

Our grateful acknowledgement
to the following for educational
grants in support of this program:

Roche Applied Science
W. Nuhsbaum, Inc./Leica
Microscopes
Beckman Coulter Foundation
Siemens Medical Solutions, Inc.
B. Braun Interventional Systems, Inc.

*Special thanks to the following for
their support of this program:*

Riley Children's Foundation

Herman B Wells Center for Pediatric
Research

Indiana University School of Medicine,
Department of Pediatrics

Riley Hospital for Children,
Riley Outpatient Center (Ruth Lilly
Learning Center)



"The project described was supported by Grant
Number P01HL085098 from the National Heart
Lung, And Blood Institute. The content is solely
the responsibility of the authors and does not
necessarily represent the official views of the
NHLBI or the NIH."

Riley Heart Research Center
Wells Center for Pediatric Research
Cancer Research Institute
1044 W. Walnut, R4 302
Indianapolis, IN 46202

Riley Heart Center Symposium on Cardiac Development



Hosted by:

Riley Heart Center
Cardiovascular Surgery
Pediatric Cardiology
Heart Research

Indiana University
School of Medicine



Sept. 14—15, 2009

**Riley Outpatient Center
Ruth Lilly Auditorium**

2009 Riley Heart Center Symposium on Cardiac Development

Monday, September 14, 2009:

8:15—8:45 am Registration & Continental Breakfast

8:45—9:00 am Welcome by Anthony Firulli

9:00—10:30 am Session I: Early heart morphogenesis

(Moderator: Anthony Firulli)

- A bHLH code for cardiac morphogenesis, Anthony Firulli, PhD, Riley Heart Research Center, IUSM, Indianapolis, IN
- Genetic and genomic dissection of cardiogenesis in the Drosophila model, Manfred Frasch, PhD, University of Erlangen-Nurnberg, Erlangen, Germany
- Exploring non-redundant and overlapping roles for the transcription factors Nkx2-3, 2-5 and 2-10 during Xenopus heart development, Daniel Weeks, PhD, University of Iowa, Iowa City, IA

10:30—10:45 am Break

10:45—12:15 pm Session II: Pre- and Post-transcriptional regulation

(Moderators: Josh Vincenz & Michael Olaopa)

- Transcriptional and signaling pathways in cardiac development, Edward Morrisey, PhD, Penn Institute for Regenerative Medicine, Philadelphia, PA
- MicroRNAs in cardiac development, Kathryn Ivey, PhD, Gladstone Institute of Cardiovascular Disease, UCSF, San Francisco, CA
- MicroRNAs in cardiac development and function, Da-Zhi Wang, PhD, Cardiovascular Research, Children's Hospital Boston, Harvard Medical School, Boston, MA

12:15—2:15 pm Lunch Break & Poster Session

2:15—3:45 pm Session III: Cardiovascular patterning

(Moderators: Deqiang Li & Marc Zaruba)

- Targets of Hey bHLH factors in cardiovascular development, Manfred Gessler, MD, Theodor-Boveri-Institute, University of Wuerzburg, Germany
- Transcriptional control of left-right patterning in heart development, Shoumo Bhattacharya, MD, Wellcome Trust Centre for Human Genetics, Univ. of Oxford, UK
- Identification of Tbx1 Targets: Fgf8-independent requirements for pharyngeal ectoderm in great vessel development, Peter Scambler, MD, Molecular Medicine Unit, Institute of Child Health, London, UK

3:45—4:00 pm Break

4:00—5:30 pm Session IV: Cardiac vascular development

(Moderators: Paige Snider & Ralston Barnes)

- A combinatorial transcriptional code for endothelial development, Brian Black, PhD, Cardiovascular Research Institute, UCSF, San Francisco, CA
- Serum response factor mediated transcriptional control of early coronary vasculogenesis, Ravi Misra, PhD, Medical College of Wisconsin, Milwaukee, WI
- Notch signaling in cardiovascular development, Jonathan Epstein, MD, Penn Cardiovascular Institute, University of Pennsylvania, Philadelphia, PA

Tuesday, September 15, 2009:

8:15—8:45 am Continental Breakfast

8:45—10:15 am Session V: Remodeling the valves and heart

(Moderators: Nagendra Rayapureddi & Sunyong Tang)

- AV valve development in zebrafish, Didier Stainier, PhD, Cardiovascular Research Institute, UCSF, San Francisco, CA
- Heart valve development and disease, Katherine Yutzey, PhD, Cincinnati Children's Medical Center, University of Cincinnati, Cincinnati, OH
- Mechanisms that contribute to remodeling and repair of the heart, Thomas Braun, MD, PhD, Max-Planck-Institute for Heart and Lung Research, Bad Nauheim, Germany

10:15—10:30 am Break

10:30—12:00 pm Session VI: Congenital heart defects

(Moderator: Simon Conway)

- NKX2.5 and the genetic origins of pediatric heart disease, D. Woodrow Benson, MD, PhD, Cincinnati Children's Medical Center, University of Cincinnati, Cincinnati, OH
- Conotruncal Defects: A clinical imaging perspective, Tiffanie Johnson, Riley Heart Center (Pediatric Cardiology), IUSM, Indianapolis, IN
- Mouse models of human CHD's, Simon Conway, Riley Heart Research Center, IUSM, Indianapolis, IN

12:00—12:15 pm Summary & Conclusion by Simon Conway

12:15 pm Lunch

Course Description:


This program is designed for basic and physician scientists working in the field of cardiovascular development. The focus of this program is cardiovascular development, with a specific look at transcriptional unification during heart development. Specific topics include early heart morphogenesis, transcriptional regulation, cardiovascular patterning, cardiovascular development, remodeling the valves and the heart, and congenital heart defects. This program will advance the overall field of cardiovascular development by providing attendees with a better understanding of what occurs during heart development.

Course Objectives:

At the conclusion of this course participants should be able to:

- Describe identifiers and markers for determining early heart morphogenesis
- Differentiate between pre- and post-transcriptional and signaling pathways
- Recognize and differentiate cardiovascular patterns
- Identify different stages of cardiac vascular development
- Discuss mechanisms that contribute to remodeling the valves of the heart
- Develop new models for studying congenital heart defects

Accreditation Statement

 The Indiana University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Designation Statement

The Indiana University School of Medicine designates this educational activity for a maximum of 9.25 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Faculty Disclosure Statement

In accordance with the Accreditation Council for Continuing Medical Education (ACCME) Standards for Commercial Support, educational programs sponsored by Indiana University School of Medicine (IUSM) must demonstrate balance, independence, objectivity, and scientific rigor. All faculty, authors, editors, and planning committee members participating in an IUSM-sponsored activity are required to disclose any relevant financial interest or other relationship with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services that are discussed in an educational activity.

Note

While it offers CME credits, this activity is not intended to provide extensive training or certification in the field.