10th Annual CDBC Spring Symposium

The Cardiovascular Developmental Biology Center
and
The South Carolina COBRE for Developmentally Based Cardiovascular Diseases

PRESENT:

“Translational Relevance of Studying Cardiovascular Development”

March 14-16, 2012

TABER LECTURE by:
Dr. Shoumo Bhattacharya
British Heart Foundation Chair of Cardiovascular Medicine,
University of Oxford, UK

CDBC LECTURE by:
Dr. Peter Kohl
Chair in Cardiac Biophysics and Systems Biology
National Heart & Lung Institute
Imperial College London, UK

Location:
Cardiovascular Developmental Biology Center
Department of Regenerative Medicine and Cell Biology
Medical University of South Carolina
Conference Room
6th floor Basic Science Building

http://regmed.musc.edu/cdbc/workshop2012/index.html

Artwork:
Ludivine Renaud
MCPB Graduate Student
“Translational Relevance of Studying Cardiovascular Development”

**Wednesday March 14**

12:00pm – 01:00pm  **REGISTRATION**

01:15pm – 01:30pm  **Andy Wessels** Medical University of South Carolina  
*Welcome and Introduction*

**Session I: Chairs - Rob Gourdie MUSC and Jay Potts University of South Carolina**

01:30pm – 02:00pm  **Jonathan Butcher** Cornell University  
*“Quantitative In Vivo Imaging of Embryonic Heart Morphogenesis”*

02:00pm – 02:30pm  **Carmine Gentile** Medical University of South Carolina  
*“VEGF-mediated Phosphorylation of eNOS Regulates Angioblast and Endothelial Cell Proliferation”*

02:30pm – 03:00pm  **Alexander Awgulewitsch** Medical University of South Carolina  
*“Hox-controlled Vascular Remodeling”*

03:00pm – 03:30pm  **BREAK**

03:30pm – 04:00pm  **Emily Ongstad** Medical University of South Carolina  
*“Role of the connexin43 CT on Myocyte-fibroblast Interactions in a 3D Model of the Infarct Border Zone”*

04:00pm – 04:30pm  **Martin Morad** University of South Carolina and Medical University of South Carolina  
*“Calcium Signaling in Human IPSCs: How Close are We to Mature Heart?”*

04:30pm – 05:00pm  **Bob Ross** University of California, San Diego  
*“Is It Beneficial to be Altering Expression of Cardiomyocyte Integrin Pathway Components?”*

05:00pm – 05:15pm  **BREAK**

**TABER LECTURE**

05:15pm – 05:30pm  **Introduction from Roger Markwald** Medical University of South Carolina

05:30pm – 06:15pm  **Shoumo Bhattacharya** University of Oxford, UK  
*“Gene-Environment Interactions in Cardiac Development”*

06:30pm – 09:00pm  **TABER RECEPTION** at Governor Thomas Bennett House, 69 Barre Street

**Thursday March 15**

**Session II: Chairs - Rick Visconti MUSC and Rich Goodwin University of South Carolina**

08:30am – 09:00am  **Marie Lockhart** Medical University of South Carolina  
*“Contribution of Epicardially Derived Cells to the AV Valvuloseptal Complex”*

09:00am – 09:30am  **Bob Dettman** Northwestern University  
*“How PI3K/Akt Signaling Influences Epicardial Development”*

09:30am – 10:00am  **Michelle Talquist** University of Hawaii  
*“Signaling Pathways Regulating Epicardial Cell Fate Decisions”*

10:00am – 10:30am  **BREAK**

10:30am – 11:00am  **Frank Conlon** University of North Carolina  
*“The Cardiac TBX20 Transcriptional Complex and Cardiomyocyte Proliferation”*

11:00am – 11:30am  **Maurice van den Hoff** University of Amsterdam, The Netherlands  
*“Cardiac Regeneration from Activated Epicardium”*

11:30am – 12:00pm  **Amy Bradshaw** Medical University of South Carolina  
*“SPARC and DDR2 as Regulators of Cardiac Fibroblast Function”*
Thursday March 15 (continued)

12:00pm – 01:30pm  **LUNCH**

**Session III: Chairs - Christi Kern and Chip Norris** Medical University of South Carolina

01:30pm – 02:00pm  **Vidu Garg** The Ohio State University

“The Role of Notch Signaling in Aortic Disease”

02:00pm – 02:30pm  **Jean-Jacques Schott** University of Nantes, France

“Genomics of Cardiac Valve Defects in the Context of Genetically Isolated Populations”

02:30pm – 03:00pm  **David Gregg** Medical University of South Carolina

“A Look to the Clinical Side: Lessons from Adults with Congenital Heart Disease”

03:00pm – 03:30pm  **Eric Svensson** University of Chicago

“The Role of Ets-1 in Human and Murine Congenital Heart Disease”

03:30pm – 04:00pm  **BREAK**

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**CDBC LECTURE**

04:15pm – 04:30pm  **Introduction** from **Tom Borg** Medical University of South Carolina

04:30pm – 05:15pm  **Peter Kohl** Imperial College London, UK

“Systems Biology of the Heart: Hype or Hope”

06:00pm – 09:00pm  **CDBC / COBRE SPEAKERS DINNER**

Friday March 16

**Session IV: Chairs - Steve Kubalak** Medical University of South Carolina and **Maurice van den Hoff** University of Amsterdam, The Netherlands

09:00am – 09:30am  **Zoltan Hajdu** Medical University of South Carolina

“Hematopoietic-derived Cells in the Valves: from Embryonic Development to Adult Pathology”

09:30am – 10:00am  **Jay Potts** University of South Carolina

“Early Valve Development Conducting the Symphony of Signals”

10:00am – 10:30am  **Keerthi Harikrishnan** Medical University of South Carolina

“Fibulin-1 Regulation of Cell Cycle Progression in Developing Cardiac Valves”

10:30am – 11:00am  **BREAK**

11:00am – 11:30am  **Yukiko Sugi** Medical University of South Carolina

“The Role of BMP in Differentiation and Lineage Restriction of AV Endocardial Cushion Cells”

11:30am – 12:00pm  **Kimberly Sauls** Medical University of South Carolina

“The Origin and Progression of Filamin-A Mediated Valvulopathy: A Molecular, Cellular and Histopathological Analysis”

12:00pm – 12:15pm  **CLOSING REMARKS**

12:15pm  **ADJOURN**
Dr. Elsie Taber (1915-2000) graduated from the University of South Carolina and obtained her master’s degree from Stanford University. After teaching biology at Greenwood High School and Lander College, she undertook advanced studies at the University of Chicago where she received the Doctor of Philosophy degree and served on the faculty. In 1948, she joined the Anatomy Department of the (then) Medical College of South Carolina, the first woman to hold a full-time appointment in the medical school. Her career included pioneering research in the field of growth and development and endocrinology, her contributions to teaching included the introduction of human genetics into the basic embryology course for first year medical students at the College of Medicine. Elsie Taber made numerous contributions to biomedical literature and participated in many professional societies, including the American Association of Anatomists and the American Society of Zoologists. She is listed in Who’s Who of American Women, Outstanding Educators of America, and American Men and Women of Science. She received many awards including the coveted Golden Apple Award, given by medical students for excellence in teaching. The high point came in 1991 when she was awarded the Degree of Doctor of Humane Letters. Her former students honored her with a portrait which hangs in the main lobby of the Department of Regenerative Medicine and Cell Biology (formerly known as Cell Biology and Anatomy) at MUSC, and The Elsie Taber Lectureship in Human Development. This lecture has been presented by several distinguished scientists, including Dr. E. Hay (1983), Dr. B. Mintz (1985), Dr. J. Fallon (1996), Dr. D. Fischman (1999), Dr. A. Moorman (2000), Dr. N. Brown (2001), Dr. R. H. Anderson (2002), Dr. S. Baldwin (2003), Dr. P. Antin (2005), Dr. Ray Runyan (2007), Dr. Cliff Tabin (2008), and Dr. Adriana Gittenberger-de Groot (2011).

We are extremely pleased that we can add to this list of distinguished Taber Lecturers the name of Dr. Shoumo Bhattacharya, Professor of Cardiovascular Medicine & Fellow of Green Templeton College, University of Oxford. Dr. Bhattacharya received his MD degree from the All India Institute of Medical Sciences, New Delhi, in 1985 and his MSc from King’s College, London, in 1992. His work includes the identification of the catalytic mechanism of apolipoprotein B RNA editing, elucidating aspects of a protein interaction network for CREBBP/p300, the genes mutated in Rubinstein Taybi Syndrome, consisting of STAT2, HIF1A and p35srj/CITED2, the discovery of the role of CITED2 in cardiac, adrenal and neural development and cell proliferation, and the development of an embryonic magnetic resonance imaging approach that enabled technology for high-throughput genetic analysis of cardiac development. Dr. Bhattacharya’s Taber Lecture is entitled: “Gene-environment interactions in cardiac development”.

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