THE 13th INTERNATIONAL CONFERENCE ON PEDIATRIC MECHANICAL CIRCULATORY SUPPORT SYSTEMS AND PEDIATRIC CARDIOPULMONARY PERFUSION

28th-30th September 2017

Pontificia Università Urbaniana
Via Urbano VIII, 16 - 00165 Roma
# PROGRAM CO-DIRECTORS

Antonio Amodeo, M.D.
Akif Ündar, PHD.

# ORGANIZING COMMITTEE

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tr>
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# SCIENTIFIC SECRETARY

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Institute of Clinical Physiology, Pisa

Ündar Akif  
Penn State University, Hershey, USA

VanderPluym Christina  
Boston Children's Hospital, Boston, USA

Wilson Ronald  
Penn State University, Hershey, USA
28th September 2017

08:00 - 08:30 Opening Ceremony
Welcome to Bambino Gesù Children Hospital:
Enoc M, President, Bambino Gesù Children Hospital (Italy)
Parrotto R, General Coordinator, Bambino Gesù Children Hospital (Italy)
Raponi M, Medical Director, Bambino Gesù Children Hospital (Italy)
Welcome from Organizing Committee:
Amodeo A (Italy) - Ündar A (USA)
Tribute to Carlo Marcelletti:
Iorio FS (Italy)

08:30 - 10:45 Plenary Session 1
Pediatric Mechanical Circulatory Support System: 2017 Update
Moderators: Pierce W. (USA), Amodeo A (Rome), Massetti M. (Rome), Gargiulo G. (Bologna)

08:30 - 08:45 MCS in pediatric: How does registry data translate to patients care (PediMACS)
VanderPluym CJ. (USA)

08:45 - 09:00 MCS Hemocompatibility: A difficult Journey
Massicotte P. (Canada)

09:00 - 09:15 Weaning from MCS in pediatric patients: Fiction or reality?
Miera O. (Germany)

09:15 - 09:30 New approach in MCS for the Single Ventricle Failure
Adachi I. (USA)

09:30 - 09:45 Early and Late MCS Post Transplantation: Which Devices? Which Outcome?
Griselli M. (Saudi Arabia)

09:45 - 10:00 Biomarkers, genetics and epigenomics in pediatric VAD Patients
Trivella MG. (Italy)

10:00 - 10:15 From micro to macro: tailoring VAD in pediatric
Amodeo A. (Italy)

10:15 - 10:45 Discussion

10:45 - 11:15 Coffee+Posters+Exhibits

11.15 - 11.35 Keynote Lecture 1
Treatment of pediatric heart failure: Medical vs Surgical strategies in shortage donor era
Blume E. (USA)
11:35 - 11:55  **Keynote Lecture 2**  
OPBG experience: 30 years of pediatric heart transplantation  
*Carotti A. (Italy)*

11:55 - 12:10  **Young Investigator Awards**

12:10 - 12:40  **Guest Lecture:**  
The Vatican Museum  
*Jatta B, Director Vatican Museum*

12:40 - 13:40  **Lunch**

13:40 - 15:00  **Plenary Session 2**  
Pediciatric Cardiopulmonary Bypass and Adult Congenital Heart Disease  
**Moderators:** Giamberti A. (Italy) - Galletti L. (Italy) - Rosenthal T. (USA)

13:40 - 13:55  **Brain Monitoring and Protection in neonatal and pediatric cardiopulmonary bypass**  
*Di Chiara L. (Italy)*

13:55 - 14:10  **Perfusion strategies for aortic arch surgery in congenital heart disease**  
*Luciani GB. (Italy)*

14:10 - 14:25  **Adult Cardiac Transplant in Congenital Heart Disease**  
*Hasan A. (England)*

14:25 - 14:40  **MCS in Adult Congenital Heart Patients**  
*Morales D. (USA)*

14:40 - 15:00  **Discussion**

15:00 - 15:30  **Coffee+Posters+Exhibits**

15:30 - 15:50  **Keynote Lecture 3**  
VAD as Destination Therapy in North America  
*Pizzarro C. (USA)*

15:50 - 17:15  **Symposium:**  
The OPBG Approach in MCS as Destination Therapy  
**Moderators:** Bacha E (USA) - Gaynor W (USA) - Morales D (USA)

15:50 - 16:00  **Cardiologist:** Adorisio R (Italy)

16:00 - 16:10  **Anesthetist:** Iodice F (Italy)

16:10 - 16:20  **Pneumologist:** Paglietti MT (Italy)
16:20 - 16:30 Surgeon: Filippelli S (Italy)
16:30 - 16:40 Medical Engineer: Di Molfetta A (Italy)
16:40 - 16:50 Stem Cells: D’Amario D (Italy)
16:50 - 17:00 Cardiogenetics: Baban A (Italy)
17:00 - 17:15 Discussion

17:15 - 18:15 Regular slide presentation on MCS (selection from Abstract)
Moderators: Brancaccio G. (Italy) – Iacobelli R. (Italy) – Monge M. (USA)

1. Short and Long Term Changes in Ventricular Loading Condition in LVAD patients: pulsatile vs continuous flow LVAD
Casadio L. (Italy)
2. Mobility, independence and special care needs: issues to consider in children supported with the Excor® Pediatric ventricular assist device and stationary driving unit “Ikus”
Benstom C. (Germany)
3. Short and long term left and right ventricular mechanics after LVAD implantation in pediatric patients: a 2D and 2Dspeckle tracking echocardiographic study
Cobianchi Bellisari F. (Italy)
4. Incidence of cerebrovascular accidents of intra-corporeal ventricular assist devices in pediatrics – EUROMACS ANALYSES
Loforte A. (Italy)
5. Pediatric mechanical circulatory support in the presence of restrictive organ donation, single center experience.
Ivanova-Razumova T. (Kazakhstan)

19.00 Social Event: Private Visit to Vatican Museum

29th September 2017

08:00 - 10:00 Plenary Session 3
ECLS: Utilization, Management and Outcome
Moderators: Di Chiara L (Italy) - Stiller B (Germany) - Annich G (Canada)

08:00 - 08:15 Unloading of LV during pediatric VA-ECMO: new strategies
Mongie M. (USA)
08:15 - 08:30 ECLS support in hemopoietic stem cells Tx: New frontiers
Di Nardo M. (Italy)
08:30 - 08:45 The circuit of the future
Anich G. (Canada)
08:45 - 09:00 High-risk ECMO
Stiller B. (Germany)
09:00 - 09:15  Optimizing ECMO Circuitry - is newer better?  
Rosenthal T. (USA)

09:15: - 09:30 Evaluation of combined ECLS and CRRT on hemodynamic performance and Gaseous Microemboli handling ability in a simulated neonatal patient  
Ündar A. (USA)

09:30 - 10:00  Discussion

10:00 - 10:30  Coffee+Posters+Exhibits

10:30 - 10:50  Keynote Lecture 3  
Neurodevelopment outcome after pediatric cardiac surgery  
Gaynor JW. (USA)

10:50 - 11:10  Keynote Lecture 4  
Artificial Placenta  
Flake A. (USA)

11:10 - 11:30  Keynote Lecture 5  
Preserve Pulmonary Valve Function in Congenital Heart Disease: Comparing a New Approach to Traditional Management.  
Bacha E. (USA)

11:30 - 11:40  Invited Lecture  
Measuring Impact of Pediatric MCS & CPB Conference Publications with a NIH-supported New Metric: the Relative Citation Ratio (RCR) & iCite Database  
Ündar A. (USA)

11:40 - 12:30  Regular slide presentation on ECLS+CPBP (selection from Abstract)  
Moderators: Perri G. (Italy) – Filippelli S. (Italy) - Abella R. (Spain)

1.  Weaning children from extracorporeal life support (ECLS) – A new standardized weaning protocol  
Kubicki R. (Germany)

2.  Impella: A novel approach for LV unloading during VA ECMO support in Children  
Di Pasquale L. (Italy)

3.  V-A ECMO for fulminant myocarditis in infants, children and young adults.  
Hoxha S. (Italy)

4.  Experience with Aortic Arch Repairs in Neonates and Infants with various Perfusion Strategies from a Developing Country  
Suresh R. (India)

5.  Rotational Thromboelastometry Values Do Not Correlate With Severe Bleeding In Neonatal Surgery Utilizing Cardiopulmonary Bypass  
Niebler R. (USA)

12:30 - 13:30  Lunch
13:30 - 13:50  **Keynote Lecture 4**  
**Pediatric Excor Berlin Heart: USA Experience**  
Kroslowitz R. (USA)

13:50 - 14:50  **Regular slide presentation on MCS (selection from Abstract)**  
**Moderators:** Di Nardo M. (Italy) – Ündar A. (USA) - Perri G. (Italy)

1. **In-vitro Evaluation of Pediatric Hollow-fiber Membrane Oxygenators on Hemodynamic Performance and Gaseous Microemboli Handling: An International Multicenter/ Multidisciplinary Approach**  
Wang S. (USA)

2. **Uses of pediatric ECMO in France and United Kingdom**  
Martin A. (France)

3. **Hand’s ECMO: The “Hub and Spoke” model for neonates with meconium aspiration syndrome in peripheral hospitals**  
Fichera D. (Italy)

4. **Bloodless pediatric perfusion: is it real or not?**  
Gerasimenko V.I. (Russia)

5. **Isolated cerebral perfusion during operative correction of aortic arch hypoplasia in children and neonates**  
Beisiuk O. (Ukraine)

6. **Effects of pulsatile blood flow on oxygenator performance**  
Schraven L. (Germany)

14:50 - 16:00  **Regular slide presentation on MCS (selection from Abstract)**  
**Moderators:** Adorisio R (Italy) - Abella R (Spain) - Testa G (Italy)

1. **A new 2D echocardiographic approach to evaluate the membrane and valve movement of the Berlin Heart EXCOR VAD chamber**  
Di Molfetta A. (Italy)

2. **Early single center experience with a pneumatic VAD in children**  
Cascarano T. (Italy)

3. **Bridge to lung transplant with paracorporeal lung assist device (pLAD) in 1-year old patients: lessons learned**  
Morales D. (USA)

4. **Evolution of Neurological Waitlist Complications on Ventricular Assist Devices: a 23-year single center experience**  
Mantell B. (USA)

5. **Infectious complications in pediatric Ventricular Assist Devices**  
Fragasso T. (Italy)

6. **Pediatric heart transplantation after bridging on biventricular support: results from a low-volume transplant center**  
Tirilomis T. (Germany)
7. Improvement of survival of low weight children on Berlin Heart EXCOR® support  
Menon A. (Germany)

16:00 - 16:15  Coffee+Posters+Exhibits

16:15 - 17:25  Regular slide presentation on MCS (selection from Abstract)  
Moderators: Iacobelli R. (Italy) - Iodice F. (Italy) - Agati S. (Italy)

1. Reverse Remodeling Of Left Ventricle In Duchenne Patients After Left Ventricular Assist Devices.  
Cantarutti N. (Italy)

2. Development of a Multidisciplinary Ventricular Assist Device Committee with an Innovative Simulation Curriculum to Train Healthcare Teams for Continuing Education  
Nelson K. (USA)

3. Risk factors for acute heart failure in pediatric patients with dilated cardiomyopathy  
Adorisio R. (Italy)

Teruya J. (USA)

5. Extracorporeal membrane oxygenation support for transcatheter Potts shunt creation in a pediatric population with suprasystemic pulmonary hypertension: the experience of a tertiary center  
Mirabile C. (France)

6. Atrial Hemodynamic Performance Of A Neonatal Double Lumen Cannula  
Jamil M. (Turkey)

7. Factors associated with the need for, and the impact of, extracorporeal membrane oxygenation in children with congenital heart disease during admissions for cardiac surgery  
Aiello S. (USA)

Practical Activities

16:15 - 17:45  ECLS/ECMO Simulations (at the Exhibit Hall)  
Di Nardo M. (Italy) - Stoppa F. (Italy) - La Salvia O. (Italy) Bravetti G. (Italy)  
(advanced registration is required: max 40 participants)

16:15 - 17:30  Hospital Tour (At Bambino Gesù Children Hospital)  
(advanced registration is required: max 30 participants)

16:15 - 17:30  Tailoring the VAD setting by Hybrid Model: the clinical impact  
Ferrari G. (Italy) – Darowski M. (Poland) – Di Molfetta A. (Italy)  
(advanced registration is required: max 30 participants)

19:30  Gala Dinner: Castel Sant’Angelo
08:00 - 10:15  Plenary Session 4

Experimental Approach to Pediatric Cardiovascular Medicine
Moderators: Ündar A. (USA), Amodeo A. (Italy), Ferrari G. (Italy)

08:00 - 08:15  Hemodynamic evaluation of VAD in isolated heart set up
Moscato F. (Italy)

08:15 - 08:30  Animal Model for Pediatric MCS Research
Wilson RP. (USA)

08:30 - 08:45  The Zebrafish model - approach to HLHS
Hübler M. (Switz)

08:45 - 09:00  TAH in failing Fontan. Can one ventricle be enough?
Data from experimental study
Tenderich G. (Germany), Marino A (Italy)

09:00 - 09:15  CorWave as new a concept in MCS
Botterbusch C. (France)

09:15 - 09:30  Device hemocompatibility: New Frontiers?
Snyder T. (USA)

09:30 - 09:45  Preserving hearts from DCD donors using an ECMO type system
Horton S. (Australia)

09:45 - 10:00  The infant pump: clinical perspective
Jarvik R. (USA)

10:00 - 10:30  Discussion

10:30 - 10:45  Coffee+Posters+Exhibits

10:45 - 12:30  Regular slide presentation on BME (selection from Abstract)
Moderators: Grigioni M (Italy) - Ferrari G. (Italy) - Perri G. (Italy)
Di Molfetta A. (Italy) - Filippelli S (Italy)

1. Ventricular energetics in the different stage of palliation of hypoplastic left heart syndrome: a retrospective clinical study.
Rocchi M. (Italy)

2. Predicting the Total Cavo-pulmonary Connection Pressure: Clinical Verification of a dedicated Formula
Rotella S. (Italy)

3. In vitro Characterization and In vivo Performance of the Pittsburgh Pediatric Ambulatory Lung Device
May A. (USA)

4. The Progress in the Novel Pediatric Rotary Blood Pump Sputnik Development
Telyshev D. (Russia)
5. Hemolysis level estimation of the pediatric pulsatile circulatory support systems based on CFD modeling
   Morozov V. (Russia)
6. Development of the Calon MicroVAD: Design Iteration of a Miniature Centrifugal Pediatric VAD using CFD tools
   Molteni A. (Italy)
7. Extracardiac Fontan without Conduit: Rationale and Single Center Preliminary Experience
   Gandolfo F. (Italy)
8. The challenging pathway towards heart transplant listing for end-stage heart failure in ACHD
   Lo Rito M. (Italy)

12:30  **Final Remarks**
   Antonio Amodeo (Italy) - Akif Undar (USA)