



2018 Preliminary Program

EUCOMED & Ethical MedTech COMPLIANT

Preliminary Program

Moderated Posters

Display Posters

Thursday, April 12th

- 7:50 - 8:00 **Welcome and Opening of the 4th Scientific Meeting of the Heart Valve Society**
Martin B. Leon, MD, President of the Heart Valve Society
- 8:00 - 10:00
Presidential Plenary Session I: A Futuristic Vision of Valvular Heart Disease
Moderators: Martin B. Leon, MD, Hanneke Takkenberg, MD, PhD
Discussants: Vinod Thourani, MD, Giles Dreyfus, MD, Maurice Sarano, MD, Rakesh Suri, MD, PhD, Michael Borger, MD, Eberhard Grube, MD
- 8:00 - 8:30 **Presidential Address: The Emergence of Structural Heart Disease and the Multidisciplinary Heart Team**
Martin B. Leon, MD
- 8:30 - 9:00 **Live Case Demonstration from the Montreal Heart Institute**
- 9:00 - 9:15 **Featured Lecture: One Valve for Life - Tissue Engineered Heart Valves on the Verge of Clinical Application!**
Peter Zilla, MD
- 9:15 - 9:20 **Discussion**
- 9:20 - 9:35 **Featured Lecture: Redefining Aortic Stenosis - A Dynamic Interpretation Including the Roles of Ventricular Stroke Work and Vascular Impedance**
Elazer Edelman, MD PhD
- 9:35 - 9:40 **Discussion**
- 9:40 - 9:55 **Featured Lecture: The Current and Future Impact of TAVI on Cardiovascular Medicine - My Crystal Ball for the Next Decade**
Eberhard Grube, MD
- 9:55 - 10:00 **Discussion**
- 10:00 - 10:30 **Coffee Break**
- 10:30 - 12:00 **Commemorative Plenary Session - Celebrating the 50th Anniversary of the Circulation Aortic Stenosis Natural History Manuscript**
Moderators: Martin B. Leon, MD and Robert O. Bonow, MD
Discussants: Gregg W. Stone, MD, Tyrone David, MD, Alain Cribier, MD, Elezar Edelman, MD, PhD, Eugene Braunwald, MD, Micheal Mack, MD
- 10:30 - 10:45 **Personal Reflections on the Natural History of Aortic Stenosis**
Eugene Braunwald, MD
- 10:45 - 11:00 **Roundtable Discussion**
- 11:00 - 11:12 **Aortic Stenosis Today: 50 Years of Evolutionary Thinking and Current Knowledge Gaps**
Robert O. Bonow, MD
- 11:12 - 11:15 **Discussion**
- 11:15 - 11:27

Perspectives on Changing Surgical Therapies for Aortic Stenosis

Tyrone David, MD

11:27 - 11:30

Discussion

11:30 - 11:42

The Journey to Create Transcatheter Therapy Alternatives for Aortic Stenosis Patients

Alain Cribier, MD

11:42 - 11:45

Discussion

11:45 - 11:57

Can Quantitative Metrics Replace Symptom-Directed Intervention For Aortic Stenosis

Elazer Edelman, MD

11:57 - 12:00

Discussion

12:00 - 1:30

LUNCHEON SYMPOSIUM

12:00 - 1:30

Valve Science Abstracts: Innovation and Translation in Tissue Engineering

Moderator:

1. Design of a Novel Multidirectional Fluid Shear Stress Bioreactor to Replicate Bicuspid Aortic Valve Aorta Hemodynamics In Vitro

Janet Liu, Kurtis Cornelius, Mathew Graham, Tremayne Leonard, Austin Tipton, Abram Yorde, Philippe Sucusky.

Wright State University, Dayton, OH, USA.

2. Polycaprolactone-Chitosan Nanofibers Electrospun on Decellularized Bovine Pericardium as a Regenerative Biomaterial for Heart Valve Tissue Replacement

Jahnvi Mudigonda, Muralidhar Padala.

Emory University, Atlanta, GA, USA.

3. In Situ Cardiovascular Tissue Engineering using Degradable Polymeric Scaffolds: Scaffold Optimization and Long-term In-vivo Follow-up

Jolanda Kluin¹, Anthal Smits², Hanna Talacua¹, Emanuela Fioretta³, Max Emmert³, Serge Söntjens⁴, Henk Janssen⁴, Simon Hoerstrup³, Patricia Dankers², Frank Baaijens², **Carlijn Bouten²**.

¹*Academic Medical Center, Amsterdam, Netherlands,* ²*Eindhoven University of Technology, Eindhoven, Netherlands,* ³*University of Zürich, Zürich, Switzerland,* ⁴*SyMO-CHEM, Eindhoven, Netherlands.*

4. First Implantation of a Hybrid Tissue-Engineered Heart Valve in a Sheep's Mitral Position

Ramin Zareian¹, Daisuke Morisawa¹, Roger S. Geertsema¹, Earl Steward¹, Mariwan Majid¹, Arti Kapadia¹, Clinton Wynne², Jeffrey C. Milliken¹, **Arash Kheradvar¹**.

¹*University of California, Irvine, Irvine, CA, USA,* ²*GE Healthcare, San Diego, CA, USA.*

5. Tissue-engineered Pediatric Pulmonary Valve Conduit in Growing Lamb Model

Zeeshan Syedain, Mathew Lahti, Richard Bianco, Robert Tranquillo.

University of Minnesota, Minneapolis, MN, USA.

6. Right Ventricular Outflow Tract Regeneration: Last Development of the TEH-Tube Project

David Kalfa¹, Paul Hommes-Schattmann², Bilal Ahmad³, Margaux Pontailier⁴, Axel Neffe², Marilys Blanchy⁵, Gareth Williams⁶, Philippe Menasché⁷, Andreas Lendlein⁸, Pierre Pouponneau⁹.

¹*TEH-Tube scientific coordinator, Columbia University, NYC, NY, USA,* ²*Institute of Biomaterial Science and Berlin-Brandenburg Centre for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Berlin, Germany,* ³*UCL School of Pharmacy, Department of Electrospinning, University College London, London, United Kingdom,* ⁴*INSERM U 970, PARCC & Laboratory of Biosurgical Research, Paris, France,* ⁵*Rescoll, Bordeaux, France,* ⁶*UCL School of Pharmacy, Department of Electrospinning, University College London, London, United Kingdom,* ⁷*Department of Cardiovascular Surgery, Hôpital Européen Georges Pompidou; University Paris Descartes, Sorbonne Paris Cité, Paris, France,* ⁸*Institute of Biomaterial Science and Berlin-Brandenburg Centre for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Berlin, Germany,* ⁹*Statice SAS, Besacon, France.*

7. The SULEEI Procedure - A Novel Approach For Crosslinking And Sterilization Of Pericardia For Manufacturing Bioprosthetic Heart Valves

Simona Walker¹, Jessy Schönfelder¹, Aline Jakob², Christiane Wetzel¹, Sems-Malte Tugtekin², Michael C Hacker³, Michaela Schulz-Siegmund³.

¹Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP, Dresden, Germany,

²Department of Cardiac Surgery, Faculty of Medicine CGC, Technische Universität Dresden, Herzzentrum

Dresden, Dresden, Germany, ³Institute of Pharmacy, Pharmaceutical Technology, Leipzig University, Leipzig, Germany.

1:30 - 3:00

CONCURRENT SPECIAL TOPIC SESSIONS/Abstract Session

5 Concurrent Sessions

Aortic Valve Disease Track

Mitral Tricuspid Track

Valve Science Track

Special Topics Track

Abstract Session - Aortic Valve

AORTIC VALVE DISEASE TRACK

1:30 - 3:00

Concurrent Session Aortic Valve Disease Track: Calcific Aortic Valve Disease: Clinical and Basic Research Highlights

Moderators: Magnus Back, MD and Elazer Edelman, MD, PhD

Discussants: Calvin Yeang, MD, PhD, Isaac George, MD, Jeffrey Borer, MD, Philippe Genereux, MD, Marie-Annick Clavel, DVM, PhD, Torsten P. Vahl, MD, PhD

1:30 - 1:42

Calcific Aortic Stenosis Occurrence and Progression - A Clinical Perspective

Magnus Back, MD

1:42 - 1:45

Discussion

1:45 - 1:57

The Role of Lp(a) in Calcific Aortic Valve Disease: Clinical and Basic Research Evidence

Calvin Yeang, MD

1:57 - 2:00

Discussion

2:00 - 2:12

Developmental Pathways in Calcific Aortic Valve Disease

Joy Lincoln, PhD

2:12 - 2:15

Discussion

2:15 - 2:27

New Experimental Models to Study Calcific Aortic Valve Disease

Jesper Hjortnaes, MD, PhD

2:27 - 2:30

Discussion

2:30 - 2:42

The Role of Biomarkers in Aortic Valve Disease

Marie-Annick Clavel, DVM, PhD

2:42 - 2:45

Discussion

2:45 - 2:57

New TAVR Systems for Calcific Aortic Stenosis

Torsten P. Vahl, MD, PhD

2:57 - 3:00

Discussion

MITRAL-TRICUSPID TRACK

1:30 - 3:00

Concurrent Session Mitral-Tricuspid Track: Mitral Regurgitation - Anatomy, Pathophysiology, Imaging and Medical Therapy

Moderators: Mark Reisman, MD, Gregg W. Stone, MD

Discussants: Giovanni Ferrari, PhD, Jonathan Weinsaft, MD, Rakesh Suri, MD, Francesco Grigioni, MD, Stephanie Mick, MD, Gilbert Tang, MD

1:30 - 1:42

Anatomy of the Mitral Valve Apparatus

Mark Reisman, MD

1:42 - 1:45

Discussion

1:45 - 1:57

Understanding the Mechanisms Contributing to Degenerative and Functional MR

Giovanni Ferrari, PhD

1:57 - 2:00

Discussion

2:00 - 2:12

Quantitative Imaging of the Mitral Valve

Maurice Sarano, MD

2:12 - 2:15

Discussion

- 2:15 - 2:27 **Pathophysiology and Natural History of Degenerative MR**
Francesco Grigioni, MD
- 2:27 - 2:30 **Discussion**
- 2:30 - 2:42 **Pathophysiology and Natural History of Functional MR**
Jonathan Weinsaft, MD
- 2:42 - 2:45 **Discussion**
- 2:45 - 2:57 **Guideline-Directed Medical Therapy for MR: When is Intervention Needed? Insights from COAPT?**
Gregg Stone, MD
- 2:57 - 3:00 **Discussion**

VALVE SCIENCE TRACK

- 1:30 - 3:00 **Concurrent Session Valve Science Track: Innovations in Aortic Stenosis**
Moderators: Adrian Chester, PhD and Joy Lincoln, MD
Discussants: Simon Body, MD, Kristyn Masters, Francesco Pasqualini, MD, Jane Grande-Allen, PhD
Jonathan Butcher, PhD and Wei Sun, PhD
- 1:30 - 1:42 **Genetic Mechanisms of Bicuspid Aortic Valve-Related Aortopathy**
Simon Body, MD
- 1:42 - 1:45 **Discussion**
- 1:45 - 1:57 **Engineered Models to Study Inflammation in Aortic Stenosis**
Kristyn Masters, MD
- 1:57 - 2:00 **Discussion**
- 2:00 - 2:12 **Therapeutic discoveries in the treatment of Calcific Aortic Valve Disease**
Joy Lincoln, MD
- 2:12 - 2:15 **Discussion**
- 2:15 - 2:27 **Nano Fabrication of Aortic Valve Disease Models**
Francesco Pasqualini, MD
- 2:27 - 2:30 **Discussion**
- 2:30 - 2:42 **Is there an Appropriate In Vitro Model of Aortic Valve Calcification?**
Jonathan Butcher, PhD
- 2:42 - 2:45 **Discussion**
- 2:45 - 2:57 **CTA-Based Biomechanical Simulations to Predict and Explain TAVR Complications**
Wei Sun, PhD
- 2:57 - 3:00 **Discussion**

SPECIAL TOPICS TRACK

- 1:30 - 3:00 **Concurrent Session Special Topics Track: Controversies in Valvular Heart Disease I**
Moderators: Giles Dreyfus, MD and David Adams, MD
Discussants: Philippe Pibarot, DVM, PhD, Judy Hung, MD, Rakesh Suri, MD, Craig R. Smith, MD, Eberhard Grube, MD, Howard Herrmann, MD

FLASH DEBATES: EACH FLASH DEBATE 6 MINS PER SPEAKER WITH NO MORE THAN 10 SLIDES!

- 1:30 - 1:42 **FLASH DEBATE: Management of Patients with Low Gradient, Normal EF Aortic Stenosis**
- All Should Be Treated!**
Philippe Pibarot, DVM, PhD
- A Selective Approach is Warranted**
Judy Hung, MD
- 1:42 - 1:48 **Discussion**
- 1:48 - 2:00 **FLASH DEBATE: Patients Undergoing SAVR Should Receive a Bioprosthesis**

ALL Patients!

Patrick McCarthy, MD

Selective Patients

Michael Borger, MD

2:00 - 2:06

Discussion

2:06 - 2:18

FLASH DEBATE: Should Severe Functional MR be Defined Differently for Ischemic Patients?

Of Course!

Rebecca Hahn, MD

No Way...

Maurice Sarano, MD

2:18 - 2:24

Discussion

2:24 - 2:36

FLASH DEBATE: Conventional Surgery for Degenerative MR Will Be Replaced by Transcatheter Techniques in 20 Years

Without a Doubt!

Andrea Colli, MD

Not a Chance!

David Adams, MD

2:36 - 2:42

Discussion

2:42 - 2:54

FLASH DEBATE: The MitraClip FMR Trials Will Affect Current Practice...

My Prediction: They will be POSITIVE and MitraClip will Reign Supreme!!

Maurizio Taramasso, MD

My Prediction: They will be NEGATIVE and MitraClip will Remain a Niche Technology!

Giles Dreyfus, MD

2:54 - 3:00

Discussion

ABSTRACT SESSION

1:30 - 3:00

Concurrent Abstract Session: Aortic Valve

Moderators: Tom Nguyen, MD and Ezequiel Molina, MD

Discussants: Philippe Pibarot, DVM, PhD, Susheel Kodali, MD and Ori Ben-Yehuda, MD

8. Medtronic Freestyle in 971 patients over a 18 year time period: the Oldenburg Experience

Jerry Easo¹, Alexander Weymann¹, Marcin Szczechowicz¹, Philipp Hölzl², Ahmed Mashhour¹, Konstantin Zhigalov¹, Michael Horst¹, Harald Eichstaedt¹, Juergen Ennker¹, Otto Dapunt³.

¹University Hospital Oldenburg, Oldenburg, Germany, ²Helios Hospital Siegburg, Siegburg, Germany, ³Medical University of Graz, Graz, Austria.

9. Outcomes of Patients with Significant Obesity Undergoing TAVR or SAVR in the Randomized PARTNER 2 Trial

Shmuel Chen¹, Bjorn Redfors¹, Ori Ben-Yehuda¹, Aaron Crowley¹, Danny Dvir², John Webb³, Sung-Han Yoon⁴, Raj Makkar⁴, Vinod Thourani⁵, Murat Tuzcu⁶, Michael Mack⁷, Tamim Nazif⁸, Isaac George⁸, Susheel Kodali⁸, Martin B. Leon, MD⁸.

¹Cardiovascular Research Foundation, New York, NY, USA, ²University of Washington, Seattle, WA, USA, ³St. Paul's Hospital, Vancouver, BC, Canada, ⁴Cedars-Sinai Medical Center, Los Angeles, CA, USA, ⁵Medstar Washington Hospital Center, Washington, DC, USA, ⁶Cleveland Clinic, Cleveland, OH, USA, ⁷Baylor Scott & White Health, Plano, TX, USA, ⁸Columbia University Medical Center, New York, NY, USA.

10. Development of a Novel Deep Learning System for Aortic Valve Flow Quantification on Cardiac Magnetic Resonance Imaging.

Alex Bratt, M.D.¹, Meredith Pollie, B.S.², Noel Codella, Ph.D.³, Wayne Colizza, M.D.¹, Rocio Perez-Johnston, M.D.⁴, Jiwon Kim, M.D.², Jonathan Weinsaft, M.D.².

¹Weill Cornell Medicine/New York Presbyterian Hospital, New York, NY, USA, ²Weill Cornell Medicine, New York, NY, USA, ³IBM TJ Watson Research Center, Yorktown Heights, NY, USA, ⁴Memorial Sloan Kettering Cancer Center, New York, NY, USA.

11. 15 Years Outcomes Following Bioprosthetic Versus Mechanical Aortic Valve Replacement In Patients Aged 50 To 65 Years With Isolated Aortic Stenosis

Emiliano A. Rodríguez-Caulo, Juan Otero-Forero, María-José Mataró, Gemma Sánchez-Espin, Arantza Guzón, Carlos Porras, José M. Villaescusa, Miguel Such, José-María Melero-Tejedor.
Hospital Universitario Virgen de la Victoria de Málaga, Málaga, Spain.

Invited Speaker - Choice of TAVR Valve Types: Choices based on anatomical considerations

Susheel Kodali, MD

12 minutes talk with 5 minute discussion

12. Bioprosthetic Valve Fracture to Facilitate ViV TAVR in Small Surgical Bioprostheses

Keith Allen¹, Adnan Chhatriwalla¹, John Saxon¹, David J. Cohen¹, Vinod Thourani², Josh Rovin³, Anthony Bavry⁴, Tom C. Nguyen⁵, Richard Lee⁶, Brian Whisenant⁷, Mark J. Russo⁸.

¹St. Luke's Mid America Heart Institute, Kansas City, MO, USA, ²Emory University School of Medicine, Atlanta, GA, USA, ³Morton Plant Hospital, Tampa Bay, FL, USA, ⁴University of Florida, Gainesville, FL, USA, ⁵University of Texas Medical School at Houston, Houston, TX, USA, ⁶Saint Louis University, St. Louis, MO, USA, ⁷Intermountain Heart Institute, Murry, UT, USA, ⁸Newark Beth Israel Medical Center, Newark, NJ, USA.

13. Multi-Biomarker Approach as Prognostic Tool In Patients With Severe Aortic Stenosis Undergoing Surgical Valve Replacement

Ricardo A. Spampinato, Rafal Bochen, Franz Sieg, Konstantin von Aspern, Josephina Haunschild, Elfriede Strottdrees, Sven Lehmann, Christian Etz, Michael A. Borger.
Heart center Leipzig, Leipzig, Germany.

14. Estimation of Stroke Volume and Aortic Valve Area in Patients with Aortic Stenosis: A Comparison of Doppler-Echocardiography and Cardiac Magnetic Resonance

Ezequiel Guzzetti, Philippe Pibarot, DVM, PhD, Marie-Annick Clavel, Lionel Tastet, MSc, Mohamed-Salah Annabi, Eric Larose, Romain Capoulade, PhD, Julio Garcia, PhD, Marie Arsenault, Elisabeth Bedard.
IUCPQ, Quebec, QC, Canada.

3:00 - 3:30

Coffee Break

3:30 - 5:30

Plenary Session II: A Global Perspective on Inclusive Heart Valve Disease Care

Moderator: Hanneke Takkenberg, MD, PhD, Cheryl Pegus, MD

Discussants: Jose Pomar, MD, Liesl Zuhlke, MD, Megan Coylewright, MD, Ori Ben-Yehuda, MD, Jane Grande-Allen, MD

3:30 - 4:00

Live Case Demonstration from the Montreal Heart Institute

4:00 - 4:10

Why "Inclusive" Heart Valve Disease Care is Critical for the Future? My Perspectives...

Hanneke Takkenberg, MD, PhD

4:10 - 4:25

Featured Lecture: Global Safe Surgery

Jose Pomar, MD

4:25 - 4:30

Discussion

4:30 - 4:45

Featured Lecture: Putting Race, Ethnicity and Gender on the Cardiovascular Care Agenda

Cheryl Pegus, MD

4:45 - 4:50

Discussion

4:50 - 5:05

Featured Lecture: The REMEDY for Rheumatic Heart Disease

Liesl Zuhlke, MD

5:05 - 5:10

Discussion

5:10 - 5:25

Featured Lecture: Including the Patient in HVD Treatment Decision Making

Megan Coylewright, MD

5:25 - 5:30

Discussion

5:30 - 5:45

HVS Business Meeting

5:30 - 7:00 **Poster Competition and Reception**
Lead Moderator: Marta Sitges, MD

Friday, April 13th

7:00 - 8:00 **VRN Meetings**

8:00 - 10:00 **Plenary Session III: Next Frontier - Advances in the Care of Asymptomatic Mitral and Tricuspid Valve Disease**
Moderator: Rakesh Suri, MD and Maurice Sarano, MD
Discussants: Milind Desai, MD, Brian Griffin, MD, Rebecca Hahn, MD, Wael Jaber, MD, Didier Loulmet, MD

8:00 - 8:30 **Live Case Demonstration from the Cleveland Clinic**

8:30 - 8:45 **Featured Lecture: Advancing Indications in Degenerative MR Correction**
Maurice Sarano, MD

8:45 - 8:50 **Discussion**

8:50 - 9:05 **Featured Lecture: Concurrent Functional TR - When is Enough Enough?**
Yan Topilsky, MD

9:05 - 9:10 **Discussion**

9:10 - 9:22 **Why Don't All Cardiologists Quantify Degenerative MR?**
Milind Desai, MD

9:22 - 9:26 **Discussion**

9:26 - 9:34 **Controversy: How I Want My Degenerative Mitral + Tricuspid Repair Done**
Standard Sternotomy
Joanna Chikwe, MD

9:34 - 9:42 **Robotic**
Didier Loulmet, MD

9:42 - 9:50 **Total Percutaneous Transcatheter**
Paul Sorajja, MD

9:50 - 10:00 **Panel Discussion**

10:00 - 10:30 **Coffee Break**

10:30 - 12:00 **CONCURRENT SPECIAL TOPIC SESSIONS/Abstract Session**
5 Concurrent Sessions
Aortic Valve Disease Track
Mitral Tricuspid Track
Valve Science Track
Special Topics Track
Abstract Session - Aortic Valve

10:30 - 11:15 **AORTIC VALVE DISEASE TRACK**
Concurrent Session Aortic Valve Disease: Bioprosthetic Valve Degeneration
Moderators: Arie Pieter Kappetein, MD, PhD and John Puskas, MD
Discussants: Danny Dvir, MD, D. Craig Miller, MD, Wei Sun, PhD, Vinayak Bapat, MD, Hendrik Treede, MD

10:30 - 10:40 **What Do We Know about the Mechanisms of Prosthetic Valve Degeneration?**
Gino Gerosa, MD

10:40 - 10:50 **Is Valve Durability Expected to be Similar for TAVR and SAVR Bioprostheses?**
Arie Pieter Kappetein, MD

10:50 - 11:00 **Advanced Tissue Preservation Technologies; Can We Expect Greater Durability?**
John Puskas, MD

11:00 - 11:10 **What Factors Affect Valve Durability: An Engineer's Perspective on Design and Leaflet Optimization**
Wei Sun, MD

11:10 - 11:15 **Discussion**

11:15 - 12:00 **Concurrent Session Aortic Valve Disease: Bicuspid Aortic Valve Disease**
Moderators: Patrick Mathieu, MD and Raj Makkar, MD

Discussants: Mathew Williams, MD, Hasan Jilaihawi, MD, Simon C. Body, MD, Jonathon Leipsic, MD, Vinod Thourani, MD, Eberhard Grube, MD

11:15 - 11:23 **Understanding the Structure/Function Pathways and Natural History of Bicuspid Aortic Valve Disease**

Patrick Mathieu, MD

11:23 - 11:31 **Genetics and Genomics of Bicuspid Aortic Valve Disease**

Simon C. Body, MD

11:31 - 11:38 **Biomechanics of Bicuspid Aortic Valve Disease**

Philippe Sucosky, PhD

11:38 - 11:44 **Discussion**

FLASH DEBATE: SAVR vs. TAVR for Bicuspid Aortic Valve Disease

11:44 - 11: 49 **SAVR Should Remain the First Choice for BAV!**

D. Craig Miller, MD

11:49 - 11:54 **TAVR is Becoming the Preferred Option for BAV**

Raj Makkar, MD

11:54 - 12:00 **Discussion**

MITRAL TRICUSPID TRACK

10:30 - 12:00PM **Concurrent Session Mitral-Tricuspid Track: Tricuspid Regurgitation - Anatomy, Pathophysiology, Imaging and Medical Therapy**

Moderators: Rebecca Hahn, MD and Yan Topilsky, MD

Discussants: Peter Fail, MD, Muhamed Saric, MD, PhD, Maurizio Taramasso, MD, Paolo Denti, MD, Ori Ben-Yehuda, MD

10:30 - 10:42 **Anatomy of the Tricuspid Valve Apparatus**

Maurizio Taramasso, MD

10:42 - 10:45 **Discussion**

10:45 - 10:57 **Understanding the Mechanisms Contributing to Degenerative and Functional TR**

Yan Topilsky, MD

10:57 - 11:00 **Discussion**

11:00 - 11:12 **Quantitative Imaging of the Tricuspid Valve**

Rebecca Hahn, MD

11:12 - 11:15 **Discussion**

11:15 - 11:27 **Pathophysiology and Natural History of Degenerative TR**

Muhamed Saric, MD, PhD

11:27 - 11:30 **Discussion**

11:30 - 11:42 **Pathophysiology and Natural History of Functional TR**

Paolo Denti, MD

11:42 - 11:45 **Discussion**

11:45 - 11:57 **Medical Treatment of Tricuspid Regurgitation: Limitations of the Current Guidelines**

Ori Ben-Yehuda, MD

11:57 - 12:00 **Discussion**

VALVE SCIENCE TRACK

10:30 - 12:00 **Concurrent Session Valve Science Track: Mitral Valve Disease: New Frontiers**

Moderators: Murali Padala, PhD and Christine Kern, PhD

Discussants: Robert Gorman, MD, PhD, Tommaso Mansi, PhD, Jane Grande-Allen, PhD, Peggi Andel, PhD, Russel Norris, PhD

10:30 - 10:42 **What can MALDI (matrix-assisted laser desorption ionization imaging mass spectrometry) teach us about Mitral Valve Disease?**

Peggi Angel, PhD

10:42 - 10:45 **Discussion**

10:45 - 10:57 **Malformation of Cilia and their Role in Mitral Valvulogenesis**

Russell Norris, PhD

- 10:57 - 11:00 **Discussion**
- 11:00 - 11:12 **The Role of Serotonin and Catecholamines in the Pathology of Degenerative Mitral Valve Disease**
Giovanni Ferrari, PhD
- 11:12 - 11:15 **Discussion**
- 11:15 - 11:27 **Wound Healing and Tissue Remodeling in Response to Mechanical Factors in the Mitral Valve**
Jane Grande-Allen, PhD
- 11:27 - 11:30 **Discussion**
- 11:30 - 11:42 **3D - Ultrasound Guided Machine Learning Based Valve Geometries for Computational Modeling**
Tommaso Mansi, PhD
- 11:42 - 11:45 **Discussion**
- 11:45 - 11:57 **'In-Air' Holographic Imaging of the Mitral Valve: Understanding Patho-biologic and Functional Anatomy for Transcatheter Procedures**
Aviad Kaufman, MBA
- 11:57 - 12:00 **Discussion**

SPECIAL TOPICS TRACK

- 10:30 - 12:00 **Concurrent Session Special Topics Track: Complications of Surgical Valve Prostheses**
Moderators: Michael Borger, MD, Allan Schwartz, MD
Discussants: Paul Sorajja, MD, Emmanuel Lansac, MD, Raj Makkar, MD, Michael Mack, MD, David Holzhey, MD, Arie Pieter Kappetein, MD, PhD
- 10:30 - 10:42 **How Should We Define Structural Valve Deterioration in the Current Era?**
Arie Pieter Kappetein, MD, PhD
- 10:42 - 10:54 **Surgical Prosthesis Leaflet Thrombosis: Incidence and Clinical Implications**
Raj Makkar, MD
- 10:54 - 11:06 **Transcatheter Valve-in-Valve Procedures: The New Gold Standard for ALL Patients?"**
Michael Mack, MD
- 11:06 - 11:18 **Surgical Redo Valve Replacement: Do We Overestimate the Risk?"**
Michael Borger, MD
- 11:18 - 11:30 **Prosthetic Valve Endocarditis: Optimal Surgical Treatment**
Hiroo Takayama, MD
- 11:30 - 11:40 **Diagnosis and Management of Post-TAVR Endocarditis**
David Holzhey, MD
- 11:40 - 11:50 **When Is Conservative Treatment of Prosthetic Valve Endocarditis Appropriate?**
Allan Schwartz, MD
- 11:50 - 12:00 **Discussion**

ABSTRACT SESSION

- 10:30 - 12:00 **Concurrent Abstract Session: Mitral Valve**
Moderators: Vinod H. Thourani, MD
Discussants:
15. **Combined Mitral And Tricuspid Versus Isolated Mitral Valve Edge-to-edge Repair In Patients With Symptomatic Valve Regurgitation And High Surgical Risk**
Thilo Noack¹, Christian Besler², Stephan Blazek², Karl-Philipp Rommel², Maximillian von Roeder², Christian Luecke³, Karl Fengler², Joerg Seeburger¹, Joerg Ender⁴, Matthias Gutberlet³, Axel Linke², Michael Andrew Borger¹, Holger Thiele², Philipp Lurz².
¹University Hospital for Cardiac Surgery, Heart Center Leipzig, Leipzig, Germany, ²University Hospital for Internal Medicine/Cardiology, Heart Center Leipzig, Leipzig, Germany, ³Department for Radiology, Heart Center Leipzig, Leipzig, Germany, ⁴Department for Anesthesiology, Heart Center Leipzig, Leipzig, Germany.
16. **The Dynamics Of Coaptation Surface After Correction Mitral Valve Prolapse By Using Pre-measured Gore-tex Loops**

Ivan Skopin, Irma Tsiskaridze, **Grigory Danilov**.

Bakoulev Scientific Center for Cardiovascular Surgery, Moscow, Russian Federation.

17. Repair or Replace? Answering a Surgical Dilemma with an Automated Image Analysis Tool

Ahmed H. Aly¹, Frank Meijerink², Thomas J. Eperjesi³, Wobbe Bouma⁴, Joseph H. Gorman, III⁵, Paul A. Yushkevich⁶, Robert C. Gorman⁵, Alison M. Pouch⁶.

¹*Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA*, ²*University of Groningen, Groningen, Netherlands*, ³*Gorman Cardiovascular Research Group, University of Pennsylvania, Philadelphia, PA, USA*, ⁴*Department of Cardiothoracic Surgery, University of Groningen, Groningen, Netherlands*, ⁵*Gorman Cardiovascular Research Group, Department of Surgery, University of Pennsylvania, Philadelphia, PA, USA*, ⁶*Department of Radiology, University of Pennsylvania, Philadelphia, PA, USA*.

18. Left Ventricular and Left Atrial Dilation Modify MitraClip Response - Impact of Adverse Chamber Remodeling on Mitral Regurgitation (MR) Recurrence following Percutaneous Mitral Valve Repair

Lisa Q. Rong, MD¹, Javid Alakbarli, MD¹, Meridith P. Pollie, BS¹, Richard B. Devereux, MD¹, Shing-Chiu Wong, MD¹, Geoffrey Bergman, MD¹, Omar Khalique, MD², Antonino Di Franco, MD¹, Robert A. Levine, MD³, Mark Ratcliffe, MD⁴, Jonathan W. Weinsaft, MD¹, Jiwon Kim, MD¹.

¹*Weill Cornell Medical College, New York, NY, USA*, ²*Columbia University Medical Center, New York, NY, USA*, ³*Massachusetts General Hospital, Boston, MA, USA*, ⁴*University of California, San Francisco, San Francisco, CA, USA*.

Invited Speaker - The Future of Imaging: How the Echocardiographer will Guide Optimal MV Repair

Rebecca Hahn, MD

12 minutes talk with 5 minute discussion

19. Carpentier-Edwards Physio II Annuloplasty Ring for Mitral Valve Repair: Mid-Term Outcome in 501 Consecutive Patients

Franz Sieg, MD, Mateo Marin Cuartas, MD, Ricardo Spampinato, MD, Philipp Kiefer, MD, Fabian Emrich, MD, David Holzhey, MD PhD, Martin Misfeld, MD PhD, Piroze Davierwala, MD, Michael A. Borger, MD PhD, Jörg Seeburger, MD PhD, Thilo Noack, MD.

Herzzentrum Leipzig, Leipzig, Germany.

20. Percutaneous Mitral Valve Repair with Mitraclip System in Patients with Severe Left Ventricular Dysfunction: Safety and Outcomes

Laura Sanchis, Xavier Freixa, Marco Hernández-Henríquez, Ander Regueiro, Manel Sabate, Marta Sitges. *Hospital Clinic Barcelona, Barcelona, Spain.*

21. Patient-specific Optimization of Mitral Valve Annuloplasty Surgery

Amir H. Khalighi¹, Bruno V. Rego¹, Andrew Drach¹, Robert C. Gorman², Joseph H. Gorman, III², Michael S. Sacks¹.

¹*The University of Texas at Austin, Austin, TX, USA*, ²*University of Pennsylvania, Philadelphia, PA, USA*.

12:00 - 1:30

LUNCHEON SYMPOSIUM

12:00 - 1:30

Valve Science Abstracts: Advances in Modeling Valve Disease In Vitro and In Vivo

Moderator:

22. Activated Platelets enhance the Progression Of Calcific Aortic Valve Stenosis

Rihab BOUCHAREB¹, Marie-Chloe Boulanger², Lionel Taste¹, Ghada Mkannez¹, Mohamed J Nsaibia¹, Fayez Hadji¹, Abdellaziz Dahou¹, Younes Messaddeq³, Benoit J Arsenault¹, Philippe Pibarot¹, Yohan Bosse¹, Andre Marette¹, Patrick Mathieu¹.

¹*Quebec Heart and Lung Institute, Quebec, QC, Canada*, ²*Quebec Heart and Lung Institute, Quebec, QC, Canada*, ³*Laval university, quebec, QC, Canada*.

23. Targeting nuclear Export To Attenuate Aortic Valve Calcification

Punashi Dutta, Joy Lincoln.

Nationwide Children's Hospital, Columbus, OH, USA.

24. A Gain-of-Function Mutation in CaV1.2 (Cacna1c) Promotes Progressive Aortic Valve Stenosis in Mouse

Maiko Matsui, Mara Storto, Yasin Hussain, Daniel Sinden, Geoffrey S. Pitt.

Weill Cornell Medicine, New York, NY, USA.

25. Exocyst Mutations Contribute To Cardiac Valvular Disease Through Impaired Ciliogenesis

Diana B. Fulmer¹, Katelynn A. Toomer¹, Lilong Guo¹, Kelsey S. Moore¹, Janiece S. Glover¹, Simon C. Body², Joshua H. Lipschutz¹, Russell A. Norris¹.

¹Medical University of South Carolina, Charleston, SC, USA, ²Brigham and Women's Hospital, Boston, MA, USA.

26. Phenotyping of the First and Unique Knock-In Animal Model for Mitral Valve Prolapse: the FLNA-P637Q KI Rat

Romain Capoulade, Solena Le Scouarnec, Benjamin Lauzier, Simon Lecointe, Joelle Veziers, Richard Redon, Thierry Le Tourneau, Jean-Jacques Schott, Jean Mérot.

L'institut Du Thorax, Nantes, France.

27. Changes in the Structure and Overall Thickness of the Anterior and Posterior Mitral Valve Leaflets after Undersizing Mitral Annuloplasty to Repair Ischemic Mitral Regurgitation

Alicja K. Sielicka, Muralidhar Padala.

Emory University, Atlanta, GA, USA.

28. Ice-free Cryopreserved Heart Valves: A Novel Decellularization and Heart Valve Replacement Method for Pediatrics?

Anna C. Biermann¹, Julia Marzi², Julian L. Wichmann³, Eike Nagel⁴, Kelvin GM Brockbank⁵, Katja Schenke-Layland⁶, Ulrich A. Stock¹.

¹Department of Cardiothoracic Surgery, Royal Brompton and Harefield Foundation Trust, Harefield, United Kingdom, ²Department of Women's Health, Research Institute for Women's Health, Eberhard-Karls-University, Tuebingen, Germany, ³University Hospital Frankfurt Goethe University, Frankfurt am Main, Germany,

⁴Department of Diagnostics and Interventional Radiology, University Hospital Frankfurt Goethe University, Frankfurt am Main, Germany, ⁵The Georgia Tech/Emory Center for the Engineering of Living Tissues, Georgia Institute of Technology, Atlanta, GA, USA, ⁶Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Department of Cell and Tissue Engineering, Stuttgart, Germany.

12:00 - 1:30

VRN Meeting

AVIATOR - Medical

1:30 - 3:00

CONCURRENT SPECIAL TOPIC SESSIONS/Abstract Session

5 Concurrent Sessions

Aortic Valve Disease Track

Mitral Tricuspid Track

Valve Science Track

Special Topics Track

Abstract Session - Aortic Valve

AORTIC VALVE DISEASE TRACK

1:30 - 2:15

Concurrent Session Aortic Valve Disease: Transcatheter Aortic Valve Replacement (TAVR) Updates 2018

Moderators: Howard Herrmann, MD and Susheel Kodali, MD

Discussants: Megan Coylewright, MD, Brij Mani, MD, Isaac George, MD, Joe Bavaria, MD, Danny Dvir, MD

1:30 - 1:38

What Are the Current Limitations of TAVR?

Martin B. Leon, MD

1:38 - 1:46

Should All TAVR Valves be Treated with Anti-Coagulation Therapy?

Raj Makkar, MD

1:46 - 1:54

Considerations in Choosing a TAVR Prosthesis - Are They All the Same?

Howard Herrmann, MD

1:54 - 2:02

Valve-in-Valve TAVR - Who are the Best and Worst Candidates?

Danny Dvir, MD

2:02 - 2:10

TAVR in Underserved Geographies - What is the Potential?

Hanneke Takkenberg, MD

2:10 - 2:15

Discussion

2:15 - 3:00

Concurrent Session Aortic Valve Disease: Expanding Indications for Aortic Valve Therapy**Moderators:** Philippe Pibarot, DVM, PhD and Allan Schwartz, MD**Discussants:** Ori Ben-Yehuda, MD, Philippe Genereux, MD, Michael Mack, MD, Craig R. Smith, MD, Rakesh Suri, MD, Paul Sorajja, MD

2:15 - 2:25

Moderate AS, With and Without LV Dysfunction

Ori Ben-Yehuda, MD

2:25 - 2:35

Management of Asymptomatic Severe AS

Philippe Genereux, MD

2:35 - 2:45

Classical and Paradoxical Low-Flow, Low-Gradient Aortic Stenosis

Philippe Pibarot, DVM, PhD

2:45 - 2:55

Assessing the Myocardial Response to Aortic Valve Disease: Are We Intervening Too Late?

Julio Chirinos, MD, PhD

2:55 - 3:00

Discussion**MITRAL TRICUSPID TRACK**

1:30 - 2:20

Concurrent Session Mitral-Tricuspid Track: Mitral Regurgitation Therapy I - Current Standards and Future Directions**Moderators:** Paul Sorajja, MD and Patrick McCarthy, MD**Discussants:** Brij Mani, MD, Susheel Kodali, MD, D. Craig Miller, MD, Randy Martin, MD, Vinayak Bapat, MD

1:30 - 1:42

Update on Current Surgical Approaches to the Mitral Valve

Stephanie Mick, MD

1:42 - 1:44

Discussion

1:44 - 1:54

MitraClip for Complex Anatomies - Clefts, Flails, Commissural MR and More

Brij Mani, MD

1:54 - 1:56

Discussion

1:56 - 2:06

Promising New Transcatheter Mitral Repair Therapies

Marc Reisman, MD

2:06 - 2:08

Discussion

2:08 - 2:18

Promising New Transcatheter Mitral Replacement Therapies

Paul Sorajja, MD

2:18 - 2:20

Discussion

2:20 - 3:00

Concurrent Session Mitral-Tricuspid Track: Mitral Regurgitation Therapy II - Controversial Case-Based Studies**Moderators:** Rakesh Suri, MD and Mark Reisman, MD**Discussants:** Didier Loulmet, MD, Mayra Guerrero, MD, Mathew Williams, MD, Brij Mani, MD, Giles Dreyfus, MD, Jeffrey Borer, MD

2:20 - 2:25

Case #1**Primary MR with a Dilated Annulus Presenter:** Brij Maini, MD

2:25 - 2:30

Discussion

2:30 - 2:35

Case #2**MR with Severe MAC****Presenter:** Mayra Guerrero, MD

2:35 - 2:40

Discussion

2:40 - 2:45

Case #3**P3 Leaflet Flail and Severe MR****Presenter:** Matthew Williams, MD

2:45 - 2:50

Discussion

2:50 - 2:55

Case #4**Bi-leaflet Prolapse and Severe MR**

Rebecca T. Hahn, MD

2:55 - 3:00

Discussion**VALVE SCIENCE TRACK**

1:30 - 3:00

Concurrent Session Valve Science Track: Tissue Engineering and New Technologies**Moderators:** Carlijn Bouten and Petra Mela**Discussants:** David Kalfa, MD, PhD, Juan Granada, MD, Zeeshan Syedain, PhD, Laura Iop, PhD, Maria Romero, MD, Peter Zilla, MD

1:30 - 1:40

Next Generation Engineered Heart Valves and their Clinical Translation

Zeeshan Syedain, PhD

1:40 - 1:42

Discussion

1:42 - 1:52

Fine-tuning tissue engineering scaffolds to direct valve cell differentiation

1:52 - 1:54

Discussion

1:54- 2:04

Valve Tissue Engineering Imperatives - Sterilization, Decellularization, and Banking

Laura Iop, PhD

2:04 - 2:06

Discussion

2:06 - 2:16

Scaffold-Based MicroRNA Therapies in Cardiovascular Regenerative Medicine

2:16 - 2:18

Discussion

2:18 - 2:28

Multiscale fiber-based solutions for biohybrid heart valve tissue engineering

Petra Mela, PhD

2:28 - 2:30

Discussion

2:30 - 2:40

Endogenous Tissue Restoration: Experimental Aortic Valve Findings (hemodynamics, gross pathology, and histology)

Maria Romero, MD

2:40 - 2:42

Discussion

2:42 - 2:52

The Requirements for a New Tissue Engineered Valved Device for Children: Clinical, Engineering, Business and Regulatory Perspectives

David Kalfa, MD, PhD

2:52 - 3:00

Discussion**SPECIAL TOPICS TRACK**

1:30 - 3:00

Concurrent Session Special Topics Track: Personalized Diagnosis and Treatment of Valvular Heart Disease**Moderators:** Robert Levine, MD, Elazar Edelman, MD, PhD, Norris Russell, MD**Discussants:** Juan Granada, MD, Eric Van Belle, MD, Evaldas Girdauskas, MD, Didier Loulmet, MD, Stephanie Mick, MD, Isaac George, MD

1:30 - 1:40

The Use of Artificial Intelligence in Structural Heart Disease: Tailoring Treatment to the Patient

Juan Granada, MD

1:40 - 1:50

Genetics of Mitral Valve Prolapse: New Insights

David Milan, MD

1:50 - 2:00

Familial Screening for Mitral Valve Disease: When and Why?

Robert Levine, MD

2:00 - 2:10

Genetics of Bicuspid Aortic Valve Disease: Clinical Implications

Richard Devereux, MD

2:10 - 2:20

Morphometric Variants of Bicuspid Aortic Valve Disease and Associated Aortic Aneurysmal Dilatation

Evaldas Girdauskas, MD

2:20 - 2:30

Biomarkers in Mitral Regurgitation

Rodolfo Pizarro, MD

2:30 - 2:40

Aortic stenosis and Von Willebrand Fractor: from Heyde's syndrome to TAVR

Eric Van-Bell, MD

2:40 - 2:50

Circulating RNA in Valvular Heart Disease

Magnus Back, MD, PhD

2:50 - 3:00

Discussion

ABSTRACT SESSION

1:30 - 3:00

Concurrent Abstract Session: Tricuspid Valve**Moderators:** Isaac George, MD**Panelists:** Stephanie Mick, MD and Paul Sorajja, MD**29. Functional Tricuspid Regurgitation In Patients With Systolic Left Ventricular Dysfunction: Determinants, And Independent Prognostic Impact.****Giovanni Benfari, MD¹**, Clemence Antoine, MD¹, Wayne L. Miller, MD, PhD¹, Prabin Thapa, BS¹, Andrea Rossi, MD², Hector I. Michelena, MD¹, Vuysile T. Nkomo, MD, PhD¹, Maurice Enriquez-Sarano, MD¹.¹Mayo Clinic, Rochester, MN, USA, ²University of Veorna, Section of cardiology, Italy.**30. Carpentier-Chauvaud-Cone Repair For Ebstein Anomaly: Three Decades Of Experience****Kevin M. Veen**, Mostafa M. Mokhles, Jolien W. Roos-Hesselink, Bas R. Rebel, Johanna J.M. Takkenberg, Ad J.J.C. Bogers.*Erasmus MC, Rotterdam, Netherlands.***31. Can we Repair The Organic Tricuspid Valve Lesions. Five Years Follow up and Multi-centric Study.****Marwan H. Elkassas¹**, Hany Faisal¹, Hasan Salah¹, Osama A. Abbas², Mohamed Hagag³.¹Suez Canal University, Cairo, Egypt, ²Ain Shams University, Cairo, Egypt, ³Menoufia, Menoufia, Egypt.**32. Comparison Of Three Dimensional Echocardiographic Measurements And In Vivo Analysis Of The Tricuspid Valve During Mitral Valve Surgery****Matteo Pettinari¹**, Siham Lazam², Laurent De Kerchove², Agnes Pasquet², Bernard Gerber², Gebrine El-Khoury El-Khoury², Jean-Louis Vanoverschelde².¹Ziekenhuis Oost Limburg, Genk, Belgium, ²Universitair Clinique St. Luc, Brussel, Belgium.**Invited Speaker - How Do I Choose Between Surgical or Transcatheter TV Repair: Patient Selection Criteria***12 minutes talk with 5 minute discussion***33. Recovery Of Right Ventricular Function After Tricuspid Annuloplasty For Functional Tricuspid Regurgitation In Patients Undergoing Mitral Valve Repair For Mitral Regurgitation****Yukikatsu Okada**, Ryousuke Funahashi, Takashi Muro, Hitoshi Inanami, Tomoyuki Takemoto, Megumi Takahashi, Fumiaki Maenishi.*Midori Hospital, Kobe, Japan.***34. PISA Underestimates TR Severity In Patients With Functional TR****Abdellaziz Dahou¹**, Geraldine Ong², Nadira Hamid², Eleonora Avenatti², Jing Yao², Rebecca T. Hahn¹.¹Cardiovascular Research Foundaion; Columbia University, New York, NY, USA, ²Cardiovascular Research Foundaion, New York, NY, USA.**35. Early And Mid-term Outcomes Of Surgical Treatment Of Tricuspid Valve Endocarditis In Patients With Intravenous Drug Abuse****Kenji Minakata**, William Moser, Gengo Sunagawa, Mark Mitchell, Fatuma Kromah, Suresh Keshavamurthy, Jesus Gomez-Abraham, Yoshiya Toyoda.*Temple University, Philadelphia, PA, USA.*

3:00 - 3:30

Coffee Break

3:30 - 5:30

Plenary Session IV: Innovative Aortic Valve Therapies**Moderators:** Vinod H. Thourani, MD and Susheel Kodali, MD**Discussants:**

3:30 - 4:00

Live Case Demonstration from the Cleveland Clinic

4:00 - 4:15

Featured Lecture: The Power of the AVIATOR Database in Aortic Valve Repair

Emmanuel Lansac, MD

4:15 - 4:20

Discussion

4:20 - 4:35

Featured Lecture: The Future Role of Surgery in Low-Risk Aortic Stenosis Patients

Vinod Thourani, MD

4:35 - 4:45

Is the "Minimalist" TAVR Strategy Generalizable? Results of the 3M Study

David Wood, MD

4:45 - 4:50

Discussion**Controversy: Managing Bicuspid Aortic Valve Disease**

Jonathon Leipsic, MD

- 4:50 - 5:00 **CT Imaging Diagnosis of Bicuspid Aortic Valves**
Jon Leipsic, MD
- 5:00 - 5:10 **Surgical Management of the Bicuspid Aortic Valve and Associated Aortopathy**
Tirone David, MD
- 5:10 - 5:20 **Transcatheter Management of Bicuspid Aortic Valve Stenosis**
Raj Makkar, MD
- 5:20 - 5:30 **Discussion**
- 5:30 - 6:30 **Moderated Posters and Reception**

Saturday, April 14th

-
- 7.00 - 8.00 **VRN Meetings**
- 8:00 - 9:30 **CONCURRENT SPECIAL TOPIC SESSIONS/Abstract Session**
5 Concurrent Sessions
Aortic Valve Disease Track
Mitral Tricuspid Track
Valve Science Track
Special Topics Track
Abstract Session - Aortic Valve
- AORTIC VALVE DISEASE TRACK**
- 8:00 - 8:45 **Concurrent Session Aortic Valve Disease: Management of Aortic Regurgitation**
Moderators: Hanneke Takkenberg, Michael Borger, MD
Discussants: Jeffrey Borer, MD, Emmanuel Lansac, MD, Hendrik Treede, MD, Raj Makkar, MD, Danny Dvir, MD
- 8:00 - 8:08 **MRI for AR Quantification - Where are We Now?**
Steven Wolff, MD
- 8:08 - 8:16 **Surgery for AR - Repair or Replacement: Which is the Best Option?**
Hanneke Takkenberg, MD, PhD
- 8:16 - 8:24 **State-of-the-Field: Bicuspid Valve Repair for AR**
Joseph Bavaria, MD
- 8:24 - 8:32 **Transcatheter Approaches to Aortic Insufficiency**
Hendrik Treede, MD
- 8:32 - 8:40 **Novel Surgical Approaches to AR**
Michael Borger, MD
- 8:40 - 8:45 **Discussion**
- 8:45 - 9:30 **Concurrent Session Aortic Valve Disease: Imaging and Tissue Engineering of the Aortic Valve**
Moderators: Simon Hoerstrup, MD, PhD, Carlijn Bouten, PhD
Discussants: Mehran Sadeghi, MD, Rebecca T. Hahn, MD, David Kalfa, MD, PhD, Ori Ben-Yehuda, MD, Jeffrey Borer, MD
- 8:45 - 8:53 **Echocardiographic evaluation of left ventricular function in AS**
- 8:53 - 9:01 **Assessing Myocardial Viability and Function in AS – Is CMR the New Gold Standard?**
Jonathan Weinsaft, MD
- 9:01 - 9:09 **Molecular imaging of CAVD**
Mehran Sadeghi, MD
- 9:09 - 9:17 **Translating Heart Valve Tissue Engineering to the Clinic**
Simon Hoerstrup, MD, PhD
- 9:17 - 9:25 **Novel Perspectives in Heart Valve Tissue Engineering**
Carlijn Bouten, PhD

9:25 - 9:30

Discussion**MITRAL TRICUSPID TRACK**

8:00 - 9:00

Concurrent Session Mitral-Tricuspid Track: Tricuspid Regurgitation Therapy I - Current Standards and Future Directions**Moderators:** Giles Dreyfus, MD and Susheel Kodali, MD**Discussants:** Eugene Grossi, MD, Vinayat Bapat, MD, Ori Ben-Yehuda, MD, Michael Borger, MD

8:00 - 8:12

Update on Current Surgical Approaches to the Tricuspid Valve

Giles Dreyfus, MD

8:12 - 8:15

Discussion

8:15 - 8:27

Should ALL Patients with "Significant" TR be Repaired at the Time of Mitral Valve Surgery

Eugene Grossi, MD

8:27 - 8:30

Discussion

8:30 - 8:42

Update on Promising New Transcatheter Tricuspid Valve Therapies

Susheel Kodali, MD

8:42 - 8:45

Discussion

8:45 - 8:57

Is there a Role for Transcatheter Tricuspid Valve Replacement?

Vinayat Bapat, MD

8:57 - 9:00

Discussion

9:00 - 9:30

Concurrent Session Mitral-Tricuspid Track: Tricuspid Regurgitation Therapy II - Controversial Case-Based Studies**Moderators:** Maurizio Taramasso, MD and Rebecca T. Hahn, MD**Discussants:** Vinod Thourani, MD, Randy Martin, MD, Milind Desai, MD, Brij Mani, MD

9:00 - 9:05

Case #1**Functional TR with a Dilated Annulus****Presenter:** Peter Fail, MD

9:05 - 9:10

Discussion

9:10 - 9:15

Case #2**TR Secondary to PPM Lead Entrapment****Presenter:** Milind Desai, MD

9:15 - 9:20

Discussion

9:20 - 9:25

Case #3**Tricuspid Clipping for severe TR****Presenter:** Gilbert Tang, MD

9:25 - 9:30

Discussion**VALVE SCIENCE TRACK**

8:00 - 9:30

Concurrent Session Valve Science Track: The Big Picture: Valve Disease and the Heart**Moderators:** Elaine Tseng, MD and Jane Grande-Allen, PhD**Discussants:** T. Sloane Guy, MD, Robert Gorman, MD, PhD, Liang Ge, MD, Philippe Genereux, MD, David Adams, MD, Murali Padala, PhD

8:00 - 8:12

Cardiac outcomes of degenerative mitral regurgitation

T. Sloane Guy, MD

8:12 - 8:15

Discussion

8:15 - 8:27

Cardiac Changes after Successful Repair for Degenerative Mitral Regurgitation

David Adams, MD

8:27 - 8:30

Discussion

8:30 - 8:42

Papillary Muscle Repositioning Effects on the LV in Ischemic MR

Murali Padala, MD

8:42 - 8:45

Discussion

8:45 - 8:57

Modeling and Predictive Risk of Failure of Mitral Valve Repair in Ischemic MR

Robert Gorman, MD, PhD

8:57 - 9:00

Discussion

- 9:00 - 9:12 **Bicuspid Aortic Valve Aneurysms and Timing of Intervention Based on Biomechanics and Molecular Biology Principles**
- 9:12 - 9:15 **Discussion**
- 9:15 - 9:27 **Staging Classification of Aortic Stenosis Based on the Extent of Cardiac Damage**
Philippe Genereux, MD
- 9:27 - 9:30 **Discussion**
- SPECIAL TOPICS TRACK**
- 8:00 - 9:30 **Concurrent Session Special Topics Track: Controversies in Valvular Heart Disease II**
Moderators: Manuel Antunes, MD and Emile Bacha, MD
Discussants: David Kalfa, MD, PhD., Matthew Crystal, MD, L. Prasad Dasi, MD, Giovanni Ferrari, MD, John Puskas, MD, Vinayat Bapat, MD
- 8:00 - 8:10 **Pathomechanistic Insights into Prosthetic Valve Thrombosis**
Hoda Hatoum
- 8:10 - 8:20 **Anticoagulation After Biological AVR: Necessary or Not?**
Michael Mack, MD
- 8:20 - 8:30 **Pediatric Heart Valve Biology and Mechanobiology: Why Does a Biological Valve Degenerate so Quickly in Children?**
Giovanni Ferrari, MD
- 8:30 - 8:40 **Valve Repair for Rheumatic Heart Disease: Indications and Outcomes**
Manuel Antunes, MD
- 8:40 - 8:50 **Valve-Sparing Surgery for Tetralogy of Fallot**
Emile Bacha, MD
- 8:50 - 9:00 **Transcatheter Management of Pediatric Heart Valve Disease: Current Status and Future Directions**
Matthew Crystal, MD
- 9:00 - 9:10 **Tissue Engineering for Pediatric Heart Valve Disease: Ready for Prime Time?**
David Kalfa, MD
- 9:10 - 9:20 **Incidence and Management of GUCH Valvular Heart Disease**
Ingo Daehnert, MD
- 9:20 - 9:30 **Discussion**
- ABSTRACT SESSION**
- 8:00 - 9:30 **Concurrent Abstract Session: Potpourri**
Moderators: Brij Maini, MD, David Holzhey, MD and Vinod Thourani, MD
Discussants: Mathew Williams, MD, Ezequiel Molina, MD, Martin B. Leon, MD
- 36. Echocardiographic Markers of Secondary Mitral Regurgitation Recurrence After Combined Mitral Valve Repair and Papillary Muscle Approximation**
Christos G. Mihos¹, Francesco Nappi², Romain Capoulade³, Massimo Chello⁴, Raffaele Barbato⁴, Orlando Santana¹.
¹*Columbia University Division of Cardiology, Mount Sinai Heart Institute, Miami Beach, FL, USA,* ²*Centre Cardiologique du Nord de Saint-Denis, Paris, France,* ³*Institut du Thorax, Inserm, CNRS, Université de Nantes, CHU Nantes, Nantes, France,* ⁴*University Campus Bio-Medico of Rome, Rome, Italy.*
- 37. Sildenafil for the Treatment of Pulmonary Hypertension in the Early Postoperative Period after Mitral Valve Surgery**
Eilon Ram, Leonid Sternik, Eyal Nachum, Robert Klempfner, Dina Kogan, Michael Eldar, Ilan Goldenberg, Ehud Raanani, Alexander Kogan.
Sheba Medical Center, Israel, Jerusalem, Israel.
- 38. Is Transcatheter Aortic Valve Replacement Better than Surgical Aortic Valve Replacement in Patients with Chronic Obstructive Pulmonary Disease? A Nationwide Inpatient Sample Analysis**
Tomo Ando¹, Oluwole Adegba², Emmanuel Akintoye¹, Said Ashraf³, Luis Afonso³, Theodore Schreiber³.

¹Detroit Medical Center, Troy, MI, USA, ²Englewood Hospital and Medical Center, Englewood, NJ, USA,

³Detroit Medical Center, Detroit, MI, USA.

39. Detecting Early Bioprosthetic Valve Degeneration with 18F-Fluoride PET-CT

Timothy RG Carlidge¹, Mhairi K. Doris¹, Tania A. Pawade¹, Audrey C. White¹, Renzo Pessotto¹, James HF Rudd², Edwin van Beek¹, David E. Newby¹, Marc R. Dweck¹.

¹University of Edinburgh, Edinburgh, United Kingdom, ²University of Cambridge, Cambridge, United Kingdom.

40. Transcatheter Aortic Valve Implantation for Patients with Bicuspid Aortic Valves. Still a contraindication?

Mirko Doss, Thomas Walther.

Kerckhoff Heart Center, Bad Nauheim, Germany.

41. N-terminal pro B type natriuretic peptide is superior to B-type natriuretic peptide to predict mortality in Classical Low Flow, Low Gradient Aortic Stenosis

Mohamed Salah Annabi¹, Abdellaziz Dahou¹, Jutta Bergler-Klein², Ian G. Burwash³, Stefan Orwat⁴, Helmut Baumgartner⁴, Philip Bartko², Julia Mascherbauer², Gerald Mundigler², Philippe Pibarot¹, Marie-Annick Clavel¹.

¹Quebec Heart and Lung Institute, Québec-ville, QC, Canada, ²Vienna General Hospital, Vienna, Austria,

³Ottawa Heart Institute, Ottawa, ON, Canada, ⁴University Hospital of Muenster, Muenster, Germany.

42. Impact of the Renin-Angiotensin System Activation on the Progression Rate of Aortic Stenosis

Mylène Shen, Lionel Tastet, Romain Capoulade, Marie Arsenaault, Elisabeth Bédard, Philippe Pibarot, Marie Annick Clavel.

Quebec Heart and Lung Institute, Quebec City, QC, Canada.

43. Incidence and Prognostic Implications of Thrombocytopenia in Patients Undergoing Transcatheter versus Surgical Aortic Valve Replacement - A Sub-Analysis from the PARTNER IIA Randomized Trial

Pablo Coder¹, Matthew T. Finn¹, Aakriti Gupta¹, Aaron Crowley², Jacob Cleman¹, Susheel Kodali¹, Hasan Jilaihawi³, Raj Makkar⁴, Danny Dvir⁵, Philippe Genereux², Augusto Pichard⁶, James McCabe⁵, Howard Herrman⁷, Zachary Gertz⁸, Brian Lindman⁹, Brian O'Neill¹⁰, Vinod Thourani⁶, Michael Mack¹¹, Craig R. Smith¹, Martin B. Leon¹, Ajay J. Kirtane¹.

¹Columbia University Medical Center, New York, NY, USA, ²Cardiovascular Research Foundation, New York, NY, USA, ³New York University, New York, NY, USA, ⁴Ceders Sinai, Los Angeles, CA, USA, ⁵University of Washington, Seattle, WA, USA, ⁶Medstar Washington Hospital Center, Washington, DC, USA, ⁷University of Pennsylvania, Philadelphia, PA, USA, ⁸Virginia Commonwealth, Richmond, VA, USA, ⁹Vanderbilt, Nashville, TN, USA, ¹⁰Temple University, Philadelphia, PA, USA, ¹¹Baylor Scott and White, Plano, TX, USA.

44. Pulmonary Allograft Extension with Decellularized Human Pericardium Improves Hemodynamic Function after the Ross Operation

Francisco D A Costa¹, Angelo Cabral¹, Claudinei Colatusso¹, Eduardo M. Balbi Filho¹, Rafael Torres¹, Gabriela M. Schorn¹, Joao Gabriel Roderjan², Paula H. Suss².

¹INC Cardio, Curitiba, Brazil, ²PUCPR, Curitiba, Brazil.

9:30 - 10:00

10:00 - 11:00

Coffee Break

Challenging Cases – Columbia

Moderators: Martin B. Leon, MD and Susheel Kodali, MD

Discussants: Michael Borger, MD, Vinod Thourani, MD, Vinayat Bapat, MD, Rebecca Hahn, MD, Amisha Patel, MD

Valve-in-MAC: A Tale of Two Cases - Stretched to the Limit (and beyond)

Susheel Kodali, MD

A Last Resort for Torrential TR: Navigate TTVR

Vinayak Bapat, MD

An Unexpected Visitor: Rheumatic MS and AS Treated by PTMC and TAVR

Amisha Patel, MD

TAVR for AR (Following Redo MVR) – Why and How To

Martin B. Leon, MD

A Flail Without Mercy: MitraClip for Ruptured Papillary Muscle following AMI

Susheel Kodali, MD

11:00 - 12:00

Challenging Cases – Mayo**Moderator:** Maurice Sarano, MD**Young adult S/P Ross with failing aortic bioprosthetic valve and pulmonary homograft**

Allison Cabalka, MD

WTF?(Why This coaptation Failure?)

Hector Michelena, MD

The missing piece of the puzzle (MR case)

Sorin Pislaru, MD

An unbearable annular calcification (treated by LA-LV graft)

Simon Maltais, MD

Underappreciating severe aortic stenosis in patients with atrial fibrillation: The case against averaging signals

Vuyisile T. Nkomo, MD, MPH

12:00 - 12:30

Grab and Go Lunch Break

12:30 - 2:00

Hands-On/Simulation

12:30 - 2:00

Valve Science Session and Abstracts: Biomechanics and Mechanobiology in Valve Development and Disease**Moderators:** Lakshmi Prasad Dasi, PhD and Manuel Rausch, PhD**Discussants:** Carla Lacerda, PhD, Jane Grande-Allen, PhD, Wei Sun PhD

12:00 - 12:12

Bioprosthetic Valves, Fluid Mechanics, and Thrombosis

Lakshmi Prasad Dasi, PhD

12:12 - 12:15

Discussion

12:15 - 12:27

Tricuspid Valve Kinematics in Health, Disease, and After Repair

Manuel Rausch, PhD

12:27 - 12:30

Discussion

12:30 - 12:42

Interactome Analysis of Valve Cell Mechanobiology

Carla Lacerda, PhD

12:42 - 12:45

Discussion**45. Mechano-osmotic Stress Regulates Compaction and Elongation of the Fetal AV Valve in Collaboration with Developed Matrix Scaffolding****David M. Bassen**, Duc Pham, Rashmi Rao, Jonathan T. Butcher, Dr..*Cornell University, Ithaca, NY, USA.***46. Bone Morphogenic Protein Inhibition Attenuates Bicuspid Aortic Valve Flow-Mediated Remodeling and Inflammation in Vitro****Samantha K. Atkins**¹, Johana Barrientos², Philippe Sucosky².¹*University of Notre Dame, Notre Dame, IN, USA,* ²*Wright State University, Dayton, OH, USA.***47. Quantifying Infarction-induced Changes in Mitral Valve Geometry and Deformation Using 3D Echocardiography****Bruno V. Rego**¹, Amir H. Khalighi¹, Robert C. Gorman², Joseph H. Gorman, III², Michael S. Sacks¹.¹*University of Texas at Austin, Austin, TX, USA,* ²*University of Pennsylvania, Philadelphia, PA, USA.*

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