

# STOWERS RESEARCH CONFERENCES: STEM CELLS, TISSUE PLASTICITY, AND REGENERATIVE BIOLOGY

## STOWERS INSTITUTE FOR MEDICAL RESEARCH

1000 E. 50<sup>TH</sup> STREET, KANSAS CITY, MO 64110

OCTOBER 11-13, 2023

*All talks will be presented in the Stowers Auditorium*

## WEDNESDAY, OCTOBER 11

2:00 PM TO 3:00 PM CONFERENCE REGISTRATION, ORIENTATION & POSTER SET-UP

3:00 PM TO 3:15 PM OPENING REMARKS

### SESSION 1: STEM CELL DYNAMICS

3:15 PM TO 4:10 PM **KEYNOTE: Allan Spradling & Haolong Zhu** (Graduate Student), Carnegie Science  
Title: *Ovary and Gut: a dynamic duo*

4:15 PM TO 4:35 AM **Adam Gracz**, Emory University  
Title: *Sox9 promotes biliary maturation in liver development and injury induced transdifferentiation*

4:40 PM TO 5:20 PM **Timothy Wang & Quin Waterbury** (Graduate Student), Columbia University  
Title: *A Novel Model of Intestinal Stem Cell Hierarchy – Isthmus Cells Contribute to homeostatic cellular turnover and support regeneration following intestinal injury.*

5:45 PM TO 7:00 PM **WELCOME PARTY: LINDA HALL LIBRARY**

## THURSDAY, OCTOBER 12

### SESSION 2: STEM CELLS AND REGENERATION

8:30 AM OPENING ANNOUNCEMENTS

8:35 AM TO 9:15 AM **Mayssa Mokalled & Vishnu Saraswathy** (Postdoc), Washington University School of Medicine in St. Louis  
Title: *Comparative approaches reveal regenerative mechanisms in the spinal cord*

9:20 AM TO 9:40 AM **Vidyanand Sasidharan**, Stowers Institute for Medical Research  
Title: *Extracellular-vesicle mediated cell-cell communication is required for planarian tissue maintenance*

9:45 AM TO 10:05 AM **Ram Kumar**, University of Kansas Medical Center  
Title: *METTL3 Orchestrates the Self-Renewal and Differentiation Potential of human Trophoblast Stem/Progenitor Cells*

10:05 AM TO 10:30 AM COFFEE BREAK/BREAKFAST SNACKS

10:30 AM TO 11:10 AM **Andy Groves & Ishwar Hosamani** (Graduate student), Baylor College of Medicine  
Title: *Can we restore hearing by reprogramming the cochlea?*

11:15 AM TO 11:35 AM **Fang Tao**, Children's Mercy Research Institute  
Title: *Stem Like T Cells in Anti-cancer Immunosurveillance Against Therapy-resistant Pediatric Cancer*

11:40 AM TO 12:00 PM | **Kunal Jindal**, Washington University School of Medicine  
Title: *Single-cell lineage capture across genomic modalities with CellTag-multi reveals fate-specific gene regulatory changes*

12:00 PM TO 1:30 PM | **LUNCH:** STOWERS LIBRARY

### SESSION 3: STEM CELL REGULATION AND DISEASE

1:40 PM TO 2:20 PM | **Sandra Pinho**, The University of Illinois at Chicago  
Title: *Regulation of leukemic stem cell proliferation by the bone marrow microenvironment.*

2:25 PM TO 2:45 PM | **Ruochen Dong**, Stowers Institute for Medical Research  
Title: *Spatial Transcriptomics Reveals Distinct Hematopoietic Stem Cell Niches in Mouse Fetal Liver*

2:50 PM TO 3:10 PM | **Levi Arnold**, University of Kansas Medical Center  
Title: *DCLK1-Mediated Regulation of Invadopodia Dynamics and Matrix Metalloproteinase Trafficking Drives Invasive Progression in Head and Neck Squamous Cell Carcinoma*

3:10 PM TO 3:30 PM | **BREAK: SNACKS & REFRESHMENTS**

3:30 PM TO 4:10 PM | **Simón Méndez-Ferrer & Livia Lisi-Vega** (PhD Student), University of Cambridge  
Title: *Disentangling the microenvironment regulation for improved treatment of myeloid malignancies*

4:15 PM TO 4:35 PM | **John Perry**, Children's Mercy Research Institute  
Title: *Induced pluripotent stem cell models for leukemia development and discovery of targeted therapies*

4:35 PM TO 5:35 PM | **POSTER SESSION 1**

5:40 PM TO 6:35 PM | **KEYNOTE: David Scadden**, Harvard University  
Title: *Regenerating the adult thymus*

6:45 PM | **DINNER:** STOWERS LIBRARY

## FRIDAY, OCTOBER 13

### SESSION 4: STEM CELLS AND THEIR ENVIRONMENT

8:30 AM | **OPENING ANNOUNCEMENTS**

8:35 AM TO 9:15 AM | **Sara A. Wickström & Clémentine Villeneuve** (Postdoc), Max Planck Institute for Molecular Biomedicine; University of Helsinki.  
Title: *Coordination of cell states and morphogenesis by mechanical force*

9:20 AM TO 9:40 AM | **Colton Lysaker**, University of Kansas Medical Center  
Title: *Unraveling the Role of APOE Genetic Variation in Metabolic Function: Insights from iPSC-Derived Models*

9:45 AM TO 10:05 AM | **Heather Le Bleu**, University of Oregon  
Title: *Voltage-gated calcium channels restrain outgrowth to restore zebrafish regenerated fin size*

10:05 AM TO 10:30 AM | **COFFEE BREAK/BREAKFAST SNACKS**

10:30 AM TO 11:10 AM | **Richard Locksley & Victor Cortez** (Postdoc), University of California San Francisco  
Title: *Lessons from Helminths*

- 11:15 AM TO 11:35 AM | **Shinghua Ding**, University of Missouri  
Title: *Targeting bone marrow hematopoietic stem/progenitor cells to systematically increase bioenergetics for neurodegenerative disease therapy*
- 11:40 AM TO 12:00 PM | **Daniela Muench**, Stowers Institute for Medical Research  
Title: *Immune and Sensory Organ Regeneration Programs Differ in Response to Distinct Types of Cell Death*
- 12:00 PM TO 1:30 PM | **LUNCH: STOWERS LIBRARY**

## **SESSION 5: STEM CELLS, AGING, AND THE BRAIN**

- 1:40 PM TO 2:20 PM | **Ana Martin-Villalba**, German Cancer Research Center  
Title: *The molecular secrets of stemness in the young, injured and aging brain*
- 2:25 PM TO 2:45 PM | **Sepp De Winter**, KU Leuven  
Title: *Deciphering the gene regulatory mechanisms underlying human neural tube development using organoids, single-cell multiomics and machine learning.*
- 2:50 PM TO 3:10 PM | **Carlo Donato Caiaffa**, Dell Pediatrics Research Institute, The University of Texas at Austin  
Title: *The Effects of Dolutegravir on the Development of Brain Organoids.*
- 2:30 PM TO 3:30 PM | **POSTER SESSION 2**
- 3:35 PM TO 4:30 PM | **KEYNOTE: Jürgen Knoblich & Ramsey Najm** (Postdoc), Institute of Molecular Biotechnology  
Title: *Modelling neurodevelopmental disorders in stem cell derived brain organoid culture*
- 4:45 PM TO 6:30 PM | **CONFERENCE CLOSING RECEPTION: STOWERS LIBRARY**



**Campus Map**