

## AGENDA | MONDAY, OCTOBER 1

- 8:00 – 8:10 a.m.      **Welcome and Opening Remarks**  
Manfred Boehm, M.D., Cardiology Branch, Division of Intramural Research, NHLBI
- 8:10 – 8:30 a.m.      **The NHLBI Investment in Stem Cell Research**  
Elizabeth G. Nabel, M.D., Director, NHLBI
- 8:30 – 10:05 a.m.      **Session I: Lessons From Hematopoiesis**  
Chairs:  
David T. Scadden, M.D., Harvard Medical School and Massachusetts General Hospital  
Cynthia Dunbar, M.D., Hematology Branch, Division of Intramural Research, NHLBI
- 8:30 – 8:35 a.m.      Introduction to Topic and Speakers
- 8:35 – 9:00 a.m.      **Got Niche?**  
David T. Scadden, M.D., Harvard Medical School and Massachusetts General Hospital
- 9:00 – 9:25 a.m.      **Contributions of the Blood System to Lineage Programming and Reprogramming**  
Stuart H. Orkin, M.D., Harvard Medical School
- 9:25 – 9:50 a.m.      **Possible Mechanisms Underlying the Greater Potency of Adult Stem Cells**  
Catherine Verfaillie, M.D., Katholieke Universiteit van Leuven (Belgium)
- 9:50 – 10:05 a.m.      Roundtable Discussion
- 10:05 – 10:20 a.m.      Break
- 10:20 a.m. – 12:20 p.m.      **Session II: Fate and Specification in Embryonic Stem Cells**  
Chairs:  
Kenneth R. Chien, M.D., Ph.D., Harvard Medical School and Massachusetts General Hospital  
Natalie DeWitt, Ph.D., *Nature*
- 10:20 – 10:25 a.m.      Introduction to Topic and Speakers
- 10:25 – 10:50 a.m.      **Derivation of Hematopoietic Cells From Human Embryonic Stem Cells**  
Mickie Bhatia, Ph.D., McMaster University (Canada)
- 10:50 – 11:15 a.m.      **Generation of Germline-competent Induced Pluripotent Stem Cells**  
Shinya Yamanaka, M.D., Ph.D., Kyoto University (Japan)
- 11:15 – 11:40 a.m.      **Multipotent *Isl1*+ Cardiovascular Progenitors**  
Kenneth R. Chien, M.D., Ph.D., Harvard Medical School and Massachusetts General Hospital
- 11:40 a.m. – 12:05 p.m.      **Dissecting Self-renewal in Stem Cells with RNA Interference**  
Natalia B. Ivanova, Ph.D., Princeton University
- 12:05 – 12:20 p.m.      Roundtable Discussion

## MONDAY, OCTOBER 1 (continued)

- 12:20 – 1:15 p.m. Lunch (on your own)
- 1:15 – 3:15 p.m. **Session III: Vascular Regeneration – Where Vasculogenesis and Angiogenesis Collide**  
Chairs:  
Stefanie Dimmeler, Ph.D., University of Frankfurt (Germany)  
Manfred Boehm, M.D., Cardiology Branch, Division of Intramural Research, NHLBI
- 1:15 – 1:20 p.m. Introduction to Topic and Speakers
- 1:20 – 1:45 p.m. **VEGFs for More Vessels and Muscle**  
Kari Alitalo, M.D., Ph.D., University of Helsinki (Finland)
- 1:45 – 2:10 p.m. **Thymosin  $\beta$ 4 Promotes Neovascularisation via Adult Epicardium: Translating Its Potential as a Novel Angiogenic Therapy**  
Paul R. Riley, Ph.D., Institute of Child Health (United Kingdom)
- 2:10 – 2:35 p.m. **Endothelial Progenitor Cells for Vascular Medicine**  
Takayuki Asahara, M.D., Ph.D., RIKEN Center for Developmental Biology/IBRI, Tokai University (Japan)
- 2:35 – 3:00 p.m. **Circulating Progenitor Cells: Characterisation and Mechanisms of Action**  
Stefanie Dimmeler, Ph.D., University of Frankfurt (Germany)
- 3:00 – 3:15 p.m. Roundtable Discussion
- 3:15 – 3:30 p.m. Break
- 3:30 – 5:30 p.m. **Session IV: Cardiac Regeneration I – Heart Development and Cardiac Regeneration**  
Chairs:  
Jonathan A. Epstein, M.D., University of Pennsylvania School of Medicine  
Cecilia Lo, Ph.D., Laboratory of Developmental Biology, Division of Intramural Research, NHLBI
- 3:30 – 3:35 p.m. Introduction to Topic and Speakers
- 3:35 – 4:00 p.m. **microRNA Regulation of Cell Lineages in Mouse and Human Embryonic Stem Cells**  
Deepak Srivastava, M.D., University of California, San Francisco
- 4:00 – 4:25 p.m. **Multipotent Progenitor Cells in the Developing and Adult Murine Heart**  
Richard Harvey, Ph.D., Victor Chang Cardiac Research Institute, University of New South Wales (Australia)

## MONDAY, OCTOBER 1 (continued)

- 4:25 – 4:50 p.m.      **Maintaining the Undifferentiated State**  
Jonathan A. Epstein, M.D., University of Pennsylvania School of Medicine
- 4:50 – 5:15 p.m.      **Cardiac Myogenesis in Embryonic Stem Cells**  
Michael D. Schneider, M.D., Imperial College London (United Kingdom)
- 5:15 – 5:30 p.m.      Roundtable Discussion
- 5:30 p.m.              Adjournment
- 5:30 – 6:45 p.m.      Poster Session and Networking

## TUESDAY, OCTOBER 2

- 8:00 – 10:25 a.m.      **Session V: Toward Progenitor and Stem Cell-based Therapy – Lessons Learned From Large Animal Models and Clinical Trials**  
Chairs:  
Joshua M. Hare, M.D., Miller School of Medicine, University of Miami  
Philippe Menasché, M.D., Ph.D., Hôpital Européen Georges Pompidou (France)
- 8:00 – 8:05 a.m.      Introduction to Topic and Speakers
- 8:05 – 8:30 a.m.      **Mechanisms of Action and Clinical Utility of Mesenchymal Stem Cells in Cardiac Repair**  
Joshua M. Hare, M.D., Miller School of Medicine, University of Miami
- 8:30 – 8:55 a.m.      **Autologous CD34 Cell Therapy for Ischemic Tissue Repair**  
Douglas W. Losordo, M.D., Northwestern University
- 8:55 – 9:20 a.m.      **Lessons Learnt From Large Animal Models and Clinical Trials**  
Philippe Menasché, M.D., Ph.D., Hôpital Européen Georges Pompidou (France)
- 9:20 – 9:45 a.m.      **Clinical Benefit of Progenitor Cell Therapy in Acute Myocardial Infarction: Mechanisms and Future Directions**  
Andreas M. Zeiher, M.D., University of Frankfurt (Germany)
- 9:45 – 10:10 a.m.      **Defining Human Endothelial Progenitor Cells**  
Mervin C. Yoder, Jr., M.D., Indiana University School of Medicine
- 10:10 – 10:25 a.m.      Roundtable Discussion
- 10:25 – 10:40 a.m.      Break

## TUESDAY, OCTOBER 2 (continued)

- 10:40 a.m. – 1:05 p.m.      **Session VI: Cardiac Regeneration II – Adult Cardiac Muscle Progenitors**  
Chairs:  
Catherine Verfaillie, M.D., Katholieke Universiteit van Leuven (Belgium)  
Michael D. Schneider, M.D., Imperial College London (United Kingdom)
- 10:40 – 10:45 a.m.      Introduction to Topic and Speakers
- 10:45 – 11:10 a.m.      **Human Cardiac Stem Cells**  
Piero Anversa, M.D., New York Medical College
- 11:10 – 11:35 a.m.      **Cardiac Stem Cells From Human Endomyocardial Biopsies**  
Eduardo Marbán, M.D., Ph.D., Heart Institute, Cedars-Sinai Medical Center
- 11:35 a.m. – 12:00 p.m.      **Cardiac Side Population Cells: Role of BCRP1**  
Ronglih Liao, Ph.D., Brigham and Women's Hospital
- 12:00 – 12:25 p.m.      **Repairing the Infarcted Heart: Roles for Endogenous and Exogenous Stem Cells**  
Charles E. Murry, M.D., Ph.D., University of Washington Medical Center
- 12:25 – 12:50 p.m.      **Periostin Induces Proliferation of Differentiated Cardiomyocytes and Promotes Cardiac Repair**  
Bernhard Kühn, M.D., Children's Hospital, Boston
- 12:50 – 1:05 p.m.      Roundtable Discussion
- 1:05 – 2:00 p.m.      Lunch (on your own)
- 2:00 – 2:40 p.m.      **Session VII: Selected Talks**
- 2:00 – 2:05 p.m.      Introduction to Session
- 2:05 – 2:15 p.m.      **Fate Mapping of Neointima Formation in a Murine Vein-Arterial Graft Model**  
Jason Mellad, Cardiology Branch, Division of Intramural Research, NHLBI
- 2:15 – 2:25 p.m.      **Transplanted Human Embryonic Stem Cell-derived Cardiomyocytes Form Grafts in Nude Rat Hearts Exposed to Ischemia/Reperfusion**  
Wangde Dai, M.D., The Heart Institute, Good Samaritan Hospital,  
University of Southern California
- 2:25 – 2:40 p.m.      **NHLBI Cardiovascular Cell Therapy Research Network**  
Sonia I. Skarlatos, Ph.D., FAHA, Division of Cardiovascular Diseases,  
Division of Extramural Research, NHLBI

## TUESDAY, OCTOBER 2 (continued)

- 2:40 – 4:40 p.m.      **Session VIII: Regenerative Medicine Technologies**  
Chairs:  
Loren J. Field, Ph.D., Indiana University School of Medicine  
Robert Balaban, Ph.D., Laboratory of Cardiac Energetics,  
Division of Intramural Research, NHLBI
- 2:40 – 2:45 p.m.      Introduction to Topic and Speakers
- 2:45 – 3:10 p.m.      Kevin C. Eggan, Ph.D., Harvard Medical School
- 3:10 – 3:35 p.m.      **A New Approach for Tracking Cell Fate in Animals—and  
Potentially Humans**  
Richard T. Lee, M.D., Brigham and Women's Hospital
- 3:35 – 4:00 p.m.      **Monitoring Myogenic Donor Cells: The Good, The Bad, and The Ugly**  
Loren J. Field, Ph.D., Indiana University School of Medicine
- 4:00 – 4:25 p.m.      **Multimodality Imaging for the Assessment of Myocardial Cell Therapy**  
Albert C. Lardo, Ph.D., Johns Hopkins University School of Medicine
- 4:25 – 4:40 p.m.      Roundtable Discussion
- 4:40 – 5:00 p.m.      **Concluding Remarks and Adjournment**  
Manfred Boehm, M.D., Cardiology Branch, Division of Intramural Research, NHLBI