



The BCVS Council strives to highlight the work of early career investigators. Over 20% of the talks in this program are presented by early career speakers.

Final Program

Monday, July 14

Continental Breakfast/Registration

Champagne 1 & 2

7:00 – 8:00 AM

Session 1: New Twists on Signaling Mechanisms in the Heart

Concorde AB

8:00 – 10:00 AM

MODERATORS

Xiongwen Chen, PhD, Temple University, Philadelphia, PA

Robert Ross, MD, UC San Diego / VA San Diego Healthcare System, San Diego, CA

8:00 Drug Discovery Targeting Novel Necrotic Signaling Pathways

Richard Kitsis, MD, Albert Einstein College Medicine, New York, NY

8:20 New Mechanisms in Myocardial Autophagy

Junichi Sadoshima, MD, PhD, UMDNJ New Jersey Medical School, Newark, NJ

8:40 Focal Adhesion Kinases in Cardiac Hypertrophy

Kleber Franchini, MD, PhD, Campinas State University, Campinas, Brazil

9:00 Exploring CaMKII Signaling in Myocardial Digitalis Toxicity

Martin Vila Petroff, PhD, Centro de Investigaciones Cardiovasculares, La Plata,, Argentina

9:20 The Role of Diabetes in Myocardial Ischemia-reperfusion Injury

Ling Tao, MD, PhD, The Fourth Military Medical University, Xi'an, Shaanxi, China

9:40 Non-canonical GRK2 Function Modulates Myocardial TNFalpha Signaling

Sathyamangla Naga Prasad, PhD, Cleveland Clinic-Lerner Research Institute, Cleveland, OH

Refreshment Break

Champagne 1 & 2

10:00 – 10:20 AM

Session 2: Cardiac Signaling, Conduction and Exercise

Concorde AB

10:20 AM – Noon

MODERATORS

Joshua Hare, MD, University of Miami, Miami, FL

Joseph Libonati, PhD, University of Pennsylvania, Philadelphia, PA

10:20 Exercise-based Discovery of Novel Targets in Heart Disease

Anthony Rosenzweig, MD, Beth Israel Deaconess Medical Center, Boston, MA

10:40 **IGF1 Signaling and Exercise Induced Hypertrophy**

Julie McMullen, PhD, Baker IDI Heart and Diabetes Institute, Melbourne, Australia

11:00 **Calcium, CaMKII and ROS Microdomains in Ischemic Cardiomyopathy**

Karin Sipido, MD, PhD, Katholieke University Leuven, Leuven, Belgium

11:20 **Disease Modeling of Brugada Syndrome using iPS Cells**

Keiichi Fukuda, MD, PhD, Keio University School of Medicine, Tokyo, Japan

11:40 **Catecholaminergic Polymorphic Ventricular Tachycardia - Paradigm for Calcium Triggered Arrhythmia**

Bjorn Knollmann, MD, PhD, Vanderbilt University, Nashville, TN

Welcome Remarks

Concorde AB

1:45 – 2:05 PM

Elliott Antman, MD, President American Heart Association, Brigham and Women's Hospital, Associate Dean for Clinical/Translational Research, Harvard Medical School, Boston, MA

Session 3: Signaling Pathways and Heart Failure Progression

Concorde AB

2:05 – 4:05 PM

MODERATORS

John Calvert, Emory University School of Medicine, Atlanta, GA

Susan Steinberg, MD, Columbia University, New York, NY

2:05 **Biased Signaling in Cardiovascular Therapeutics**

Howard Rockman, MD, Duke University, Durham, NC

2:25 **Redox Modifications of Proteins Involved in Cardiac Arrhythmogenesis During Reperfusion**

Cecilia Mundiña-Weilenmann, PhD, Centro de Investigaciones Cardiovasculares-Universidad Nacional de La Plata Medicina, La Plata, Argentina

2:45 **Targets of CaMKII – Mediated Cell Death and Heart Failure Progression**

Joan Heller Brown, PhD, University of California San Diego, La Jolla, CA

3:05 **Something Old, Something New: L- and T-type Calcium Channels in Heart Failure Progression**

Steven Houser, PhD, Temple University School of Medicine, Philadelphia, PA

3:25 **HDAC4 Controls Histone Response to Elevated Cardiac Load**

Christopher Maack, MD, Saarland University Medical Center, Homburg, Germany

3:45 **Molecular Mechanisms of Anthracycline Cardiotoxicity**

Richard Vander Heide, MD, PhD, LSU Health New Orleans, New Orleans, LA

Session 4: Keynote Lecture

Concorde AB

4:05 – 4:50 PM

MODERATOR

Kirk Knowlton, MD, University of California San Diego, La Jolla, CA

4:05 **Cancer Stem Cells: Lessons Learned From Glioblastomas**

Inder M. Verma, PhD, Salk Institute for Biological Studies, La Jolla, CA

Refreshment Break

Champagne 1 & 2

4:50 – 5:10 PM

Session 5: The Emerging Importance of Diastolic Dysfunction

Concorde AB

5:10 – 6:50 PM

MODERATORS

Joseph Woo, MD, Stanford University School of Medicine, Stanford, CA

Michael Kapiloff, MD, PhD, University of Miami, Miami, FL

5:10 **Titin-the Giant Protein of Heart Failure**

Henk Granzier, PhD, University of Arizona, Tucson, AZ

5:30 **Role of Titin in Myocardial Diastolic Stiffness**

Wolfgang Linke, PhD, DSc, Ruhr University Bochum, Bochum, Germany

5:50 **Mechanisms of Diastolic Dysfunction in Metabolic Heart Disease**

Wilson Colucci, MD, FACC, Boston University Medical Center, Boston, MA

6:10 **Modeling Diastolic Dysfunction in Engineered Heart Muscle**

Wolfram Zimmermann, MD, University Medical Center Göttingen, Göttingen, Germany

6:30 **Mechanisms and Implications of Redox Regulation of the Na⁺-K⁺ Pump in the Cardiovascular System**

Gemma Figtree, MBBS, PhD, Royal North Shore Hospital, Sydney, Australia

Poster Session 1

Champagne 3 & 4

6:50 – 8:20 PM

Tuesday, July 15

Continental Breakfast/ Registration/ Exhibits

Champagne 1 & 2

7:00 – 8:00 AM

Session 6: Genetics and Genomics of Heart Failure

Concorde AB

8:00 – 9:40 AM

MODERATORS

Emiliano Medei, MD, PhD, Instituto de Biofisica Carlos Chagas Filho, Rio de Janeiro, Brazil

Elizabeth Murphy, PhD, NHLBI, NIH, Bethesda, MD

8:00 **Inherited Cardiomyopathies and Heart Failure**

Jonathan Seidman, PhD, Harvard Medical School, Boston, MA

8:20 **Genotype-phenotype Interactions in Cardiomyopathy**

Elizabeth McNally, MD, PhD, University of Chicago, Chicago, IL

8:40 **Integrative Genomics of Heart Failure**

Euan Ashley, MB, DPhil, MRCP, Stanford University, Stanford, CA

9:00 **Knockout Rats to Investigate Cardiovascular Function and Disease**

Hongliang Li, MD, PhD, Wuhan University, Wuhan, China

9:20 **An Integrative Approach to Sarcomeric Cardiomyopathies: From Computation to Animal Models**

Jil Tardiff, MD PhD, University of Arizona, Tucson, AZ,

Refreshment Break/Exhibits

Champagne 1 & 2
9:40 – 10:00 AM

Session 7: Cardiac Epigenetics and Regulatory RNA's
Concorde AB

10:00 – 11:40 AM

MODERATORS

Gianluigi Condorelli, MD, PhD, Humanitas Clinical and Research Center, Milan, Italy
Lorrie Kirshenbaum, PhD, St. Boniface Hospital Research Center, Winnipeg, Canada

- 10:00 **HDACs in Cardiovascular Development, Physiology and Disease**
Jonathan Epstein, MD, University of Pennsylvania, Philadelphia, PA
- 10:20 **Targeting Epigenetic Reader Proteins in Heart Failure**
Saptarsi Haldar, MD, Case Western Reserve University School of Medicine, Cleveland, OH
- 10:40 **Alternative Splicing in Heart Failure Pathogenesis**
Yibin Wang, PhD, David Geffen School of Medicine at UCLA, Los Angeles, CA
- 11:00 **miRNAs in Cardiomyocyte Proliferation and Cardiac Regeneration**
Da-Zhi Wang, PhD, Boston Children's Hospital, Boston, MA
- 11:20 **LncRNA Mechanism of Heart Failure**
Ching-Pin Chang, MD, PhD, Krannert Institute of Cardiology, Indiana University School of Medicine, Indianapolis, IN

Early Career Workshop/Lunch

Concorde C

Noon – 1:30 PM

MODERATORS

Maria Kontaridis, PhD, Beth Israel Deaconess Medical Center, Boston, MA
Loren Wold, Ohio State University, Columbus, OH

- Noon **Balancing Professional and Personal Responsibilities: How to Achieve Career Success Without Missing Out on Life**
Asa Gustafsson, PhD, University of California, La Jolla, CA
- 12:45 **The Key to Successfully Revising Your Fellowship or Grant Application: The Importance of Responding to the Reviewers' Critiques**
Burns Blaxall, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Session 8: Cardiovascular Omics

Concorde AB

1:30 – 3:10 PM

MODERATORS

Joseph Hill, MD, PhD, UT Southwestern Medical Center, Dallas, TX
Xiaolei Xu, PhD, Mayo Clinic, Rochester, MN

- 1:30 **The Cardiosplenic Axis in Heart Failure**
Sumanth Prabhu, MD, University of Alabama-Birmingham, Birmingham, AL
- 1:50 **A Systems Approach to Decipher the Metabolic Origins of Heart Failure**
Daniel Kelly, MD, Sanford-Burnham Medical Research Institute, Orlando, FL
- 2:10 **Metabolic Signaling and Myocardial Dysfunction in Insulin Resistance and Obesity**
Dale Abel, MD, PhD, University of Iowa, Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA

2:30 **Cardiac Amyloidosis: Model Organisms Inform Human Disease**

Ronglih Liao, PhD, Brigham and Women's Hospital, Boston, MA

2:50 **Myocardial Reductive Stress**

Ivor Benjamin, MD, FACC, Medical College of Wisconsin, Milwaukee, WI

Refreshment Break/Exhibits

Champagne 1 & 2

3:10 – 3:30 PM

Session 9: Keynote Lecture

Concorde AB

3:30 – 4:15 PM

MODERATOR

Walter Koch, PhD, Temple University School of Medicine, Philadelphia, PA

3:30 **Found in Translation: New Insights into the Pathogenesis and Treatment of Marfan Syndrome and Related Disorders**

Hal Dietz, MD, Johns Hopkins University School of Medicine, Baltimore, MD

Session 10: Epicardium vs Endocardium in Myocardial Repair and Reprogramming

Concorde AB

4:15 – 5:55 PM

MODERATORS

David Lefer, PhD, Louisiana State University Health Sciences Center, New Orleans, LA

Weinian Shou, PhD, Indiana University School of Medicine, Indianapolis, IN

4:15 **Role of the Epicardium in Mammalian Cardiac Development and Repair**

William Pu, MD, Children's Hospital Boston, Boston, MA

4:35 **Epicardium-derived Mesenchymal Stem-like Cells in Cardiac Homeostasis and Disease**

Richard Harvey, PhD, University of New South Wales, Darlinghurst, Australia

4:55 **Hippo Signaling and Epicardial Cell Fates**

James Martin, MD, PhD, Texas Heart Institute, Houston, TX

5:15 **Aortic Valve Development and Disease**

Katherine Yutzey, PhD, Cincinnati Children's Medical Center, Cincinnati, OH

5:35 **Wnt1/ β catenin Signaling in Epicardial Activation**

Arjun Deb, MD, University of California Los Angeles, Los Angeles, CA

Poster Session 2

Champagne 3 & 4

5:55 – 7:25 PM

Early Career Reception

Versailles 4

7:25 – 9:00 PM

Wednesday, July 16

Continental Breakfast/Registration/Exhibits

Champagne 1 & 2

7:00 – 8:00 AM

Session 11: Emerging Role of Cardiac Fibroblasts

Concorde AB

8:00 – 9:40 AM

MODERATORS

Nikolaos Frangogiannis, MD, Albert Einstein College of Medicine, Bronx, NY
Timothy McKinsey, PhD, University of Colorado Denver, Aurora, CO

8:00 **Epicardial Derived Cells in Fibrotic Remodeling**

Michelle Tallquist, PhD, University of Hawaii, Honolulu, HI

8:20 **miRNAs Modulate Cardiac Fibrosis**

Stefan Engelhardt, MD, PhD, Technische Universität München (TUM), Munich, Germany

8:40 **The Odd Couple: Myocyte-fibroblast Coupling in the Heart**

Peter Kohl, MD, PhD, Imperial College of London-National Heart and Lung Institute, London, United Kingdom

9:00 **The Interactive Roles of Inflammation and Fibrosis**

Douglas Mann, MD, Washington University School of Medicine, St Louis, MO

9:20 **Discovery, Progress, and Challenges of Direct Cardiac Reprogramming for Heart Repair**

Masaki Ieda, Keio University School of Medicine, Tokyo, Japan

Refreshment Break/Exhibits

Champagne 1 & 2

9:40 – 10:00 AM

Session 12: Cell and Tissue Reprogramming

Concorde AB

10:00 AM – Noon

MODERATOR

W. Robb MacLellan, MD, University of Washington, Seattle, WA

Litsa Kranias, PhD, University of Cincinnati College of Medicine, Cincinnati, OH

10:00 **Reprogramming of Human Fibroblasts Toward a Cardiac Fate**

Eric Olson, PhD, UT Southwestern Medical Center at Dallas, Dallas, TX

10:20 **Modified mRNA Directs the Fate of Heart Progenitor Cells**

Kenneth Chien, MD, PhD, Karolinska Institutet, Stockholm, Sweden

10:40 **Heart Regeneration and the Potential Role of Nerves**

Richard Lee, MD, Harvard Medical School, Cambridge, MA

11:00 **Incomplete Transdifferentiation with Cardiac Reprogramming Factors**

Sean Wu, MD, PhD, Stanford University School of Medicine, Stanford, CA

11:20 **Genetic Lineage Tracing for Ckit Progenitor Cell Contribution to the Heart**

Jeffery Molkentin, PhD, Children's Hospital Medical Center, Cincinnati, OH

11:40 **Where Are We With Cell-based Therapy Translational Research and Clinical Trials**

Joshua Hare, MD, University of Miami, Miami, FL

Early Career Workshop/Lunch

Concorde C

Noon – 1:30 PM

MODERATORS

Nicole Purcell, PhD, University of California San Diego, La Jolla, CA

Donald Menick, PhD, Gaze Cardiac Research Institute, Charleston, SC

NOON **How to Successfully Transition From Your SDG/BGIA Early Investigator Award to the Coveted R01**

Christopher Baines, PhD, Dalton Cardiovascular Research Center, University of Missouri Columbia, MO

- 12:45 **Publish or Perish: How to Write a Manuscript for Publication in *Circulation Research***
Roberto Bolli, MD, University of Louisville, Louisville, KY

Session 13: Outstanding Early Career Investigator Award Finalists

Concorde AB

1:30 – 2:15 PM

MODERATORS

Kirk Knowlton, MD, University of California San Diego, La Jolla, CA

W. Robb MacLellan, MD, University of Washington, Seattle, WA

- 1:30 **Klf5 Regulates Cardiac Ppara and Med13 and affects Cardiac Fatty Acid Metabolism and Obesity**
Konstantinos Drosatos, MSc, PhD, Temple University School of Medicine, Philadelphia, PA
- 1:45 **The Role of Post-translational Modifications in SERCA2a-related Cardiac Dysfunction**
Changwon Kho, PhD, Icahn School of Medicine at Mount Sinai, New York, NY
- 2:00 **A β 1-Adrenergic Receptor/ β -Arrestin1-Regulatable MicroRNA, MiR-150 Protects the Mouse Heart from Ischemic Injury by Repressing Pro-apoptotic Egr2 and P2x7r**
Il-man Kim, PhD, Georgia Regents University, Augusta, GA

Session 14: Joint AHA/HFSA: Myocardial Repair and Regeneration

Concorde AB

2:15 – 4:15 PM

MODERATORS

Daniel Garry, MD, University of Minnesota, Minneapolis, MN

Annarosa Leri, MD, Brigham and Women's Hospital, Boston, MA

- 2:15 **PDGFR α Demarcates the Cardiogenic Clonogenic Sca-1+ Stem Cell in Adult Myocardium**
Michael Schneider, MD, National Heart and Lung Institute, London, United Kingdom
- 2:35 **Continuity of Heart Development and Regeneration: Molecules and Cells**
Henry Sucov, PhD, University of Southern California, Los Angeles, CA
- 2:55 **Myocardial Regeneration in Mouse Hearts**
Loren Field, PhD, Riley Hospital for Children, Indianapolis, IN
- 3:15 **Gene Therapy for Heart Failure**
Roger Hajjar, MD, Mount Sinai School of Medicine, New York, NY
- 3:35 **The Role of Prostaglandin E2 in Regulating Endogenous Cardiac Regeneration**
Patrick Hsieh, MD, PhD, National Cheng Kung University, Tainan City, Taiwan
- 3:55 **Teaching an Old Heart New Tricks: Lessons from the Neonate**
Hesham Sadek, MD, PhD, UT Southwestern Medical Center, Dallas, TX

Refreshment Break/Exhibits

Champagne 1 & 2

4:15 – 4:35 PM

Session 15: Engineered Heart Tissue for Modeling, Therapeutic Discovery and Repair

Concorde AB

4:35 – 5:55 PM

MODERATORS

Loren Field, PhD, Riley Hospital for Children, Indianapolis, IN

Thomas Vondriska, PhD, University of California Los Angeles, Los Angeles, CA

- 4:35 **Human Engineered Heart Tissue**
Thomas Eschenhagen, MD, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
- 4:55 **Facility Design and Bioreactor System for Cell Production**
Masahiro Kino-Oka, PhD, Osaka University, Osaka, Japan
- 5:15 **Scalability for Stem Cell Bioprocessing and Engineered Tissue Modules**
Todd McDevitt, PhD, Georgia Institute of Technology, Atlanta, GA
- 5:35 **Optical Imaging of Cardiac Microtissues for Drug Discovery**
Leslie Tung, PhD, John Hopkins University, Baltimore, MD

Poster Session 3
Champagne 3 & 4
6:00 – 7:30 PM

Council Dinner
Rivoli A/B
7:30 PM

Thursday, July 17

Continental Breakfast/Registration
Champagne 1 & 2
7:00 – 8:00 AM

Session 16: Impact of Non-myocytes on Myocardial Function

Concorde AB
8:00 – 10:00 AM

MODERATORS

David Dostal, PhD, Texas A&M University HSC, Temple, TX
Jianyi Zhang, MD, PhD, University of Minnesota Medical School, Minneapolis, MN

- 8:00 **Cancer Drug Toxicity in the Heart**
Thomas Force, MD, Vanderbilt University, Nashville, TN
- 8:20 **T cells in the Heart: Their Role in the Pathogenesis of Heart Failure**
Pilar Alcaide, PhD, Tufts Medical Center, Boston, MA
- 8:40 **Inflammatory Cell Functions in the Injured Myocardium**
Peter Libby, MD, Brigham and Women's Hospital, Boston, MA
- 9:00 **Advances and Lessons Learned From Clinical Trials with Cardiac Stem Cells**
Roberto Bolli, MD, University of Louisville, Louisville, KY
- 9:20 **Myocardial Regeneration: Uncommon Sense for Common Problems**
Mark Sussman, PhD, San Diego State University, San Diego, CA
- 9:40 **Genetic Basis of Isoproterenol-Induced Cardiac Fibrosis**
Christoph D. Rau, University of California Los Angeles, Los Angeles, CA

Session 17: Mitochondrial Biology and Protein Misfolding and/or Proteotoxicity

Concorde AB
10:00 AM – Noon

MODERATORS

Roberta Gottlieb, MD, San Diego State University, San Diego, CA
Xuejun Wang, MD, PhD, University of South Dakota, Vermillion, SD

- 10:00 **Mitochondrial Triage in the Heart**

Gerald Dorn, MD, Washington University School of Medicine, St. Louis, MO

10:20 **Mitofusins in Heart**

Kenneth Walsh, PhD, Boston University School of Medicine, Boston, MA

10:40 **Proteotoxicity and Cardiac Dysfunction**

Jeffrey Robbins, PhD, Cincinnati Children's Hospital, Cincinnati, OH

11:00 **Regulation of Cardiac Metabolism in Single Mitochondria**

Wang Wang, MD, PhD, University of Washington, Seattle, WA

11:20 **Understanding Molecular Signatures of Cardioprotection: A Data to Knowledge Strategy**

Peipei Ping, PhD, David Geffen School of Medicine at UCLA, Los Angeles, CA

11:40 **Domain-Specific Roles for GRK2 in Cardiac Hypertrophy and Heart Failure**

Sarah M. Schumacher-Bass, PhD, Temple University, Philadelphia, PA

Adjourn

Noon