncovering the Epigenetic Factors Driving Chicken RPE Reprogramming**

<sup>1</sup>Center for Visual Sciences at Miami University (CVSMU), USA; <sup>2</sup>Department of Biology, CMSB Program, Miami University, USA

## Poster #20

Lindsay Helock<sup>1,2</sup>, Joshua Waxman<sup>2</sup>

### **Tbx20 Balances Cardiac and Pharyngeal Progenitor Specification in Zebrafish**

<sup>1</sup>Pharmacology, Physiology, and Neurobiology Graduate Program, University of Cincinnati, USA;

<sup>2</sup>Molecular Cardiovascular Biology Division and Heart Institute, Cincinnati Children's Research Foundation, USA

## Poster #21

Praise Joel<sup>1</sup>, Charlotte Meyer-Gerards<sup>2</sup>, Cally Xiao<sup>2</sup>, Marta Grzonka<sup>2</sup>

### **Disssecting the Mitotic Surveillance Pathway (MSP)**

<sup>1</sup>Michigan, USA; <sup>2</sup>CECAD Cluster of Excellence, University of Cologne, Germany

## Poster #22

Shili Wu, Fangli Weng, Josefina Perez, Laurence Lemaire

### **Mapping Neural Cell Identities in the Central Nervous System of *Ciona intestinalis***

Saint Louis University, USA

## Poster #23

Jacob Weaver, Anil Upreti, Brad Wagner, Jared Tangeman, Michael Robinson

### **FOX3 Promotes Lens Development via Active Chromatin Maintenance and Distinct Repression of Neural Gene Programs**

Miami University, USA

## Poster #24

Josefina Perez<sup>1</sup>, Shili Wu<sup>1</sup>, Fangli Weng<sup>1</sup>, Wei Lin<sup>1</sup>, Michael Levine<sup>2</sup>, Laurence Lemaire<sup>1</sup>

### **Role of Lmx1 in Neural Tube Morphogenesis in the invertebrate chordate *Ciona***

<sup>1</sup>Saint Louis University, USA; <sup>2</sup>Princeton University, USA

## Poster #25

Gopal Kushawah

### **Spatio-temporally regulated maternal RNA decay factor essential for zebrafish development**

Stowers Institute for Medical Research, USA

## Poster #26

Gabrielle Lathrop<sup>1</sup>, Nicole Xie<sup>1</sup>, Yam Prasad Aryal<sup>1</sup>, Jingyue Xu<sup>1</sup>, Hee Woong Lim<sup>1</sup>, Rulang Jiang<sup>1,2</sup>, Yu Lan<sup>1,2</sup>

### **Netrin-1 expression and function in craniofacial development**

<sup>1</sup>Cincinnati Children's Hospital Medical Center, USA; <sup>2</sup>University of Cincinnati - College of Medicine, USA

## Poster #27

Bitan Saha, Amulya Adavalli, Joshua Waxman

### **Cardiac contractions establish endocardial heterogeneity needed for cardiac jelly homeostasis and chamber-specific growth**

Cincinnati Children's Hospital Medical Center, USA

## Poster #28

Yam Prasad Aryal<sup>1</sup>, Yilun Huang<sup>1</sup>, Yu Lan<sup>1,2,3</sup>, Rulang Jiang<sup>1,2,3</sup>

### **Sf3b2 heterozygous mice exhibit defects in vertebral patterning and strain-background dependent ocular and craniofacial abnormalities**

<sup>1</sup>Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA; <sup>2</sup>Division of Plastic Surgery, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA; <sup>3</sup>Departments of Pediatrics and Surgery, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA

## Poster #29

Nirpesh Adhikari<sup>1</sup>, Yu Lan<sup>1,2,3</sup>, Rulang Jiang<sup>1,2,3</sup>

### **Twist1 acts upstream and as an obligatory partner of Alx1 in specifying frontonasal identity of the neural crest-derived craniofacial mesenchyme**

<sup>1</sup>Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA; <sup>2</sup>Division of Plastic Surgery, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, USA; <sup>3</sup>Departments of Pediatrics and Surgery, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA

## Poster #30

Ekasit Sonpho<sup>1</sup>, Vidyanand Sasidharan<sup>1</sup>, Charles A.S. Banks<sup>1</sup>, Eric J. Ross<sup>1</sup>, Carlos Guerrero-Hernández<sup>1</sup>, Frederick G. Mann Jr.<sup>1</sup>, Carolyn Brewster<sup>1</sup>, Neelanshi Jain<sup>1</sup>, Beatrice Broglia<sup>1</sup>, Sean A. McKinney<sup>1</sup>, Kexi Yi<sup>1</sup>, Zulin Yu<sup>1</sup>, Alejandro Sánchez Alvarado<sup>1,2</sup>

### **Geranylgeranylation is Broadly Required for Vesicular Trafficking and Tissue Regeneration in Planarians**

<sup>1</sup>Stowers Institute for Medical Research, USA; <sup>2</sup>Howard Hughes Medical Institute, USA

### Poster #31

Anna Statsenko<sup>1</sup>, Amartya Mitra<sup>2</sup>, Lucy Lucy Bailei<sup>1</sup>, Itunu Adewoye<sup>1</sup>, Elke Buschbeck<sup>2</sup>, Mark Charlton-Perkins<sup>1</sup>

#### **Vitreous chamber expansion drives refractive development and emmetropization**

<sup>1</sup>Miami University, USA; <sup>2</sup>University of Cincinnati, United States

### Poster #32

Bau-Lin Huang<sup>1</sup>, Sean Davis<sup>2</sup>, Eiki Koyama<sup>3</sup>, Maurizio Pacifici<sup>3</sup>, Susan Mackem<sup>1</sup>

#### **A pivotal Wnt antagonist role in promoting digit joint (interzone) specification by constraining Wnt activity**

<sup>1</sup>National Cancer Institute-Frederick, MD, USA; <sup>2</sup>University of Colorado-Anschutz School of Medicine, Denver, CO, USA; <sup>3</sup>Children's Hospital of Philadelphia, Philadelphia, PA, USA

### Poster #33

Han Liu<sup>1</sup>, Jingyue Xu<sup>1</sup>, Eri Iwasawa<sup>1</sup>, Yueh-Chiang Hu<sup>1,2</sup>, Yu Lan<sup>1,2</sup>, Jason Tchieu<sup>1,2</sup>, Hee Woong Lim<sup>1</sup>, Rulang Jiang<sup>1,2</sup>

#### **Deletion at the *SIX2* locus causes frontonasal dysplasia through chromatin domain fusion and altered enhancer-gene interactions**

<sup>1</sup>Cincinnati Children's Hospital Medical Center, USA; <sup>2</sup>University of Cincinnati College of Medicine, USA

### Poster #34

Le Xu

#### **Mesothelial Plasticity Specifies a Pleural Immune Circuit that Orchestrates Lung Regeneration**

Cincinnati Children's Hospital Medical Center, USA

## Saturday, September 26

**6:30-9:30 pm**                      **Poster Session 2 (Fountain Square Room)**

6:30-8:00                        **Odd numbers** Posters 35-71

8:00-9:30                        **Even numbers** Posters 36-72

### Poster #35

Paloma Jolly

#### **Investigating the effects of elevated retinoic acid on vascular development in zebrafish**

Miami University, USA

#### Poster #36

Amalia Hunt, Joseph Lee, Kunqi Shi, Chanda Maambo, Karen Hicks

**Identifying Genes Involved in Seasonal Reproduction of *Physcomitrium patens* using QLTseq**  
*Kenyon College, USA*

#### Poster #37

Taylor Roy<sup>1,2</sup>, Sophia Hsin-Jung Li<sup>1</sup>, Maple Adkins-Threats<sup>1</sup>, Xufeng Xue<sup>1</sup>, Jim Wells<sup>1,2</sup>, Aaron Zorn<sup>1,2</sup>

**Modeling human fetal gastrointestinal tract in a microfluidic device**

<sup>1</sup>*Cincinnati Children's Hospital Medical Center, United States*; <sup>2</sup>*University of Cincinnati, United States*

#### Poster #38

Jonathan Yii

**Tandem Knockdown of *Celsr2* and *Celsr3* in *Xenopus tropicalis* on the Genetic Pathogenesis of Congenital Hydrocephalus**

*Department of Pediatrics, Yale University School of Medicine, United States*

#### Poster #39

Alexandra Kelly<sup>1</sup>, Eleonora Scalia<sup>2</sup>, Marcus Keatinge<sup>2</sup>, Rafael G. Almeida<sup>2</sup>, Daniel Y. H. Soong<sup>2</sup>, David A. Lyons<sup>2</sup>, Sarah C. Petersen<sup>1</sup>

**Debris Clearance and Repair Following Glial-Specific Damage in the Peripheral Nervous System**

<sup>1</sup>*Kenyon College, USA*; <sup>2</sup>*University of Edinburgh, United Kingdom*

#### Poster #40

Callan McKernan<sup>1,2</sup>, Shelbie Wenner<sup>2,3</sup>, Omodasola Ola<sup>2</sup>, Natalie Pfaltzgraff<sup>2</sup>, Maria Mikedis<sup>2,4</sup>

**Induced Expression of Meiotic Transcription Factor MEIOSIN is Not Sufficient to Broadly Promote Premature Meiotic Entry**

<sup>1</sup>*University of Michigan, College of Literature, Science, and The Arts, Ann Arbor, MI, United States*;

<sup>2</sup>*Reproductive Sciences Center, Division of Developmental Biology, Cincinnati Children's Hospital*

*Medical Center, Cincinnati, OH, United States*; <sup>3</sup>*Medical Scientist Training Program, University of*

*Cincinnati College of Medicine, Cincinnati, OH, United States*; <sup>4</sup>*Department of Pediatrics, University of*

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#### Poster #41

Thomas Taylor<sup>1</sup>, Matthew Riccetti<sup>2</sup>, Jenna Green<sup>1</sup>, Kimberly Wagner<sup>1</sup>, Cheng-Lun Na<sup>1</sup>, Isabella Ford<sup>1,3</sup>, Anne-Karina Perl<sup>1,2,4</sup>

**Reexamining Alveolarization through the Perspective of MEOX2+ Alveolar Fibroblasts**

<sup>1</sup>*Division of Neonatology and Pulmonary Biology, Cincinnati Children's Hospital Medical Center, United States of America*; <sup>2</sup>*Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, United States of America*; <sup>3</sup>*College of Engineering and Applied Science, University of Cincinnati, United States of America*; <sup>4</sup>*Department of Pediatrics, University of Cincinnati College of Medicine, United States of America*

#### Poster #42

Shannon Barr, Abdul Rafay Ali Jan, Lily Vondrell

#### **Root Cap-Specific Gene Editing Using a Tissue-Specific Promoter with Cas9 as a Tool for Dissecting Root Gravitropic Signaling**

*Ohio Wesleyan University, USA*

#### Poster #43

Olivia Boyea<sup>1</sup>, Kendall Martin<sup>2</sup>, Hee-Woong Lim<sup>2</sup>, Joshua Waxman<sup>2</sup>, Jennifer Schumacher<sup>1</sup>

#### **Expression of novel genes during cardiovascular development in zebrafish**

<sup>1</sup>*Miami University, USA*; <sup>2</sup>*Cincinnati Children's Hospital Medical Center, USA*

#### Poster #44

Kahlan Kahmann<sup>1,2</sup>, Madison Ringer<sup>1,2</sup>, Yanzhen Zhang<sup>1,2</sup>, Matt Kofron<sup>1,2</sup>, Cristina Cebrian<sup>1,2</sup>

#### **Hyaluronic Acid Deposition in the Nephrogenic Zone is Dispensable for Nephron Progenitor Cell Viability**

<sup>1</sup>*Cincinnati Children's Hospital, United States*; <sup>2</sup>*University of Cincinnati, United States*

#### Poster #45

Ethan Kendall, Nour Sayed, Aryesh Acharjee, Jacob Weaver

#### **Expression pattern of *FOXE3* during early stage chick development**

*Miami University, USA*

#### Poster #46

Guimba, James Eschtruth, Luke Hanson, Stepannil Kalasava, Lilly Richardson, Alexanna Taylor, Gary M. Lange

#### **Developmental impacts of environmentally relevant exposure to alternative bisphenols in the juvenile through pubertal period in rats (*Rattus norvegicus*)**

*Department of Biology, Saginaw Valley State University, United States*

#### Poster #47

Shantanu Karandikar, Laura Rolfs, Taylor Brittain, Jennifer Gutzman

#### **Role of Non-Muscle Myosin IIA in Kidney Development and *MYH9*-Related Disease.**

*University of Wisconsin-Milwaukee, USA*

#### Poster #48

Hariharan Karthikeyan<sup>1</sup>, Nicole A. Edwards<sup>1</sup>, Lu Han<sup>1</sup>, Karyn L. Robert<sup>2</sup>, Steven A. Vokes<sup>3</sup>, Sumeda Nandadasa<sup>2</sup>, Aaron M. Zorn<sup>1</sup>

#### **Mechanisms of Hedgehog/GLI-dependent regulation of Tracheoesophageal morphogenesis**

<sup>1</sup>*Division of Developmental Biology, Cincinnati Children's Hospital and Medical Center, Cincinnati, OH 45220, USA*; <sup>2</sup>*Department of Pediatrics, UMass Chan Medical School, Worcester, MA, USA*;

<sup>3</sup>*Department of Molecular Biosciences, University of Texas at Austin, Austin, TX 78712, USA*

#### Poster #49

Sachin Wagh, Kristina Ly

**Temporal Dynamics of Basement Membrane Remodeling During Stria Vascularis Development**  
*Creighton University, USA*

#### Poster #50

Benjamin Akande<sup>1</sup>, Sylvie Earlewine<sup>1</sup>, Grace Leonard<sup>1</sup>, Zoe Zwick<sup>1</sup>, Jonathon T Hill<sup>2</sup>, John Postlethwait<sup>3</sup>, Saulius Sumanas<sup>4</sup>, Jennifer A Schumacher<sup>1</sup>

**Solving an enigma: dissecting TGF- $\beta$  activity during cardiac outflow tract formation in the zebrafish heart.**

<sup>1</sup>Miami University, USA; <sup>2</sup>Brigham Young University, USA; <sup>3</sup>University of Oregon, USA; <sup>4</sup>University of South Florida, USA

#### Poster #51

Benjamin Akande<sup>1</sup>, Sylvie Earlewine<sup>1</sup>, Grace Leonard<sup>1</sup>, Zoe Zwick<sup>1</sup>, Jonathon T Hill<sup>2</sup>, John Postlethwait<sup>3</sup>, Saulius Sumanas<sup>4</sup>, Jennifer A Schumacher<sup>1</sup>

**Solving an enigma: dissecting TGF- $\beta$  activity during cardiac outflow tract formation in the zebrafish heart.**

<sup>1</sup>Miami University, USA; <sup>2</sup>Brigham Young University, USA; <sup>3</sup>University of Oregon, USA; <sup>4</sup>University of South Florida, USA

#### Poster #52

Benjamin Callaway, Caiden Duskey, Diego Pareja, Isabella Klapwijk, Mia Angulo, Ronald Henkel, Aidan Kraan, Sarah Alhilu, Mark Charlton-Perkins

**A CRISPR-based Zebrafish Model of NF1 that Provides Novel Insights into CNS Tumors**  
*Miami University of Ohio, USA*

#### Poster #53

Itunu Adewoye<sup>1</sup>, Anna Statsenko<sup>1</sup>, Amartya Mitra<sup>2</sup>, Elke Buschbeck<sup>2</sup>, Mark Charlton-Perkins<sup>1</sup>

**Identifying Altered Refractive Development in a Zebrafish Model of Myopia**

<sup>1</sup>Miami University, USA; <sup>2</sup>University of Cincinnati, USA

#### Poster #54

Yanzhen Zhang

**Defining the Role of ETV4/5 in Nephron–Collecting Duct Connectivity and Cystic Kidney Development**

*Cincinnati Children's Medical Center, United States of America*

#### Poster #55

Clare Austin, Thomas Gallagher, Sharon Amacher

**Understanding segmentation clock oscillatory gene regulation and function**  
*The Ohio State University, USA*

## Poster #56

Kristina Sattler<sup>1,2,3</sup>, Brian Paleo<sup>1,2,3</sup>, Mackenzie Roth<sup>4</sup>, Kara Bradley<sup>4</sup>, Megan Winkler<sup>4</sup>, Wakako Yoshioka<sup>5</sup>, Ichizo Nishino<sup>5</sup>, Christoph Lepper<sup>1,2,3</sup>, Kelly Crowe<sup>6</sup>

### **Assessment of Lectin Staining Biomarkers for GNE Myopathy Gene Therapy**

<sup>1</sup>*Department of Physiology and Cell Biology, The Ohio State University, USA;* <sup>2</sup>*Dorothy M. Davis Heart and Lung Research Institute, The Ohio State University, USA;* <sup>3</sup>*Wexner Medical Center, The Ohio State University, USA;* <sup>4</sup>*Department of Biology, Mount St. Joseph University, USA;* <sup>5</sup>*Department of Neuromuscular Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry (NCNP), Japan;* <sup>6</sup>*College of Osteopathic Medicine, Division of Physiology and Pathology, Xavier University, USA*

## Poster #57

Dayton Gatewood<sup>1</sup>, Jaclyn Olberding<sup>1</sup>, Taylar Simmons<sup>1</sup>, Timothy Nguyen<sup>1,2</sup>, Fan Shao<sup>1</sup>, James Thomas<sup>1</sup>, Erliang Zeng<sup>1</sup>, Brad Amendt<sup>1</sup>, Huojun Cao<sup>1</sup>, Colin Kenny<sup>1</sup>, Eric Van Otterloo<sup>1</sup>

### **Reinforcement of the frontonasal neural crest identity by TFAP2 transcription factors**

<sup>1</sup>*University of Iowa, USA;* <sup>2</sup>*Cincinnati Children's Hospital, USA*

## Poster #58

Ashley Cunha<sup>1,2</sup>, Margaret Hanlon<sup>1</sup>, Hee Woong Lim<sup>1,2</sup>, Joshua Waxman<sup>1,2</sup>

### **Cephalic epicardial-derived Igfb signaling is required for zebrafish outflow tract growth**

<sup>1</sup>*Cincinnati Children's Hospital Medical Center, USA;* <sup>2</sup>*University of Cincinnati College of Medicine, USA*

## Poster #59

Nicholas Russell<sup>1</sup>, Sarah Trovillion<sup>1</sup>, Esther Won<sup>2</sup>, Nicole Edwards<sup>2</sup>, Daniel Swarr<sup>1,3</sup>, William Zacharias<sup>1,3</sup>, Debora Sinner<sup>1,3</sup>

### **BAF-Dependent Chromatin Remodeling Coordinates Patterning Signals and Matrisome Programs during Respiratory Tract Development**

<sup>1</sup>*Cincinnati Children's Hospital Medical Center, Department of Neonatology and Pulmonary Biology, United States of America;* <sup>2</sup>*University of Michigan Medical School, Cell and Developmental Biology, United States of America;* <sup>3</sup>*University of Cincinnati College of Medicine, Department of Pediatrics, United States of America*

## Poster #60

Caroline Eichhorn<sup>1</sup>, Sarah Trovillion<sup>1</sup>, Nicholas Russell<sup>1</sup>, Anne-Karina Perl<sup>1,2</sup>, Zhiyuan (ZY) Chen<sup>2,3</sup>, Hee-Woong Lim<sup>2,4</sup>, Debora Sinner<sup>1,2</sup>

### **Investigating ARID1a/ARID1b-mediated pathways in lung development and disease**

<sup>1</sup>*Cincinnati Children's Hospital Medical Center, Neonatology and Pulmonary Biology, USA;* <sup>2</sup>*University of Cincinnati, College of Medicine, USA;* <sup>3</sup>*Cincinnati Children's Hospital Medical Center, Division of Reproductive Sciences, USA;* <sup>4</sup>*Cincinnati Children's Hospital Medical Center, Division of Bioinformatics, USA*

## Poster #61

Matthew Janik<sup>1</sup>, Monica Blatnik<sup>1,2</sup>, Thomas Gallagher<sup>1</sup>, Sharon Amacher<sup>1</sup>

### **Investigating Btg/Tob1 proteins in post-transcriptional regulation of oscillatory gene transcripts**

<sup>1</sup>The Ohio State University, USA; <sup>2</sup>Oberlin College, USA

## Poster #62

Bolu Osifalujo, Hariharan Karthikeyan, Aaron Zorn

### **Characterizing the Cell Biology of Tracheoesophageal Morphogenesis**

Cincinnati Children's Medical Hospital Center, USA

## Poster #63

Archana Singh<sup>1</sup>, Kendall E Martin<sup>1,2</sup>, Margaret A Hanlon<sup>1</sup>, Joshua S Waxman<sup>1,3</sup>

### **Nr2f1a and Tbx5a cooperatively promote atrial cardiomyocyte differentiation in zebrafish**

<sup>1</sup>Molecular Cardiovascular Biology Division and Heart Institute, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, 45229, USA; <sup>2</sup>Molecular Genetics, Biochemistry, and Microbiology Graduate Program, University of Cincinnati College of Medicine, Cincinnati, OH, 45267, USA; <sup>3</sup>Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, OH 45229, USA

## Poster #64

Mohammad Fazle Azim<sup>1</sup>, Kristen Edgeworth<sup>1,2</sup>, Stuart Hilton<sup>1</sup>, Alanta Burdrys<sup>1</sup>, Erika Conant<sup>1</sup>, Viktoriya Coneva<sup>1</sup>, Karen A. Hicks<sup>1</sup>

### **Investigating the functional conservation of EARLY FLOWERING 3 in land plants**

<sup>1</sup>Kenyon College, Gambier, Ohio, USA; <sup>2</sup>Donald Danforth Plant Science Center, St Louis, Missouri, MO, USA

## Poster #65

Yizi Zhang<sup>1</sup>, Xinyuan Li<sup>1</sup>, Hailong Lyu<sup>2</sup>, Courtney Stockman<sup>1</sup>, Kathleen Cook<sup>1</sup>, Xiaoyue Chang<sup>1</sup>, Xufeng Xue<sup>2</sup>, William Zacharias<sup>1</sup>, Anne-Karina Perl<sup>1</sup>, Le Xu<sup>1</sup>

### **Mesothelial plasticity driven by mechanical force orchestrates lung regeneration**

<sup>1</sup>Division of Pulmonary Biology, Cincinnati Children's Hospital Medical Center, Department of Pediatrics, Cincinnati, OH 45229, USA, USA; <sup>2</sup>Division of Developmental Biology, Center for Stem Cell and Organoid Medicine, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, USA

## Poster #66

David Paulding<sup>1</sup>, Genevieve Kendall<sup>1,2</sup>

### **Core mechanisms of infantile rhabdomyosarcoma across diverse fusion oncoproteins**

<sup>1</sup>Center for Childhood Cancer Research, The Abigail Wexner Research Institute, Nationwide Children's Hospital, Columbus, OH 43215, USA; <sup>2</sup>Department of Pediatrics, The Ohio State University College of Medicine, Columbus, OH 43210, USA

## Poster #67

Ethan Castillo, Victoria Prince

### **Schwann Cell Derived ErbB Signaling Influences Anterior Lateral Line Development**

*University of Chicago, United States of America*

## Poster #68

Courtney Stockman<sup>1</sup>, Irina Voda<sup>1,2</sup>, Blair Leach<sup>1,3</sup>, Joseph Finks<sup>1</sup>, Aden Jamal<sup>1,4</sup>, Kimberly Wagner<sup>1</sup>, Jenna Green<sup>1</sup>, Anne-Karina Perl<sup>1,5</sup>

### **A Specialized Fibroblast Niche Instructs Alveolar Capillary Endothelial Identity Through Localized CXCL12 Signaling**

<sup>1</sup>Neonatology and Pulmonary Biology, Cincinnati Children's Hospital Medical Center, USA; <sup>2</sup>Department of Pharmacology, Physiology, and Neurobiology Graduate Program, University of Cincinnati College of Medicine, USA; <sup>3</sup>Department of Pathobiology & Molecular Medicine Graduate Program, University of Cincinnati College of Medicine, USA; <sup>4</sup>Department of Biomedical Engineering, University of Cincinnati, USA; <sup>5</sup>Department of Pediatrics, University of Cincinnati College of Medicine, USA

## Poster #69

Cole Milas, Paul Huber, Betsy Schock

### **Using HCR to assess Cell Differentiation in Neural Crest-Induced Explants**

*University of Kentucky, USA*

## Poster #70

Laura Romano, Thao Trang Nguyen

### **Investigating the effect of temperature on the embryogenesis and reproductive output of freshwater snails**

*Denison University, USA*

## Poster #71

Aden Jamal<sup>1,2</sup>, Kimberly Wagner<sup>1</sup>, Ruby Wilson<sup>1</sup>, Joseph Finks<sup>1</sup>, Irina Voda<sup>1,3</sup>, Jessica Babros<sup>1</sup>, Jenna Green<sup>1</sup>, Courtney Stockman<sup>1</sup>, Anne-Karina Perl<sup>1,4</sup>

### **MEOX2+ Fibroblast Progenitors Respond to Neonatal Hyperoxia During Alveolar Development**

<sup>1</sup>Neonatology and Pulmonary Biology, Cincinnati Children's Hospital Medical Center, United States; <sup>2</sup>Department of Biomedical Engineering, University of Cincinnati, United States; <sup>3</sup>Department of Pharmacology, Physiology, and Neurobiology Graduate Program, University of Cincinnati College of Medicine, United States; <sup>4</sup>Department of Pediatrics, University of Cincinnati College of Medicine, United States

## Poster #72

Archana Venkatesh<sup>1</sup>, Keishi Kishimoto<sup>2</sup>, Ivan Moskowitz<sup>3</sup>, Aaron Zorn<sup>1</sup>

### **Differentiation of hPSCs into tracheal-esophageal mesenchyme *in vitro* as a model to study human disease and development**

<sup>1</sup>Center for Stem Cell and Organoid Medicine (CuSTOM), Division of Developmental Biology, Cincinnati Children's Hospital, Cincinnati, United States; <sup>2</sup>Laboratory for Lung Development and Regeneration, RIKEN Center for Biosystems Dynamics Research (BDR), Kobe, Japan; <sup>3</sup>Departments of Pediatrics, The University of Chicago, Chicago, United States

