10th International Conference on Pediatric Mechanical Circulatory Support Systems & Pediatric Cardiopulmonary Perfusion

The Hall of Flags, University of Pennsylvania, Philadelphia, PA, USA
May 28-31, 2014

Conference Founder
Akif Ündar, PhD, USA

Honorary Co-Chairs
Aydın Aytaç, MD, Turkey
William S. Pierce, MD, USA

Remote Instructors
Thomas L. Spray, MD, USA
Emile A. Bacha, MD, USA

Local Organizing Committee
Chitra Ravishankar, MD, USA (Local Program Chair)
Tami Rosenthal, CCP, MBA, USA (Local Co-Chair, Perfusion)
Vinay M. Nadkarni, MD, USA (Local Co-Chair, ECLS)

Planning/Scientific Committee
Akif Ündar, PhD, USA (Chair)
Chitra Ravishankar, MD, USA (Local Chair)
Kerem Pekkan, PhD, USA (ECLS Chair)
Tami Rosenthal, CCP, MBA, USA (Co-Chair)
Vinay M. Nadkarni, MD, USA (Co-Chair)
Shigang Wang, MD, USA (Co-Chair)
J. Brian Clark, MD, USA (Co-Chair)
John L. Myers, MD, USA (Co-Chair)

International & Remote Members, Moderators & Wet Lab Instructors
Emile A. Bacha, MD, USA
Emre Belli, MD, France
Meghan Bokhardt, MS, OTR, USA
Michael P. Brewer, MS, CCP, USA
Idágene Cestari, PhD, Brazil
Hakan Ceyran, MD, Turkey
Paul Chai, MD, USA
J. Brian Clark, MD, USA
Jack G. Copeland, MD, USA
Haydon Dando, CCP, Australia
Lakshmi P. Dasi, PhD, USA
William S. Pierce, MD, USA
Javier Lasa, MD, USA
Giovanni Luciani, MD, Italy
Thomas Markmann, MBA, Germany
Christopher Mascio, MD, USA
Meredith McDonough, MS, CCLS, USA
John L. Myers, MD, USA
Vinay M. Nadkarni, MD, USA
Maryam Naim, MD, USA
Aruna Nathan, MD, USA
Matthew O’Connor, MD, USA
Ender Ödemiş, MD, Turkey
Linda Pauliks, MD, MPH, USA
David Palanzo, CCP, USA
Kevin Pekkan, PhD, USA
Chitra Ravishankar, MD, USA
Gregg Roach, CCP, USA
Tami Rosenthal, CCP, MBA, USA
Joseph Rossano, MD, USA
Thomas L. Spray, MD, USA
Ravi Thiagarajan, MD, USA
Amy Throckmorton, PhD, USA
Alexis Topjian, MD, USA
Mehmet Ağırbaşlı, MD, Turkey
Atif Akçevin, MD, Turkey
Tijen Alkan-Bozkaya, MD, Turkey
Akif Ündar, PhD, USA
Shigang Wang, MD, USA
Wei Wang, MD, PhD, China
Jeffrey D. Zahn, PhD, USA
Introduction

The 10th International Conference is intended for pediatric heart surgeons, biomedical engineers, cardiologists, intensivists, neonatologists, scientists, anesthesiologists, neurologists, nurses, pediatric perfusionists, respiratory therapists, residents, fellows, and students. All are invited and encouraged to attend.

Purpose and Overview

The purpose of the proposed meeting is to bring together internationally known clinicians, bioengineers, and basic scientists involved in research on pediatric mechanical cardiac support systems and pediatric cardiopulmonary bypass procedures. The primary focus will be to describe explicitly the problems with current pediatric mechanical circulatory support systems, methods, techniques during acute and chronic support and suggest solutions with novel approaches.

Learning Objectives

Upon completion of the 10th Annual conference, participants will be able to:

- Evaluate the impact of unique features and outcomes for pediatric mechanical circulatory support systems.
- Compare the benefits and risks of current and new extracorporeal life support systems (ECLS) systems.
- Determine how and where to implement cutting edge bioengineering approaches in their practice of pediatric cardiovascular medicine.
- Critique new & current devices including pediatric heart pumps, oxygenators, etc., and the cite areas where additional physician training may be required for successful implementation.

Disclosure of Relevant Financial Relationships and Unapproved Uses of Products

Complete faculty disclosure information will be provided to conference participants at registration in the conference materials and syllabi at the beginning of the conference. Faculty members are also expected to disclose to participants any discussions of off-label and/or investigational uses of pharmaceutical products within their presentations.
Educational Credit (Pending)

- **Physicians:** *AMA PRA Category 1 Credit(s)*
  - **Perfusionists:** Category 1 CEU's
  - **Nurses:** Category 1 CEU's

**ACCME Accreditation Statement**

The Children's Hospital of Philadelphia is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

**AMA Credit Designation Statement**

The Children's Hospital of Philadelphia designates this live activity for a maximum (pending) *AMA PRA Category 1 Credit(s)*. Physicians should claim only the credit commensurate with their participation in the activity.

**Registration**

ONLINE REGISTRATION ONLY. Registration is accessible via the conference web site:

http://pennstatehershey.org/web/pedscpb/home

On-site registration can be accepted only if space is available.

**Exhibit Opportunities**

Companies wishing to exhibit should visit the conference web site.

http://pennstatehershey.org/web/pedscpb/home

**Cancellation Policy**

Cancelations received before April 1, 2014 will be assessed a $200 processing fee. No refunds will be made for cancellations received after April 1, 2014. Substitutes are accepted at any time.

**Americans with Disabilities Act**

If you have a disability and require assistance to participate in this conference, please contact Pedsabstracts@hmc.psu.edu as early as possible, but no later than five (5) business days before the meeting.
Important Dates (2013-2014)

<table>
<thead>
<tr>
<th>DATE</th>
<th>EVENTS</th>
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<tbody>
<tr>
<td>December 16, 2013</td>
<td>Conference &amp; Hotel Registration Begins</td>
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<tr>
<td>December 16, 2013</td>
<td>Abstract Submission Begins – Online Only</td>
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<tr>
<td>March 1, 2014</td>
<td>Exhibitor Booth Registration Deadline</td>
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<tr>
<td>March 1, 2014</td>
<td>Final Day for Abstract Submissions</td>
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<td>March 7, 2014</td>
<td>Notification of Accepted Abstracts</td>
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<tr>
<td>April 1, 2014</td>
<td>Early Registration Ends</td>
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<tr>
<td>April 18, 2014</td>
<td>Final Day for Manuscript Submissions Being Considered for Conference Awards</td>
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<tr>
<td>April 1-27, 2014</td>
<td>Late Registration</td>
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<tr>
<td>May 28-31, 2014</td>
<td>On-site Registration (Only if Space is Available)</td>
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Fees

Conference fees include instruction, handout materials, 3 breakfasts, 3 lunches, and 6 coffee breaks.

<table>
<thead>
<tr>
<th>Participants</th>
<th>If registered by April 1, 2014</th>
<th>If registered after April 1, 2014</th>
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<tbody>
<tr>
<td>MD/PhD (Physicians and scientists)</td>
<td>$ 500</td>
<td>$ 600 (on-site $700)</td>
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<tr>
<td>Members of International Society - MD/PhD- Physicians, Scientists</td>
<td>$ 400</td>
<td>$ 500 (on-site $600)</td>
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<td>Nurses, Perfusionists, Students &amp; Others</td>
<td>$ 450</td>
<td>$ 550 (on-site $650)</td>
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<tr>
<td>Members of International Society - Nurses, Perfusionists, Students &amp; Others</td>
<td>$ 350</td>
<td>$ 450 (on-site $550)</td>
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Hotel Accommodations

The Inn at Penn, A Hilton Hotel

Address: 3600 Sansom Street, Philadelphia, PA, 19104


Telephone: 215-222-0200 / 1-800-231-4587

Reduced prices for participants: Single/Double Room: $169 (USD) per night
Preliminary Scientific Program

WEDNESDAY, MAY 28, 2014

1:00 – 5:00pm  REGISTRATION
On-site Registration (Only if Space is Available)

THURSDAY, MAY 29, 2014

7:00 – 8:00am  Breakfast / Conference Registration
8:00 – 8:15am  WELCOME
Akif Ündar, PhD. Penn State Hershey Children’s Hospital & Penn State Hershey College of Medicine, Hershey, PA, USA
Chitra Ravishankar, MD, (Local Chair)
Children’s Hospital of Philadelphia (CHOP), Philadelphia, PA, USA

8:15 - 10:00am  PLENARY SESSION #1:

**Pediatric MCS and Heart Transplantation: Current and Future Trends (20 min Each)**

Moderators: William S. Pierce, MD, Hershey, PA, USA, Joseph Rossano, MD, Philadelphia, PA, USA, and J. Brian Clark, MD, Hershey, PA, USA

Diagnosis and Management of Myocarditis in Children
Matthew O’Connor, MD, Philadelphia, PA, USA

The use of VAD Support in Children: the State of the Art
Christopher Mascio, MD Philadelphia, PA, USA

Myths and Facts of Pulsatile Flow during Acute and Chronic MCS in Neonates and Infants
Akif Ündar, PhD, Hershey, PA, USA

Pediatric cardiac transplantation for complex congenital heart disease
Paul Chai, MD, New York, NY, USA

Discussion (20 min)

10:00 - 10:45am  Coffee Break/Exhibits/Posters
10:45 - Noon  Key Note Lecture #1:

**TBA**

Thomas L. Spray, MD, Philadelphia, PA, USA
Introduction: William J. Gaynor, MD, Philadelphia, PA, USA

11:45am – Noon  Presentation of Young Investigators’ Awards

Noon - 1:00pm  Lunch Break
1:00 - 3:00 pm  PLENARY SESSION #2:

**Minimizing Adverse Effects of CPB & ECLS: a Multi-disciplinary Team Approach (20 min Each)**

*Moderators: Paul Chai, MD, New York, NY, USA, and Tami Rosenthal, CCP, MBA, Philadelphia, PA, USA*

**Anesthesiologist’s Perspectives**
Aruna Nathan, MD Philadelphia, PA, USA

**Surgeon’s Perspective**
Emre Belli, MD, Paris, France

**Perfusionist’s Perspective**
Haydon Dando, CCP, Sydney, Australia

**Cardiac Intensivist’s Perspective**
Roxanne Kirsch MD, Philadelphia, PA, USA

**Scientist’s Perspective**
Mehmet Ağırbaşlı, MD, Istanbul, Turkey

**Engineer’s Perspective**
Kerem Pekkan, PhD, Pittsburgh, PA, USA

3:00 - 3:45 am  Coffee Break/Exhibits/Posters/Wet-Labs

3:45 - 5:45 pm  PLENARY SESSION #3:

**ECPR & ECLS: Utilization, Management, and Outcomes (20 min Each)**

*Moderators: Vinay M. Nadkarni, MD, Philadelphia, PA, USA and Stephanie Fuller, MD, Philadelphia, PA, USA and Ravi Thiagarajan, MD, Boston, MA, USA*

**Utilization of ECPR in the Pediatric Population**
Javier Lasa, MD, Philadelphia, PA, USA

**Outcomes of ECPR for Cardiac Indications**
Maryam Naim, MD, Philadelphia, PA, USA

**Role of Post Arrest Management and Neuromonitoring in Improving Outcomes**
Alexis Topjian, MD, Philadelphia, PA, USA

**Novel Diagonal ECLS System Improves Outcomes in Pediatric Cardiac Patients**
Sertaç Haydin, MD, Istanbul, Turkey

**Long-term Outcome and Quality of Life after ECLS**
Ravi Thiagarajan, MD, Boston, MA, USA

**Discussion (20 min)**
FRIDAY, MAY 30, 2014

7:00 – 8:00 am  Breakfast / Conference registration

8:00 – 10:00am  PLENARY SESSION #4:

**Engineering Approach to Pediatric Cardiovascular Medicine (20 min Each)**

*Moderators: Kerem Pekkan, PhD, Pittsburgh, PA, USA and Giovanni Luciani, MD, Verona, Italy*

**Venous Fontan Assist with Optimized Blood Damage and Future, Amy Throckmorton, PhD, Philadelphia, PA, USA**

**Functionalized Tissue Engineered Patches for Pediatric Surgical Reconstructions**

*Brad Keller, MD, Louisville, KY, USA,*

**Circulatory Support in Pediatric Patients: Ventricular Assist Device and Extracorporeal Membrane Oxygenation**

*Idágene Cestari, PhD, Sao Paolo, Brazil*

**Advances in Heart Valve Bioengineering with Special Emphasis on Scaling**

*Lakshmi P. Dasi, PhD, Denver, CO, USA*

**Computational fluid dynamics in congenital aortic valve disease**

*Giovanni Luciani, MD, Verona, Italy*

**Development of a Microfluidic Platform for Blood Testing in Neonatal and Pediatric CPB & ECLS Patients**

*Jeffrey D. Zahn, PhD, Piscataway, NJ, USA*

10:00 – 11:00am  Coffee Break/Exhibits/Posters

11:00 – Noon  Key Note Lecture #2

**Individualized Strategy for HLHS: Norwood/Sano, Norwood/BT Shunt or Hybrid?**

*Emile Bacha, MD, FACS, Calvin F. Barber Professor of Surgery, Chief, Division of Cardiothoracic Surgery, New York-Presbyterian/Columbia University Medical Center, Director, Pediatric Cardiac Surgery, Morgan Stanley Children’s Hospital, New York, NY, USA*

*Introduction: Paul Chai, MD, New York, NY, USA*

Noon – 1:00pm  Lunch Break
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>1:00 – 3:00pm</td>
<td>PARALLEL SESSIONS</td>
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<td>1:00 - 2:00pm</td>
<td>PLENARY SESSION #5: VAD &amp; ECLS (20 min Each)</td>
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<td><em>Moderators: Atıf Akçevin, MD, Istanbul, Turkey and Emre Belli, MD, Paris, France</em></td>
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<td></td>
<td>Is It Time to Go Back to Pulsatile Flow: Consequences of Non-Pulsatile and Pulsatile Flow in Mechanical Circulatory Support Devices and CPB?</td>
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<td>Jack G. Copeland, MD, San Diego, CA, USA</td>
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<td>Rehabilitation after VAD: Role of Ancillary Staff</td>
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<td>Rebecca Hoffritz, PT, DPT, Meghan Bokhardt, MS, OTR (L), Meredith McDonaugh, MS, CCLS IV, Philadelphia, PA, USA</td>
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<td>First clinical results with the ECLS Set 2.8 by MAQUET</td>
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<td>Thomas Markmann, MBA, Rastatt, Germany</td>
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<td>Global Trends for Improving Outcomes in ECLS Patients</td>
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<td>Wei Wang, MD, PhD, Shanghai, China</td>
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<td>Cost Effective Usage of Hollow Fiber Membrane Oxygenators in Extracorporeal Membrane Oxygenation in Infants</td>
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<td>Atıf Akçevin, MD, Istanbul, Turkey</td>
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<td></td>
<td><strong>Discussion (20 min)</strong></td>
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<td>3:00pm – 3:30pm</td>
<td>Coffee Break/Exhibits/Posters/Wet-Labs</td>
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<td>3:45 – 6:45pm</td>
<td>WET-LABS</td>
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<td><em>Moderators: Tami Rosenthal, CCP, MBA, Philadelphia, PA, USA and Akif Ündar, PhD, Hershey, PA, USA</em></td>
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<td>Hands-On Experience with the Newest Pediatric CPB/ECLS/MCS Systems</td>
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<td>Six wet-labs (30 min each)</td>
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<td>1:00 – 5:30pm</td>
<td>PARALLEL SESSIONS</td>
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<td>1:00 - 5:30pm</td>
<td>Hospital Tour (CHOP), CICU Rounds ECLS Simulation</td>
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<td>(Advanced Registration is Required)</td>
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<td>1:15 - 3:00pm</td>
<td><strong>Group #1:</strong></td>
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<td><strong>Tour of CHOP and CICU Rounds (TBA)</strong> (Advanced Registration is Required)**</td>
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Group #2:
**ECLS Simulation (TBA) (Advanced Registration is Required)**

3:00 – 3:30pm  Coffee Break/Exhibits/Posters/Wet-Labs

3:30 - 5:30pm  Group# 3:
**Tour of CHOP and CICU Rounds (TBA) (Advanced Registration is Required)**

Group #4:
**ECLS Simulation (TBA) (Advanced Registration is Required)**

**ECLS Simulator Training:**
This session is for ICU physicians, CT surgeons, nurses and perfusionists involved in ECMO cannulation and management. It will use the ECMO simulator to learn ECPR hands on training. In addition, this program focuses on techniques to train residents/fellows and nurses for a successful ECMO program as well as techniques to build a simulator program. This program will run twice in the afternoon, and each session will incorporate 25 people maximum.

**Cardiac ICU Rounds and Case Presentations:**
These sessions will be held in the CICU at The Children’s Hospital of Philadelphia and lead by CICU staff. Each session will be interactive during which active discussion from attendees is invited regarding all aspects of management and outcomes. There will be 2 sessions, each of 90 minutes duration, and space is restricted to 25 participants for each session. The session will be suitable for all staff involved in the management of critically ill children with heart disease and will include a tour of the unit and discussion regarding resources and staffing requirements.
**SATURDAY, MAY 31, 2014**

<table>
<thead>
<tr>
<th>8:00 – 10:00am</th>
<th>PLENARY SESSION #6; <strong>Pediatric Perfusion: 2014 Update</strong></th>
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<tbody>
<tr>
<td><strong>Moderators:</strong> Haydon Dando, CCP, Sydney, Australia, Tami Rosenthal, CCP, MBA, Philadelphia, PA, USA, and Wei Wang, MD, PhD, Shanghai, China (20 min Each)</td>
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<tr>
<td><strong>Why bother? Is there really anything new? A skeptics guide to contemporary pediatric CPB</strong></td>
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<td>Haydon Dando, CCP, Sydney, Australia</td>
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<td>TBA – Gregg Roach, CCP – Philadelphia, PA, USA</td>
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<td><strong>Use of blood products in pediatric cardiac surgery</strong></td>
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<td>Yves Durandy, MD, Massy, France</td>
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<td><strong>Bloodless Unifocalization Repair on 3.5 kilo Jehovah's Witness Patient</strong></td>
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<td>Michael P. Brewer, MS, CCP, New York, NY</td>
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<td><strong>Hemodynamics on Neonatal Circuits</strong></td>
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<td>Shigang Wang, MD, Hershey, PA, USA</td>
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<tr>
<td>TBA – Tami Rosenthal, CCP, MBA, Philadelphia, PA, USA</td>
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<tr>
<th>10:00 – 10:45am</th>
<th>Coffee Break/Exhibits/Posters/Wet-Labs</th>
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<tr>
<td><strong>10:45 – Noon</strong></td>
<td>REGULAR SLIDE PRESENTATIONS #1: <strong>PEDIATRIC MCS, ECLS AND CPB (6 Slide Presentations from Selected Abstracts)</strong></td>
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<tr>
<td><strong>Moderators:</strong> Yves Durandy, MD, Massy, France and Wei Wang, MD, PhD, Shanghai, China</td>
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<tr>
<th>12:00 – 1:00pm</th>
<th>Lunch Break</th>
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<tr>
<td><strong>1:00 – 3:00pm</strong></td>
<td>REGULAR SLIDE PRESENTATIONS #2: <strong>PEDIATRIC MCS, ECLS AND CPB (12 Slide Presentations from Selected Abstracts)</strong></td>
</tr>
<tr>
<td><strong>Moderators:</strong> Tijen Alkan-Bozkaya, MD, Turkey, Linda Pauliks, MD, MPH, USA</td>
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</table>
3:00 – 3:45pm  Coffee Break/Exhibits/Posters/Wet-Labs

3:45 – 5:00pm  **REGULAR SLIDE PRESENTATIONS #3:**

**PEDIATRIC MCS, ECLS AND CPB (6 Slide Presentations from Selected Abstracts)**

*Moders: Hakan Ceyran, MD, and Yves Durandy, MD, Massy, France*

5:00pm  **CLOSING REMARKS**
Mission

The mission of this society is to focus on the current problems associated with pediatric cardiac patients during and after acute or chronic cardiac support. The society will bring together as many distinguished clinicians, bioengineers, and basic scientists as possible to precisely define current problems and suggest novel approaches and solutions.

International Conference Web Site:  http://pennstatehershey.org/web/pedscp/home

International Society Web Site:  http://www.cvent.com/d/7cqc1m