

# Cardiology 2018

21st Annual  
Update on Pediatric  
and Congenital  
Cardiovascular Disease

## EFFECTIVE TEAMS, IMPROVING OUTCOMES

### Final Program

Feb. 21 – 25, 2018

Hyatt Regency Scottsdale  
Resort and Spa at Gainey Ranch  
Scottsdale, Ariz.



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Children's Hospital  
of Philadelphia®  
Cardiac Center



# WEDNESDAY, FEB. 21

## Optional Preconference #1

Congenital Heart Disease and Postoperative Management:  
A Comprehensive Review for Nursing and Front-line Providers  
(ARIZONA I-III)

*Moderators: Kathryn Dodds, MSN, CPNP-AC; Courtney Howell, CPNP*

- 7:30 a.m. Terminology of "Normal" Cardiac Anatomy  
**Anatomy/Morphology – Paul Weinberg, MD**
- 7:45 a.m. How Soon Can We Know?  
*Jill Combs, MSN*
- 8 a.m. Screening, Diagnosis and Preoperative Assessments  
*Kathryn Dodds, MSN, CPNP-AC*
- 8:15 a.m. Open Heart Surgery: CPB, X clamp, Circulatory Arrest  
*Stephanie Fuller, MD*
- 8:30 a.m. Early Postoperative Management Issues and Concerns  
*Maryam Naim, MD*
- 8:45 a.m. Break
- 9 a.m. ECHO: Effusions, Function, Obstruction, Regurgitation, Thrombus and Holes  
*David Goldberg, MD*
- 9:15 a.m. What the Chest X-ray Can and Cannot Show You  
*Aaron DeWitt, MD*
- 9:30 a.m. How to Decipher Cardiac Catheterization Data  
*Matthew Schwartz, MD*
- 9:45 a.m. Postoperative Arrhythmias: SVT, JET, Heart Block, VT  
*Maully Shah, MBBS*
- 10 a.m. ECMO and Mechanical Support in Children with CHD  
*Chitra Ravishankar, MD*
- 10:15 a.m. Sedation and Pain Management after Cardiac Surgery  
*Aaron Dewitt, MD*
- 10:30 a.m. Break
- 10:40 a.m. Ventricular Septal Defect  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *Daniel Velez, MD*  
Postoperative Care and Outcomes – *Kristen T. Sullivan, RN, MSN, CPNP-AC*
- 11 a.m. Complete Common Atrioventricular Canal Defect  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *James E. O'Brien, MD*  
Postoperative Care and Outcomes – *Lisa Laddish, DNP, RN, CPNP-AC, PC*
- 11:20 a.m. Tetralogy of Fallot  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *James O'Brien, MD*  
**Postoperative Care and Outcomes – Lisa Laddish, DNP, RN, CPNP-AC, PC**
- 11:40 a.m. Truncus Arteriosus  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *Daniel Velez, MD*  
Postoperative Care and Outcomes – *Kathryn Dodds, MSN, CPNP-AC*
- Noon D-Transition of the Great Arteries/Arterial Switch  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *Stephanie Fuller, MD*  
Postoperative Care and Outcomes – *Kathryn Dodds, MSN, CPNP-AC*



- 12:20 p.m. Lunch
- 12:40 p.m. Total Anomalous Pulmonary Venous Return  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *James O'Brien, MD*  
Postoperative Care and Outcomes – *Courtney Howell, CPNP-AC/PC*
- 1 p.m. Coarctation  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *Daniel Velez, MD*  
Postoperative Care and Outcomes – *Lisa Laddish, DNP, RN, CPNP-AC, PC*
- 1:15 p.m. Single Ventricle: Stage 1, Bidirectional Glenn, Fontan  
**Anatomy/Morphology – Paul Weinberg, MD**  
Surgery – *Stephanie Fuller, MD*  
Postoperative Care and Outcomes – *Kathryn Dodds, MSN, CPNP-AC*
- 2:15 p.m. Discharge Planning and Home Monitoring  
*Courtney Howell, CPNP, AC-PC*
- 2:30 p.m. Congenital Heart Disease and the Brain  
*Daniel Licht, MD*
- 2:45 p.m. Growing Up with Congenital Heart Disease  
*Yuli Kim, MD*
- 3 p.m. Q and A
- 3:30 p.m. Adjourn

## Optional Preconference #2

Advanced Imaging in Pediatric and Congenital  
Cardiovascular Disease (ARIZONA IV)

*Moderators: Mark Fogel, MD; Michael Quartermain, MD*

- 8 a.m. Advanced Techniques in Echocardiography  
*Michael Quartermain, MD*
- 8:30 a.m. Echocardiography to Assess Ventricular Function:  
Techniques, Strengths and Limitations  
*Laura Mercer-Rosa, MD*
- 9 a.m. Computed Tomographic (CT) Imaging in CHD:  
Indications and Utility  
*Anthony Hlavacek, MD*
- 9:30 a.m. Cardiac MR: Anatomy and Tissue Characterization  
*Lars Grosse-Wortmann, MD*



10 a.m.	Break	1:50 p.m.	Advanced Imaging in Specific Condition: Single Ventricle Throughout Stages of Reconstruction – ECHO <i>Peter Frommelt, MD</i>	9:20 a.m.	Mentorship and Research Training for a Career in Pediatric Cardiology <i>Bruce Gelb, MD</i>
10:15 a.m.	“I Didn’t Know You Could Do That!” New Techniques in Cardiac MRI <i>Mark Fogel, MD</i>	2:20 p.m.	Advanced Imaging in Specific Condition: Single Ventricle Throughout Stages of Reconstruction – MRI <i>Rahul Rathod, MD</i>	9:40 a.m.	Panel Discussion <i>Faculty</i>
10:30 a.m.	MRI-based Cardiac Catheterization <i>Kanishka Ratnayaka, MD</i>	3 p.m.	The Conventional, the Controversial and the Unusual (but Fascinating): Cases Where Advanced Imaging Altered Understanding and Care <i>Faculty</i>	10 a.m.	Break
10:50 a.m.	Lymphatic Imaging: A Revolution in Circulatory Imaging Is Taking Place <i>Yoav Dori, MD, PhD</i>	3:30 p.m.	Adjourn	10:20 a.m.	Academics: How to Craft and Write a Great Paper (What Reviewers Are Looking for) <i>Tara Karamlou, MD</i>
11:10 a.m.	Cardiac MR: Ventricular Function and Flow <i>Kevin Whitehead, MD, PhD</i>	<b>Optional Preconference #3</b> <b>The Essentials for Successful Training and Early Career Skills in Pediatric Cardiology (ARROYO ROOM)</b> <i>Moderators: Alan Friedman, MD; Meryl Cohen, MD</i>		10:40 a.m.	New Approaches to Learning: Cardiology Fellow Boot Camp <i>Catherine Krawczeski, MD</i>
11:30 a.m.	3D Printing of Complex Cardiac Structures <i>Mark Fogel, MD</i>			11 a.m.	Academics: Crafting the Right Research Project <i>Laura Mercer-Rosa, MD</i>
11:50 a.m.	Advanced Imaging Q & A <i>Advanced Imaging Faculty</i>	8 a.m.	Fostering the Right Culture in the Workplace <i>Alan Friedman, MD</i>	11:20 a.m.	Mentorship and Research Training for a Career in Pediatric Cardiology <i>Jane Newburger, MD, MPH</i>
Noon	Lunch	8:20 a.m.	Research Training: Having the Right Training and Platform for a Successful Academic Career <i>Andrew Glatz, MD</i>	11:40 a.m.	Panel Discussion <i>Faculty</i>
12:30 p.m.	Advanced Imaging in Specific Condition: Tetralogy of Fallot and Truncus Arteriosus – ECHO – <i>Shobha Natarajan, MD</i>	8:40 a.m.	Choosing a Track: Subspecialty Interest, Academics and Developing a Busy Clinical Practice <i>Cheryl Kurer, MD</i>	Noon	Lunch
12:50 p.m.	Advanced Imaging in Specific Condition: Tetralogy of Fallot and Truncus Arteriosus – MRI – <i>Lars Grosse-Wortmann, MD</i>	9 a.m.	The Delicate Relationship Between Career and Home Life <i>Meryl Cohen, MD</i>	12:30 p.m.	Academics: How to Give a Great Talk <i>Girish Shirali, MD, MBBS</i>
1:10 p.m.	Advanced Imaging in Specific Condition: Cardiomyopathy/Myocarditis/Heart Failure – ECHO – <i>Matthew O’Connor, MD</i>			1-3 p.m.	Abstract Presentations: Presentations and Critique <i>David Goldberg, MD, and Faculty</i>
1:30 p.m.	Advanced Imaging in Specific Condition: Cardiomyopathy/Myocarditis/Heart Failure – MRI – <i>Kevin Whitehead, MD, PhD</i>			3 p.m.	Adjourn



# WEDNESDAY, FEB. 21

## Opening Plenary Session • 4 – 6:20 p.m.

4 p.m. Opening Remarks

*Jack Rychik, MD*

Let's Begin With the Future: What to Expect in the Next Decade (VAQUERO BALLROOM)

*Moderators: Joseph Rossano, MD; Thomas L. Spray, MD*

4:05 p.m. Genetics and the Potential for “Personalized Precision Medicine” in Congenital Heart Care

*Bruce Gelb, MD*

4:25 p.m. The Artificial Womb: Extracorporeal Support for the Fetus

*Marcus Davey, PhD*

4:45 p.m. How We Expect Data Will Drive Discovery and Innovative Care

*Phillip B. (Jay) Storm, MD*

5:05 p.m. Transcatheter Valves = “Plastics” ... (*The Graduate*)

*Matthew Gillespie, MD*

5:25 p.m. Congenital Heart Surgery: Are We Done with Surgical Innovation or Is There Room to Do More?

*Sitaram Emani, MD*

5:45 p.m. The Digital Transformation of Healthcare

*Simon Kos, MBBS, MBA – CMO, Microsoft*

6:05 p.m. The Increasing Role of Social Media in CHD Care

*Kurt Schumacher, MD*

6:25 p.m. Managing the Growing ACHD Population Worldwide and Their Unique Concerns

*Thomas Glenn, MD*

6:40 p.m. Our New Normal: Having a Child with Hypoplastic Left Heart Syndrome

*Greg Olsen, Carolina Panthers*

6:55 p.m. Adjourn

Dinner on your own

# THURSDAY, FEB. 22

7 – 8 a.m. Sunrise Session I (ARIZONA I-III)

Electrocardiography: How to Read ECGs and Real Cases

*Mitchell Cohen, MD; Maully Shah, MBBS; Edward Walsh, MD*

Sunrise Session II (ARIZONA IV)

Understanding the Principles of Cardiac

Catheterization

*Stephen Kaine, MD; Matthew Schwartz, MD*

## Plenary Session II

Where Did We Come from and Where Are We Going: How Our History Informs the Future in the Field of ... (VAQUERO BALLROOM)

*Moderators: Girish Shirali, MD; Jonathan J. Rome, MD*

8 a.m. Cardiac Catheterization

*Jonathan Rome, MD*

8:20 a.m. Electrophysiology

*Edward Walsh, MD*

8:40 a.m. Echocardiography

*Norman Silverman, MD*

9 a.m. Congenital Heart Surgery

*Thomas Spray, MD*

9:20 a.m. Pediatric Heart Nursing

*Patricia Hickey, PhD, MBA, RN*

9:40 a.m. Heart Transplantation

*Robert Shaddy, MD*

10 – 11 a.m. Break/Visit the Exhibits/Poster Session I

## Simultaneous Breakout Sessions 11 a.m. – 1 p.m.

NURSING: Truth or Fiction ... What Does the Evidence Say? (VAQUERO A-D)

*Moderators: Denise Donaghue, MSN; Patricia Hickey, PhD*

11 a.m. Can Patients Safely Go Home on Inotropic Infusion Therapy? – *Leigh Ann Difusco, MSN, RN, PCNS-BC*

11:15 a.m. Preventing Wound Infections: Is the Truth Out There? – *Catherine Woodward, DNP, PNP-AC*

11:30 a.m. So Which Is Safer at Home: GT or NGT? – *Belinda Large, RN, MSN, CPNP-AC/PC*

11:45 a.m. Is Thermoregulation Important? – *Stephanie Helman, MSN, RN, CCRN, CCNS*

Noon “What the Heck, Is It Really NEC?” – *Lisa Laddish, DNP, RN, CPNP-AC/PC*

12:15 p.m. What Are the Risks for Interstage Mortality? – *Alyson Stagg, MSN, CRNP*

12:30 p.m. Is Breastfeeding Possible in the Infant with HLHS? – *Britt Fredriksen, RN, MS*

12:45 p.m. Can't Digital Technology Improve Nursing Care? – *Molly McCarthy, RN, MBA*

1 p.m. Adjourn



# THURSDAY, FEB. 22

## Simultaneous Breakout Sessions continued

### Exercise and Sports in Pediatric and Congenital Cardiovascular Conditions (ARROYO)

*Moderators: Stephen Paridon, MD; Mitchell Cohen, MD*

- 11 a.m. What to Recommend: Coronary Artery Anomalies – Julie Brothers, MD
- 11:15 a.m. Sexual Activity in CHD and Channelopathies: The Pink Elephant No One Wants to Discuss – Mitchell Cohen, MD
- 11:30 a.m. What to Recommend: Fontan Circulation – Yves D’Udekem, MD
- 11:45 a.m. Wellness Aspects of Physical Fitness: How the Physiology of Exercise Improves Physical Health, Mental Health and Quality of Life – Todd Nowlen, MD
- Noon What to Recommend: Aortic Valve Disease – Stephen Paridon, MD
- 12:15 p.m. Beyond Beta-blockers: Moving to Gene-specific Therapies for Channelopathies – Maully Shah, MBBS
- 12:30 p.m. What to Recommend: Tetralogy of Fallot – Edward Walsh, MD
- 12:45 p.m. Q and A – Faculty
- 1 p.m. Adjourn

### The Era of Transcatheter Device and Interventional Therapies Has Arrived! (ARIZONA I-III)

*Moderators: Stephen Kaine, MD; Audrey Marshall, MD*

- 11 a.m. Innovations in Device Technology for Congenital Heart Care – Daniel Levi, MD
- 11:15 a.m. Who Are the Candidates for Pulmonary Valve Implantation and How Should We Evaluate Candidacy? – Andrew Glatz, MD
- 11:30 a.m. How Should We Follow Patients after Transcatheter Valve Implantation? What Are the Outcomes Thus Far? – Bryan Goldstein, MD
- 11:45 a.m. The Spectrum of Current Devices for Pulmonic and Aortic Valves and Techniques for Implantation – Audrey Marshall, MD
- Noon Transcatheter Creation of a Cavopulmonary Connection: Evolution of a New Strategy – Kanishka Ratnayaka, MD
- 12:15 p.m. Future Innovations and Applications – Matthew Gillespie, MD
- 12:30 p.m. Case Reviews – Stephen Kaine, MD, and Faculty Panel
- 1 p.m. Adjourn

### Focus On: The Tricuspid Valve (VAQUERO E-G)

*Moderators: Stephenie Fuller, MD; Craig Fleishman, MD*

- 11 a.m. Anatomy of the Tricuspid Valve: Normal and Abnormal – Paul Weinberg, MD
- 11:20 a.m. Tricuspid Valve Disease: Manifestations in the Fetus – Norman Silverman, MD
- 11:40 a.m. Imaging and Grading Tricuspid Valve Dysfunction and Its Impact on RV Performance – Laura Mercer-Rosa, MD
- Noon Tricuspid Valve Disease: Manifestations in the Child and Young Adult – Craig Fleishman, MD
- 12:20 p.m. The Spectrum of Surgical Interventions for Tricuspid Valve Conditions and Their Outcomes – Ram Kumar Subramanyan, MD, PhD
- 12:40 p.m. Managing the Faulty Tricuspid Valve When It Is the Systemic Atrioventricular Valve – Stephanie Fuller, MD
- 1 p.m. Adjourn

### Surgical Strategies for Complex Conditions (ARIZONA IV)

*Moderators: James O’Brien, MD; J. William Gaynor, MD*

- 11 a.m. Techniques for Approaching the Challenging Mitral Valve – Sitaram Emani, MD
- 11:20 a.m. Aortic Valve Repair – James Kirklin, MD
- 11:40 a.m. Aortic Arch Hypoplasia – E. Dean McKenzie, MD
- Noon Solutions for TGA, VSD and LV Outflow Obstruction – Victor Morell, MD
- 12:20 p.m. The “Double-Switch” for Corrected TGA – Richard Ohye, MD
- 12:40 p.m. Q&A – Faculty Panel
- 1 p.m. Adjourn

### Let’s Get Mechanical: Mechanical Assist and ECMO (DUNES)

*Moderators: Tami Rosenthal, CCP, MBA; Edward Harman, MS, CCP*

- 11 a.m. Bivalrudin Use for Mechanical Assist – Aaron DeWitt, MD
- 11:15 a.m. Challenges and Lessons Learned for ECMO Transport – Klayton Buckley, CCP
- 11:30 a.m. Use of Revolution for Short-term VAD/ECMO – Daniel Velez, MD
- 11:45 a.m. Roller Versus Centrifugal Pump for ECMO – Tami Rosenthal, CCP, MBA
- Noon Hemostasis and Anticoagulation – Venkat Shankar, MBBS
- 12:15 p.m. Heartware: Unique Pediatric Applications – Brandon Shade, CCP, LP
- 12:30 p.m. Outcomes of Pediatric Patients Supported with Continuous Flow VAD – Joseph Rossano, MD, MS
- 12:45 p.m. Panel Discussion
- 1 p.m. Adjourn

# THURSDAY, FEB. 22

## Boxed Lunch • 1 – 2 p.m.

- 1:15 – 1:45 p.m.    **Lunch Talk: Focus on ... (VAQUERO A-D)**  
**Quality Improvement in Congenital Heart Care**  
*Discussion Leader: Shobha Natarajan, MD*  
*Michael Gaies, MD; Stephen Kaine, MD; Anitha Parthiban, MD; and Susan Schachtner, MD*
- 2:15 – 3:15 p.m.    **Moderated Panel of Experts (VAQUERO BALLROOM)**  
**Decision-making in Complex Situations: We Are Going to Do the Following ...**  
*Panel Leader: Jack Rychik, MD*  
*Yves D'Udekem, MD; Carlos Mery, MD; Victor Morell, MD; Richard Ohye, MD; Ram Kumar Subramanyan, MD; and Glen Van Arsdell, MD*
- 3:15 – 4:15 p.m.    **Oral Abstracts (VAQUERO BALLROOM)**  
*Moderators: David Goldberg, MD; Anitha Parthiban, MD*

## Plenary Session III

### Effective Teams, Improving Results (VAQUERO BALLROOM)

*Moderators: Daniel J. Penny, MD; Denise D. Donaghue, RN, MSN*

- 4:15 p.m.    **The Organization and Dynamics of Teams in Achieving High-level Outcomes (Organizational Structure, Communication, Authority/Independence)**  
*James Steven, MD*
- 4:30 p.m.    **Node of Transitional Care I: From Prenatal to Postnatal Life – Role of the Obstetrical Specialist in Congenital Heart Care**  
*Julie Moldenhauer, MD*
- 4:45 p.m.    **Node of Transitional Care II: Delivery, Stabilization and Neonatal Care**  
*Natalie Rintoul, MD*
- 5 p.m.    **Node of Transitional Care III: Between the Operating Room and Intensive Care Unit – Continuity, Hand-off and Communication**  
*Geoffrey Bird, MD*
- 5:15 p.m.    **Node of Transitional Care IV: Between Inpatient and Outpatient Care Services**  
*Stuart Berger, MD*
- 5:30 p.m.    **Nursing Care as a Team Sport in Pediatrics**  
*Kim Delaney, RN, BSN*
- 5:45 p.m.    **I Am Not a Cardiologist! (Paraphrasing *The Elephant Man*)**  
*Daniel Licht, MD*
- 6 p.m.    **Panel Discussion**
- 6:15 p.m.    **Adjourn**

Dinner on your own





# FRIDAY, FEB. 23

7 – 8 a.m.

## Sunrise Session I (ARIZONA I-III)

Understanding the Benefits and Limitations of Echocardiography for the Frontline Provider  
*Meryl Cohen, MD; Shobha Natarajan, MD; Michael Quartermain, MD*

## Sunrise Session II (ARIZONA IV)

My Favorite “Category” of Medications: What Should You Know About These Medications?

*Moderators: Kathryn Dodds, MSN, CPNP-AC; Stacy Reynolds, DNP, CPNP*

*Stephanie Culver, DNP, CPNP-BC; Susan Park, CPNP, CCTC*

## Plenary Session IV

### Surviving and Thriving With ... (VAQUERO BALLROOM)

*Moderators: Meryl Cohen, MD; Yuli Kim, MD*

8 a.m. **Ebstein's Anomaly**

*Frank Cetta, MD*

8:20 a.m. **Tetralogy of Fallot**

*Elizabeth Goldmuntz, MD*

8:40 a.m. **Aortic Valve Disease**

*Yuli Kim, MD*

9 a.m. **D-Transposition of the Great Arteries**

*Jane Newburger, MD, MPH*

9:20 a.m. **Hypoplastic Left Heart Syndrome**

*Jack Rychik, MD*

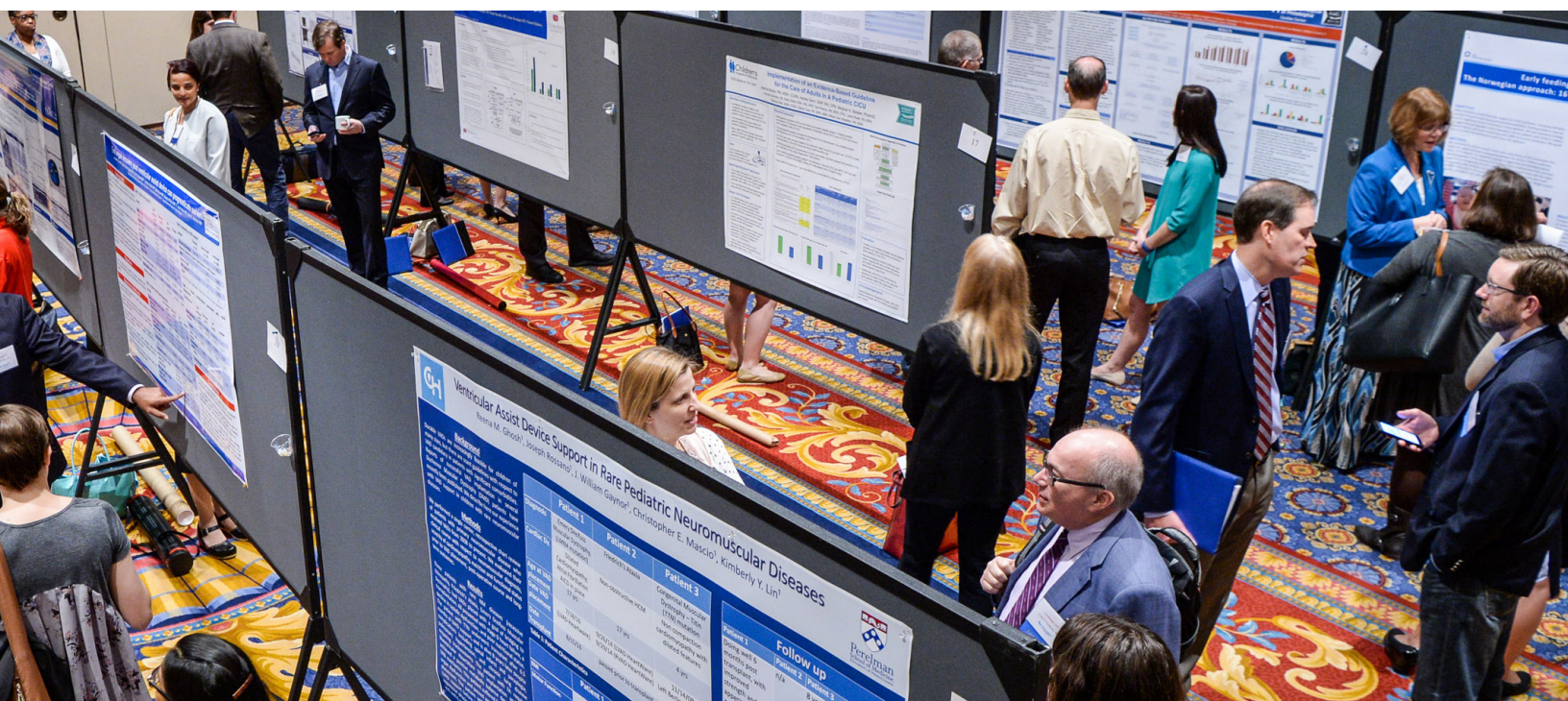
9:40 a.m. **Panel Discussion**

*Faculty*

10 a.m. **Adjourn**

10 – 11 a.m.

Break/Visit the Exhibits/Poster Session II



# FRIDAY, FEB. 23

## Simultaneous Breakout Sessions 11 a.m. – 1 p.m.

### NURSING: The Top 8 Nursing Abstracts Will Be Formally Presented and Discussed (VAQUERO A-D)

*Nursing Faculty • Moderators: Cathy S. Woodward, DNP; Lisa Laddish, DNP*

#### Heart Care Before Birth (ARIZONA I-III)

*Moderators: Christopher Lindblade, MD; Tara Swanson, MD*

- 11 a.m. The Fetal Surgery MMC Experience: A Model for How a Systematic Prenatal Approach for a Birth Defect Impacts Long-term Outcomes – *Julie Moldenhauer, MD*
- 11:20 a.m. Characterizing Severity and Counseling for Heterotaxy Syndrome Before Birth – *Christopher Lindblade, MD*
- 11:40 a.m. Twin-twin Transfusion Syndrome: Prenatal Pathophysiology Influences Long-term Outcomes – *Jay Pruetz, MD*
- Noon Maternal Hyperoxygenation: Utility as a Provocative Test in Fetal Cardiovascular Evaluation – *Jack Rychik, MD*
- 12:20 p.m. Will We Ever Be Able to Prenatally Predict the Need for Postnatal Balloon Atrial Septostomy in the Fetus with TGA? – *Norman Silverman, MD*
- 12:40 p.m. Integrated Counseling for the Fetus and Family in Prenatal Heart Disease – *Tara Swanson, MD*
- 1 p.m. Adjourn

#### This Is so Frustrating! How do I Deal with and Handle ... (VAQUERO E-G)

*Moderators: Paul Stephens, MD; Girish Shirali, MD*

- 11 a.m. Characterizing and Deciding the Significance of a Post-operative Residual Ventricular Septal Defect – *Meryl Cohen, MD*
- 11:20 a.m. Plastic Bronchitis after Fontan – *Yoav Dori, MD, PhD*
- 11:40 a.m. The Restrictive Conoventricular VSD (But with High Qp: Qs) That Won't Spontaneously Close – *Daniel Levi, MD*
- Noon Vessel "Resistance" to Intervention: Recurrent Aortic Arch Narrowing or Branch Pulmonary Artery Narrowing – *Audrey Marshall, MD*
- 12:20 p.m. Fetal Heart Block with Impending Fetal Hydrops – *Jay Pruetz, MD*
- 12:40 p.m. Recurrent Syncope of Unclear Etiology – *Paul Stephens, MD*
- 1 p.m. Adjourn

#### Focus on: Aortopathy in the Young (ARROYO)

*Moderators: Marie Gleason, MD; Stephen Paridon, MD*

- 11 a.m. Anatomical Considerations – *Paul Weinberg, MD*
- 11:15 a.m. Genetic Considerations in Aortopathy – *Harry Dietz, MD*
- 11:30 a.m. The Spectrum of Disease: William's Syndrome – *Marie Gleason, MD*
- 11:45 a.m. Aortic Dilation in CHD: When Is It Normal? When Is It Abnormal? – *Yuli Kim, MD*
- Noon The Spectrum of Disease: Marfan's Syndrome – *Stephen Paridon, MD*
- 12:15 p.m. Imaging Guidelines for Intervention in Aortopathy – *Michael Quartermain, MD*
- 12:30 p.m. Surgical Strategies for Treating Aortopathy in the Young – *Luca Vricella, MD*
- 12:45 p.m. Panel Discussion – *Faculty*
- 1 p.m. Adjourn

#### Cardiomyopathy, Heart Failure and Transplantation (ARIZONA IV)

*Moderators: Joseph Rossano, MD, MS; Stephen Zangwill, MD*

- 11 a.m. Cardiac Transplant in the Adult with CHD – *Victor Morell, MD*
- 11:15 a.m. Cardiomyopathies in Noonan Syndrome and the Other RASopathies – *Bruce Gelb, MD*
- 11:30 a.m. Functional Status of Survivors of Mechanical Assist Devices and of Heart Transplantation – *Christopher Almond, MD*
- 11:45 a.m. Human Leukocyte Antibodies (HLA) in Pediatric Heart Transplantation – *Matthew O'Connor, MD*
- Noon Medical Frailty: A New Approach to Characterizing Chronic Pediatric Cardiovascular Conditions – *Anitha Parthiban, MD*
- 12:15 p.m. Resource Utilization and the Growing Cost of Care for Pediatric Heart Failure – *Joseph Rossano, MD, MS*
- 12:30 p.m. Drug Therapy for Pediatric Heart Failure: The Old, the New and the Future – *Robert Shaddy, MD*
- 12:45 p.m. Transplant Rejection: Mechanisms, Diagnosis and Current Treatment Strategies – *Steven Zangwill, MD*
- 1 p.m. Adjourn

#### Let's Get Innovative in Blood Management (DUNES)

*Moderators: Tami Rosenthal, CCP, MBA; Brandon Shade, CCP, LP*

- 11 a.m. Bloodless Cardiopulmonary Bypass: Is It Possible for Everyone? – *James Steven, MD*
- 11:20 a.m. VAVD: Does Sucker Return Make a Difference? – *Brandon Shade, CCP*
- 11:40 a.m. Use of TEG to Customize Blood Management – *Klayton Buckley, CCP*
- Noon Modified Ultrafiltration: Is It Worth Your Time? – *Edward Harman, MS, CCP*
- 12:20 p.m. Current Practice and Trends: Interactive Audience Participation Session: Audience Will Be Presented with a Series of Questions, Responses Will Be Posted and a Panel-led Discussion Will ensue – *Perfusion Faculty*
- 1 p.m. Adjourn



## Boxed Lunch • 1 – 2 p.m.

- 1:15 – 1:45 p.m.      **Lunch Talk: Focus on ... (VAQUERO A-D)**  
**Vascular Health and Angiogenesis in Congenital Heart Care**  
*Andrew Glatz, MD; Ram Kumar Subramanyan, MD, PhD*
- 2:15 – 3:15 p.m.      **Situation Room: Moderated Panel of Experts (VAQUERO BALLROOM)**  
**Crisis in the ICU: What to Do About ...**  
*Panel Leader: Joseph Rossano, MD, MS*  
*Chris Feudtner, MD, PhD; Michael Gaies, MD; Catherine Krawczeski, MD; Maryam Naim, MD; Venkat Shankar, MBBS*
- 3:15 – 4:15 p.m.      **Oral Abstracts (VAQUERO BALLROOM)**  
*Moderators: Matthew O'Connor, MD; Catherine Krawczeski, MD*

## Plenary Session V

### What Besides the Heart Influences Outcomes in Congenital Heart Disease? (VAQUERO BALLROOM)

*Moderators: J. William Gaynor, MD; Andrew Costantino, MD*

- 4:15 p.m.      **Team Culture, Operational/Organizational Systems and Error Reduction in Congenital Heart Surgery**  
*Glen Van Arsdell, MD*
- 4:30 p.m.      **The Unmeasured Variables Surrounding Care**  
*Michael Gaies, MD*
- 4:45 p.m.      **Life Before Birth: Impact of Prenatal Environment**  
*J. William Gaynor, MD*
- 5 p.m.          **The Blue Print: Our Genes**  
*Elizabeth Goldmuntz, MD*
- 5:15 p.m.      **Psychological and Social Factors**  
*Adrienne Kovacs, PhD*
- 5:30 p.m.      **Extracardiac Malformations and Their Influence on Surgical Outcomes**  
*Carlos Mery, MD*
- 5:45 p.m.      **Nutrition and Weight Gain in the Infant with CHD**  
*Chitra Ravishankar, MD*
- 6 p.m.          **Panel Discussion**  
*Faculty*
- 6:15 p.m.      **Adjourn**

## 6:15 p.m.      Sunset Reception

Sponsored by



# SATURDAY, FEB. 24

Exercise your body and your mind!

# HEART RUN 5K

CARING FOR KIDS' HEARTS

Time: 6:15 – 8 a.m.

Where: Hyatt Regency Scottsdale Resort and Spa  
at Gainey Ranch



Sponsored by





## Plenary Session VI

### Awards and Featured Lectures (VAQUERO BALLROOM)

8 a.m.	<b>16th Annual William J. Rashkind Memorial Lecture in Pediatric Cardiology</b> <i>Introduction: Joseph Rossano, MD</i> <i>Tal Geva, MD</i>
8:20 a.m.	<b>18th Annual C. Walton Lillehei Memorial Lecture in Cardiovascular Surgery</b> <i>Introduction: Thomas L. Spray, MD</i> <i>James Kirklin, MD</i>
8:40 a.m.	<b>10th Annual Jack Downes Lecture in Cardiac Anesthesia and Critical Care</b> <i>Introduction: James Steven, MD</i> <i>Dean Andropoulos, MD</i>
9 a.m.	<b>Seventh Annual Featured Lecture in the Cardiovascular Basic and Translational Sciences</b> <i>Introduction: Stephen Paridon, MD</i> <i>Harry Dietz, MD</i>
9:20 a.m.	<b>18th Annual Featured Lecture in Cardiovascular Nursing: T. Garrett Rauch Memorial Lecture</b> <i>Introduction: Denise Donaghue, RN, MSN</i> <i>Kathryn Dodds, MSN, CRNP-AC</i>
9:40 a.m.	<b>Presentation of the Outstanding Investigator and Nursing Scientist Awards</b> <i>David Goldberg, MD; and Kathryn M. Dodds, MSN, CRNP-AC</i>

10 – 11 a.m. Break/Visit the Exhibits/Poster Session III

### Simultaneous Breakout Sessions 11 a.m. – 1 p.m.

#### NURSING — Challenging Cases: It Takes a Village to Care for Patients (VAQUERO A-D)

*Moderators: Britt Fredriksen, RN, MSN; Courtney Howell, CPNP*

Join the nursing faculty in a presentation of challenging cases that highlight the importance of working as a team.

#### Acquired Heart Disease in the Young: What's New in 2018? (ARROYO)

*Moderators: Alan Friedman, MD; Lloyd Tani, MD*

11 a.m.	Hyperlipidemia – <i>Julie Brothers, MD</i>
11:20 a.m.	Endocarditis – <i>Alan Friedman, MD</i>
11:40 a.m.	Kawasaki Disease – <i>Jane Newburger, MD, MPH</i>
Noon	Myocarditis – <i>Matthew O'Connor, MD</i>
12:20 p.m.	Rheumatic Fever – <i>Lloyd Tani, MD</i>
12:40 p.m.	Obesity and Its Impact on CHD – <i>Meryl Cohen, MD</i>
1 p.m.	Adjourn

#### Focus on: The Atrioventricular Canal Defect (VAQUERO E-G)

*Moderators: Peter Frommelt, MD; Girish Shirali, MD*

11 a.m.	Anatomical Considerations – <i>Paul Weinberg, MD</i>
11:20 a.m.	Imaging Considerations and Assessment of Valve Balance – <i>Meryl Cohen, MD</i>
11:40 a.m.	Neonatal Down Syndrome: Implications and its Influence on Care and Management – <i>Natalie Rintoul, MD</i>
Noon	Surgical Repair I: Initial Approach to Repair – <i>James O'Brien, MD</i>
12:20 p.m.	Imaging Techniques for Assessment after Surgery – <i>Anthony Hlavacek, MD</i>
12:40 p.m.	Surgical Repair II: Late Complications (Residual Valve Insufficiency, Valve Replacement, LV Outflow Obstruction) – <i>Stephanie Fuller, MD</i>
1 p.m.	Adjourn

#### Healthcare Administration in CHD: Creating and Sustaining a High-functioning Team (ARIZONA IV)

*Moderators: Lawrence Barnes, MBA; Mark Schwartz, MBA*

11 a.m.	How Does One Innovate as a Team? The Tension Between Creative Innovation and Safety in Healthcare – <i>Daniel Penny, MD, PhD</i>
11:15 a.m.	Transparency and Patient Satisfaction in CHD Care Through the “EASE” App – <i>Hamish Munro, MD, FRCA</i>
11:30 a.m.	Building the Integrated Clinical Service Line: Strategy and Implementation • The Chicago Perspective – <i>Benjamin Black, MBA</i>
11:45 a.m.	Defining and Quantifying the Pediatric Cardiac Service Line: Understanding the Service Line's Full Economic and Financial Impact • The CHOP Perspective – <i>Mark Schwartz, MBA</i>
Noon	Regional Geographic Program Development: Benefits, Challenges and Opportunities – <i>Thomas Dole</i>
12:15 p.m.	Building the Culture You Desire and Achieving Objectives in Your Organization: Perspective from the CEO of Phoenix Children's Hospital – <i>Robert Meyer</i>
12:30 p.m.	Building the Culture You Desire and Achieving Objectives in Your Organization: Perspective from the CEO of Los Angeles Children's Hospital – <i>Paul Viviano</i>
12:45 p.m.	Panel Discussion – <i>Faculty</i>
1 p.m.	Adjourn

# SATURDAY, FEB. 24

## Critical Care and Anesthesia for Congenital Heart Care: 2018 (ARIZONA I-III)

*Moderators: Andrew Costarino, MD; James Steven, MD*

- 11 a.m. Troubleshooting Mechanical Circulatory Device Complications in the Intensive Care Unit – *Christopher Almond, MD*
- 11:20 a.m. Utility of Dexmedetomidine in Congenital Heart Care – *Dean Andropoulos, MD*
- 11:40 a.m. Don't Forget the **Kidney** in the **Cardiac** Intensive Care Unit! – *Catherine Krawczeski, MD*
- Noon EEG Monitoring after Neonatal Cardiac Surgery – *Maryam Naim, MD*
- 12:20 p.m. Challenges in Anticoagulation in the Cardiac Intensive Care Unit – *Venkat Shankar, MBBS*
- 12:40 p.m. Panel Discussion – *Faculty*
- 1 p.m. Adjourn

## Let's Get Operating: Pediatric Congenital Surgery (DUNES)

*Moderators: Brandon Shade, CCP, LP; Klayton Buckley, CCP*

- 11 a.m. Selected Cerebral Perfusion: Is There a Best Practice – *James O'Brien, MD*
- 11:20 a.m. The RCA Event: Cause and Effect – *Tami Rosenthal, CCP, MBA*
- 11:40 a.m. Lessons Learned Creating/Using a Mini Bypass Circuit – *Edward Harman, MS, CCP*
- Noon Pediatric CPB: Does Practice Affect Outcomes? – *J. William Gaynor, MD*
- 12:20 p.m. How We Do It and Why: Panel of Multidisciplinary Faculty Will Share Their Techniques and Rationale (with Audience Participation) – *Perfusion Faculty*
- 1 p.m. Adjourn

## Lunch • 1 –2 p.m.

- 1:15 – 1:45 p.m. **Lunch Talk: Focus on ... (VAQUERO A-D)**  
Overcoming Adversity: The Struggles of Living with CHD (school age, teenage years and adult)  
*Discussion Leader: Yuli Kim, MD*  
*Adrienne Kovacs, PhD; Stacey Lihn; Thomas Glenn, MD; Scott Leezer*
- 2:15 – 3:15 p.m. **Situation Room: Moderated Panel of Experts**  
**So This Is When You Need an Experienced Clinician ... (VAQUERO BALLROOM)**  
*Panel Leader: Frank Cetta, MD*  
*Craig Fleishman, MD; Peter Frommelt, MD; Daniel Penny, MD, PhD; Chitra Ravishankar, MD; Norman Silverman, MD; Lloyd Tani, MD*

## Plenary Session VII

### Professional Challenges for the Healthcare Provider (VAQUERO BALLROOM)

*Moderators: Jack Rychik, MD; Denise Donaghue, RN, MSN*

- 3:15 p.m. **Techniques and Methods for Delivering Bad News**  
*Aaron DeWitt, MD*
- 3:30 p.m. **How to Approach the Ethical Dilemma ...**  
*Chris Feudtner, MD, PhD*
- 3:45 p.m. **Balancing the Personal and the Professional**  
*E. Dean McKenzie, MD*
- 4 p.m. **Special Session: Dealing with and Managing Conflict: A Workshop that Will Provide You with the Tools to Change Your Professional Life!**  
*Autumn Fiester, PhD*
- 5:15 p.m. Adjourn

## 5:15 – 6:15 p.m. Highlighted Poster Session: Wine and Wisdom

### 6:15 – 7:15 p.m. QUIZ BOWL! (VAQUERO BALLROOM)

*Your Host: Matthew Gillespie, MD*

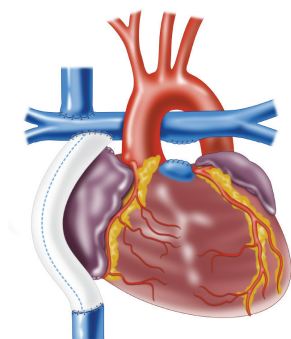
- 7:15 p.m. Adjourn





# SUNDAY, FEB. 25

## CHOP and The International Fontan Interest Group Present a Symposium: The Challenges of the Fontan Circulation — Where We Are, Where We Need to Be



The Fontan population is steadily growing, and close to half of them are young adults who are active members of our society. As this success unfolds, we are uncovering the burden and challenges posed by the Fontan circulation. We need to find solutions to the hurdles ahead. This one-day symposium will be composed of formal presentations by experts in the field followed by a dynamic brainstorming discussion and presentations of new ideas and projects. We want all of those interested in this extraordinary circulation to join us to share views, debate ideas and build projects. This day will see the creation of a vibrant, dynamic platform involving all the key players, including healthcare providers, patients and families.

*Full conference registrants can attend until 11 a.m.,  
but may extend for the full-day symposium for \$75.  
One-day symposium attendees may register as follows:*

Sunday, Feb. 25, 7:45 a.m. to 5:45 p.m.

Physicians ..... \$200  
Other Healthcare Professionals ..... \$125  
Parents/Guardians ..... \$100

Session I AMA PRA Category 1 Credit(s)<sup>TM</sup> = 2.75  
Session II AMA PRA Category 1 Credit(s)<sup>TM</sup> = 6.25

Day 5 Total AMA PRA Category 1 Credit(s)<sup>TM</sup> = 9.0

Register online: [chop.cloud-cme.com](http://chop.cloud-cme.com)

### Session I: What We Believe We Know (VAQUERO BALLROOM)

- 7:45 a.m.    **Orientation to the Day's Activities and Sessions**  
*Yves D'Udekem, MD; Jack Rychik, MD*
- 8 a.m.        **Introduction: As a Patient/Parent What I Hope to Get Out of Today ...**  
*Stacey Lihn*
- 8:15 a.m.    **Survival Outcomes after Fontan Operation**  
*Frank Cetta, MD*
- 8:30 a.m.    **Pathophysiology and Mechanisms of Fontan Failure**  
*Marc Gewillig, MD*
- 8:45 a.m.    **Aortopulmonary Collateral Flow: Natural Adaptation or Harmful Development?**  
*Andrew Glatz, MD*
- 9 a.m.        **Thromboembolic Disease after Fontan**  
*Alexander Egbe, MBBS*
- 9:30 a.m.    **Concern about End-organ Consequences: The "Fontan Circulatory Syndrome"**  
*Jack Rychik, MD*
- 10 a.m.       **Concern about Neurodevelopmental Outcomes**  
*Jane Newburger, MD, MPH*
- 10:15 a.m.   **Concern about Mental Health and Quality of Life**  
*Nancy Pike, PhD, RN, CPNP-AC*
- 10:30 a.m.   **Summary and Discussion: What We (Believe) We Know**  
*Faculty Panel*

**10:45 a.m.    ADJOURN FOR FULL CONFERENCE ATTENDEES**

**10:45 – 11 a.m.    BREAK**



*continued>*

# SUNDAY, FEB. 25

## Session II: What We Are Currently Trying to Do (VAQUERO E-G)

11 a.m. Patient and Family-centered Advocacy Goals: Where Are We with Influencing the Healthcare Community and Other Societal Agencies?  
*Scott Leezer*

11:15 a.m. Clinical Surveillance Strategies Are Emerging: Building Consensus  
*Adel Younoszai, MD*

11:30 a.m. Establishment of the Model for a Specialized Fontan Clinic: Challenges and Benefits  
*Kathryn Dodds, MSN, CPNP-AC*

11:45 a.m. Developing a Specialized Fontan Clinic: The Stanford Experience  
*Gail Wright, MD*

Noon **BOXED LUNCH** for participants registered for the full day only

12:15 p.m. Data-driven Quality Care Initiatives Through the NPC-QIC: A Methodology for Improving Outcomes after Fontan Operation  
*Carole Lannon, MD, MPH*

12:30 p.m. Trying to Find the Right Medications to Improve the Fontan Circulation  
*David Goldberg, MD*

12:45 p.m. Techniques for More Accurate Characterization of the Fontan Circulation: Provocative Assessments  
*Bryan Goldstein, MD*

1 p.m. Characterization of the Lymphatic System and Treating Complications after Fontan Operation  
*Maxim Itkin, MD*

1:15 p.m. Transplant Can Work for Some but Is Not for All and Is Not a Cure  
*Daphne Hsu, MD*

1:30 p.m. Mechanical Circulatory Support for the Failing Fontan  
*Yves D'Udekem, MD*



## Session III: Where We Need to Be

1:45 p.m. Brainstorming with Our “Fontan Think Tank”  
*Faculty Panel*

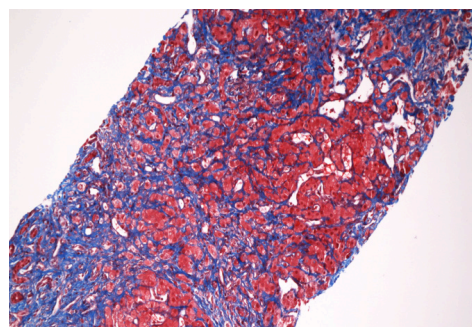
2:30 p.m. **BREAK**

## Session IV: Exploring the Next Steps • Future Research and New Ideas: 10-minute Presentations; 10 Minutes of Discussion

2:45 p.m. Open Session with Solicitation of Abstracts • One-page Formatted Submissions to be Reviewed and Chosen  
*Panel Discussions*

5:45 p.m. **ADJOURN**

6:30 p.m. **RECEPTION**





## Organizing Committee

Jack Rychik, MD – Course Director, Philadelphia  
Lawrence Barnes, MBA, Philadelphia  
Geoffrey Bird, MD, Philadelphia  
Robert Campbell, MD, Atlanta  
Meryl Cohen, MD, Philadelphia  
Mitchell Cohen, MD, Phoenix  
Andrew Costarino, MD, Philadelphia  
Kathryn Dodds, MSN, CRNP-AC, Philadelphia  
Craig Fleishman, MD, Orlando  
Alan Friedman, MD, New Haven  
Stephanie Fuller, MD, Philadelphia  
David Goldberg, MD, Philadelphia  
Yuli Kim, MD, Philadelphia  
Daniel Penny, MD, PhD, Houston  
Jonathan Rome, MD, Philadelphia  
Tami Rosenthal, CCP, MBA, Philadelphia  
Joseph Rossano, MD, MS, Philadelphia  
Robert Shaddy, MD, Los Angeles  
Maully Shah, MBBS, Philadelphia  
Girish Shirali, MBBS, Kansas City  
James Steven, MD, Philadelphia  
Mark Schwartz, MBA, Philadelphia

## Faculty

Christopher Almond, MD, Palo Alto  
Dean Andropoulos, MD, Houston  
Stuart Berger, MD, Chicago  
Benjamin Black, MBA, Chicago  
Julie Brothers, MD, Philadelphia  
Klayton Buckley, CCP, Philadelphia  
Frank Cetta, MD, Rochester, Minn.  
Jill Combs, MSN, Philadelphia  
Stephanie Culver, DNP, CPNP-BC, Phoenix  
Yves D'Udekem, MD, Melbourne, Australia  
Marcus Davey, PhD, Philadelphia  
Kim Delaney, RN, BSN, Philadelphia  
Aaron DeWitt, MD, Philadelphia  
Harry Dietz, MD, Baltimore  
Leigh Ann Difusco, MSN, RN, PCNS-BC, Philadelphia  
Thomas Dole, Philadelphia  
Denise Donaghue, RN, MSN, Philadelphia  
Yoav Dori, MD, PhD, Philadelphia  
Alexander Egbe, MBBS, Rochester, Minn.  
Sitaram Emani, MD, Boston  
Chris Feudtner, MD, PhD, Philadelphia  
Autumn Fiester, PhD, Philadelphia  
Mark Fogel, MD, Philadelphia  
Britt Fredriksen, RN, MS, Oslo, Norway  
Peter Frommelt, MD, Milwaukee

Michael Gaies, MD, Ann Arbor  
J. William Gaynor, MD, Philadelphia  
Bruce Gelb, MD, New York  
Tal Geva, MD, Boston  
Marc Gewillig, MD, Leuven, Belgium  
Matthew Gillespie, MD, Philadelphia  
Andrew Glatz, MD, Philadelphia  
Marie Gleason, MD, Philadelphia  
Thomas Glenn, MD, Newark  
Elizabeth Goldmuntz, MD, Philadelphia  
Bryan Goldstein, MD, Cincinnati  
Lars Grosse-Wortmann, MD, Toronto  
Edward Harman, MS, CCP, Salt Lake City  
Stephanie Helman, MSN, RN, CCRN, CCNS, Philadelphia  
Patricia Hickey, PhD, MBA, RN, Boston  
Anthony Hlavacek, MD, Charleston, S.C.  
Courtney Howell, CPNP-AC/PC, Phoenix  
Daphne Hsu, MD, New York  
Max Itkin, MD, Philadelphia  
Stephen Kaine, MD, Kansas City  
Tara Karamlou, MD, Phoenix  
James Kirklin, MD, Birmingham  
Simon Kos, MBA, MBBS, CMO, Microsoft  
Adrienne Kovacs, PhD, Portland, Ore.  
Catherine Krawczeski, MD, Palo Alto  
Cheryl Kurer, MD, Philadelphia  
Lisa Laddish, DNP, RN, CPNP-AC/PC, Kansas City  
Carole Lannon, MD, MPH, Cincinnati  
Belinda Large, RN, MSN, CPNP-AC/PC, Phoenix  
Scott Leezer, Washington, DC  
Daniel Levi, MD, Los Angeles  
Daniel Licht, MD, Philadelphia  
Stacey Lihn, Phoenix  
Christopher Lindblade, MD, Phoenix  
Audrey Marshall, MD, Boston  
Molly McCarthy, RN, MBA, Microsoft  
E. Dean McKenzie, MD, Atlanta  
Laura Mercer-Rosa, MD, Philadelphia  
Carlos Mery, MD, Houston  
Robert Meyer, Phoenix  
Julie Moldenhauer, MD, Philadelphia  
Kathleen Monforto, PhD, RN, CPN, Nurse Planner, Philadelphia  
Victor Morell, MD, Pittsburgh  
Hamish Munro, MD, FRCA, Orlando  
Maryam Naim, MD, Philadelphia  
Shobha Natarajan, MD, Philadelphia  
Jane Newburger, MD, MPH, Boston  
Todd Nowlen, MD, Phoenix  
James O'Brien, MD, Kansas City

Matthew O'Connor, MD, Philadelphia  
Richard Ohye, MD, Ann Arbor  
Greg Olsen, Charlotte  
Stephen Paridon, MD, Philadelphia  
Susan Park, CPNP, CCTC, Phoenix  
Anitha Parthiban, MD, Kansas City  
Nancy Pike, PhD, RN, CPNC-AC, Los Angeles  
Jay Pruetz, MD, Los Angeles  
Michael Quartermain, MD, Philadelphia  
Rahul Rathod, MD, Boston  
Kanishka Ratnayaka, MD, San Diego  
Chitra Ravishankar, MD, Philadelphia  
Stacy Reynolds, DNP, CPNP, Kansas City  
Natalie Rintoul, MD, Philadelphia  
Susan Schachtner, MD, Philadelphia  
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Norman Silverman, MD, Palo Alto

Thomas Spray, MD, Philadelphia  
Alyson Stagg, MSN, CRNP, Philadelphia  
Paul Stephens, MD, Philadelphia  
Phillip B. (Jay) Storm, MD, Philadelphia  
Ram Kumar Subramanyan, MD, PhD, Los Angeles  
Kristen T. Sullivan, RN, MSN, CPNP-AP, Phoenix  
Tara Swanson, MD, Kansas City  
Lloyd Tani, MD, Salt Lake City  
Glen Van Arsdell, MD, Toronto  
Daniel Velez, MD, Phoenix  
Paul Viviano, Los Angeles  
Luca Vricella, MD, Baltimore  
Edward Walsh, MD, Boston  
Paul Weinberg, MD, Philadelphia  
Kevin Whitehead, MD, PhD, Philadelphia  
Cathy Woodward, DNP, PNP-AC, San Antonio  
Gail Wright, MD, Palo Alto  
Adel Younoszai, MD, Denver  
Steven Zangwill, MD, Phoenix

