Preliminary Conference Program

Scientific Sessions will be held in George Bellows Ballroom (Lower Level)

Poster Sessions will be held in Elijah Pierce A&B, Edward Parker Hayden, Edna Boies Hopkins, and Robert King meeting rooms (Lobby Level)

THURSDAY MAY 4TH, 2017

10:00am Registration Opens, George Bellows Ballroom Prefunction (Lower Level)

1:00-1:15pm Welcome and opening remarks

1:15-2:55pm **Platform Session 1: Epicardium, Vascular Development and Disease**
Moderators: Kelly Smith, Sean Wu

Jingli Cao, Duke University Medical Center
Tension Creates an Endoreplication Wavefront that Leads Regeneration of Epicardial Tissue

Joshua Wythe, Baylor College of Medicine
Dynamic regulation of VEGF-inducible genes by an ERK-ERG-p300 transcriptional network

Jessica Ryvlin, Cornell University
Characterization of vascular smooth muscle cell contractile phenotypes in response to wall shear stress in the pharyngeal arch arteries

Yidong Wang, Albert Einstein College of Medicine
Uncontrolled angiogenic precursor expansion causes coronary artery anomalies in mice lacking Pofut1

Sara Koenig, Nationwide Children's Hospital
Loss of Notch1 causes ascending aortic aneurysms in mice

2:55-3:10pm Break. Coffee served George Bellows Ballroom Prefunction (Lower Level)

3:10-4:50pm **Platform Session 2: Gene Regulation in Cardiovascular Development**
Moderators: Brian Black, Anne Moon

Ram Kumar Subramanyan, University of South California
A novel reciprocal paracrine signaling loop mediated by transient expression of EphrinB2 in the myocardium regulates ventricular wall formation

Ian Scott, The Hospital for Sick Children
From mammals to fish and back again: discovering new regulators of early cardiac development

Lei Yang, University of Pittsburgh
A Novel Long Noncoding RNA Regulates Human Cardiomyocyte Development

Swetansu Hota, Gladstone Institutes of Cardiovascular Disease
BAF complex subunit diversity modulates temporally distinct gene expression programs in cardiogenesis

Lilong Guo, Medical University of South Carolina
Identification of a novel ciliary trafficking complex in the etiology of Mitral Valve Prolapse

4:50-5:05pm Break

5:05-5:15pm Introduction to Keynote Speaker

5:15-6:15pm Keynote Lecture: Christine Seidman, MD
Harvard Medical School, Brigham and Women's Hospital Boston
"Steps and Missteps in Building the Human Heart"

6:30-9:00pm Poster Session I: Odd numbers to present (*Refreshments and light hors d'oeurves served*)

Friday May 5th, 2017

7:00-9:00am Breakfast. Emerson Burkhart Room (Lower Level)

9:00-10:40am **Platform Session 3: Cardiovascular Progenitor Cells**
Moderators: Jim Martin, Debbie Yelon

Evan Bardot, Icahn School of Medicine at Mount Sinai
Foxa2 Marks a Ventricular-Specific Progenitor Population During Gastrulation

Burcu Guner-Ataman, Massachusetts General Hospital, Harvard Medical School
The DiGeorge Syndrome gene TBX1 is required to specify the nkx2.5+ cardiopharyngeal lineage

Irfan Kathiriya, University of California, San Francisco
A population of mesodermal progenitors for the interventricular septum

Alexandre Colas, SBPMDI
Id Genes Are Essential For Early Heart Formation

Brian Gibbs, Johns Hopkins School of Medicine
Hedgehog Proteins Are Key Microenvironmental Factors Necessary for the Expansion of Cardiac Progenitor Cells

10:40-10:55am Break

10:55-12:35pm **Platform Session 4: Second Heart Field and Outflow Tract**
Moderators: Robert Kelly, Michiko Watanabe

Y. Charlie Song, Cincinnati Children's Hospital Medical Center
Histone deacetlylase 1 repression of retinoic acid-responsive genes promotes second heart field development

Erica Hasten, Albert Einstein College of Medicine
Foxi3 contributes to pharyngeal arch segmentation and arch artery development

Christopher De Bono, Developmental Biology Institute of Marseille
Tbx1 and Retinoic acid-dependent Tbx5 expression coordinate second heart field progenitor cell addition to alternate cardiac poles

Natalie Gibb, The Hospital for Sick Children
Hey2 negatively regulates second heart filed progenitor addition to the zebrafish heart

Emmanouil Tampakakis, Johns Hopkins School of Medicine
Wnt Signaling Regulates Induction of Second Heart Field Cells in Pluripotent Stem Cell Systems

12:35-2:30pm Lunch

1:00-2:00pm Trainee Workshop I: *"Navigating K99 Awards"*
Drew Carlson, PhD, Program Director, Office of Research Training and Career Development, Division of Cardiovascular Sciences, NHLBI
Charlene Schramm, PhD, Program Director, NHLBI
Emerson Burkhart Room (Lower Level)

2:30-4:10pm **Platform Session 5: Cardiovascular Regeneration**
Moderators: Li Qian, Paul Riley

Shih-Lei (Ben) Lai, Max Planck Institute for Heart and Lung Research
Reciprocal analyses in zebrafish and Medaka reveal that harnessing the immune response promotes cardiac regeneration

Honghai Liu, Children's Hospital of Pittsburgh of UPMC
Repression of Ect2 Induces Cleavage Furrow Regression Leading to Binucleation of Heart Muscle cells

Donghong Zhang, Albert Einstein College of Medicine
REST-dependent p21 expression is required for cardiomyocyte proliferation in heart development and regeneration

Elad Bassat, Weizmann Institute of Science
The extracellular matrix protein Agrin promotes heart regeneration in mice

Juan Manuel Gonzalez-Rosa, Massachusetts General Hospital, Harvard Medical School
Cardiomyocyte polyploidization creates a barrier to heart regeneration in zebrafish

4:10-4:25pm Break

4:25-6:05pm **Platform Session 6: Conduction System**
Moderators: Stacey Rentschler, Ivan Moskowitz

Joshua Vincentz, Indiana University School of Medicine
A left ventricle-specific hand1 cis-regulatory element is necessary for ventricular conduction system development

Ozanna Burnicka-Turek, University of Chicago
Transcriptional architecture of cardiac conduction system patterning

Joyce Man, Academic Medical Center, Amsterdam
A super enhancer controls SCN5A expression and locus topology

Aditi Khandekar, Washington University St. Louis
Differential Electrical Programming and Arrhythmogenesis in Right versus Left Ventricles

Vincent van Eif, Academic Medical Center, Amsterdam
Transcriptional regulatory mechanisms of sinoatrial node development and function

6:30pm-9:00pm Poster Session II: Even numbers to present

Dinner on own

Saturday May 6th, 2017

7:00-9:00am Breakfast. Emerson Burkhart Room (Lower Level)

8:00-8:45am Business Meeting. George Bellows Ballroom

9:00-10:40am **Platform Session 7: Myocardial Development and Cardiomyopathies**
Moderators: Ray Hershberger, Da-zhi Wang

Nathan VanDusen, Boston Children's Hospital
Identifying regulators of cardiomyocyte maturation by CRISPR-mediated somatic mutagenesis

Kotha Ihegami, University of Chicago
Lamin a as an enhancer amplifier: a new hypothesis for LMNA-related cardiomyopathy

Xianghu Qu, Vanderbilt University Medical Center
The endothelial RTK Tie2 regulates endocardial sprouting and myocardial trabeculation via retinoic acid signaling

Cailyn Spurell, Lawrence Berkeley National Lab
Pervasive Changes in Transcriptional Enhancer Architecture in Heart Disease

Hong Ma, University of North Carolina at Chapel Hill
The RNA-binding protein Lin28a regulates cardiac hypertrophy through its role in regulating cardiomyocyte metabolism

10:40-10:55am Break

10:55-12:35pm **Platform Session 8: Heart Valve Development and Disease**
Moderators: Chip Norris, Katherine Yutzey

Felix Gunawan, Max Planck Institute for Heart and Lung Research
Functional Analysis of Focal Adhesion Factors During Zebrafish Valvulogenesis

Christine Kern, Medical University of South Carolina
A Novel Population of Myocardial Derived Mesenchymal Cells Form the Intercalated Cushions During Aortic And Pulmonary Valve Development

Andrew Kim, Cincinnati Children's Hospital Medical Center
Myeloid lineage contributions to myxomatous valve disease in a mouse model of Marfan Syndrome

Diana Fulmer, Medical University of South Carolina
Exploration of bicuspid aortic valve disease as a ciliopathy

Punashi Dutta, Nationwide Children's Hospital
High-throughput screening to identify mechanisms of promising aortic valve therapeutics

12:35-2:30pm Lunch

1:00-2:00pm Trainee Workshop II: *"Lunch and Learn"*
Roundtable lunch to discuss career-building topics with faculty
Emerson Burkhart Room (Lower Level)

2:30-4:10pm **Platform Session 9: Cardiovascular Genetics**
Moderators: Kim McBride, Bernice Morrow

Josephina Meester, University of Antwerp

Loss-of-function mutations in the X-linked gene BGN cause a severe syndromic form of thoracic aortic aneurysms and dissections

John Wells, Indiana University School of Medicine
Mutation in gpr101 causes X-linked heterotaxy

Jessica Piche, CHU Sainte-Justine
New insights into molecular mechanisms of CAID syndrome suggest novel non-canonical roles for sgol1 in global gene repression

Junyi Zhu, Children's National Medical Center
High throughput in vivo functional validation of candidate congenital heart disease genes in Drosophila

Saulius Sumanas, Cincinnati Children's Hospital Medical Center
Mutations in Collagen COL22A1 cause intracranial aneurysms

4:10-4:25pm Break

4:25-4:35pm Introduction to Keynote Speaker

4:35-5:35pm Keynote Lecture: Simon Hoerstrup, MD, PhD
University of Zurich, Wyss Institute

5:35-5:45pm Weinstein 2018
Isao Shiraishi, Hiro Yamagashi

5:45pm Closing Remarks

6:30-11:00pm Farewell Banquet at The Ivory Room, 2 Miranova Place, 6th Floor, Columbus, OH 43215. Transportation from and to The Downtown Hilton will be provided.