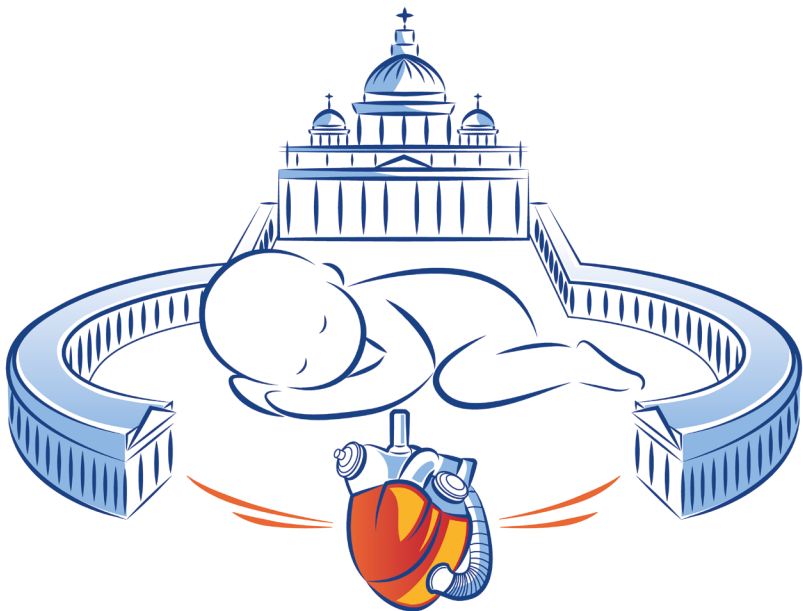


THE 13th INTERNATIONAL CONFERENCE ON PEDIATRIC MECHANICAL CIRCULATORY SUPPORT SYSTEMS AND PEDIATRIC CARDIOPULMONARY PERFUSION

28th-30th September 2017

Pontificia Università Urbaniana
Via Urbano VIII, 16 - 00165 Roma



PennState Health
Milton S. Hershey
Medical Center



Bambino Gesù
OSPEDALE PEDIATRICO

PROGRAM CO-DIRECTORS

Antonio Amodeo, M.D.

Akif Ündar, PHD.

ORGANIZING COMMITTEE

Rachele Adorasio

Bambino Gesù Children's Hospital, Rome, Italy

Luca Di Chiara

Bambino Gesù Children's Hospital, Rome, Italy

Arianna Di Molfetta

Bambino Gesù Children's Hospital, Rome, Italy

Matteo Di Nardo

Bambino Gesù Children's Hospital, Rome, Italy

Roberta Iacobelli

Bambino Gesù Children's Hospital, Rome, Italy

Francesca Iodice

Bambino Gesù Children's Hospital, Rome, Italy

Sergio Filippelli

Bambino Gesù Children's Hospital, Rome, Italy

Stefano Morelli

Bambino Gesù Children's Hospital, Rome, Italy

Gianluigi Perri

Bambino Gesù Children's Hospital, Rome, Italy

Giuseppina Testa

Bambino Gesù Children's Hospital, Rome, Italy

SCIENTIFIC SECRETARY

Arianna Di Molfetta

Bambino Gesù Children's Hospital, Rome, Italy

Sergio Filippelli

Bambino Gesù Children's Hospital, Rome, Italy

Gianluigi Perri

Bambino Gesù Children's Hospital, Rome, Italy

FACULTY

Abella Raul	<i>Hospital Universitario Vall d'Hebron</i>
Adachi Iki	<i>Texas Children's Hospital, Houston, Texas</i>
Adoriso Rachele	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Agati Salvatore	<i>Bambino Gesù Children's Hospital, San Vincenzo Hospital, Taormina, Italy</i>
Amodeo Antonio	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Annich Gail	<i>Hospital for Sick Children, Toronto, Canada</i>
Baban Anwar	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Bacha Emile	<i>Columbia University Medical Center, New York, USA</i>
Blume Elizabeth	<i>Boston Children's Hospital, Boston, USA</i>
Botterbusch Carl	<i>CTO, Corwave, Paris, France</i>
Brancaccio Gianluca	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Bravetti Giulia	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Carotti Adriano	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
D'Amario Domenico	<i>Catholic University of Sacred Heart, Rome, Italy</i>
Darowski Marek	<i>Nalecz Institute of Technology, Warsaw, Poland</i>
Di Chiara Luca	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Di Molfetta Arianna	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Di Nardo Matteo	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Ferrari Gianfranco	<i>Nalecz Institute of Technology, Warsaw, Poland</i>
Filippelli Sergio	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Flake Alan	<i>Center for Fetal Research, Children's Hospital of Philadelphia, Philadelphia, USA</i>
Galletti Lorenzo	<i>"Papa Giovanni XXIII" Hospital, Bergamo, Italy</i>
Gargiulo Gaetano	<i>Sant'Orsola Hospital, Bologna, Italy</i>
Gaynor William	<i>Children's Hospital of Philadelphia, Philadelphia, USA</i>
Giamberti Alessandro	<i>Policlinico San Donato, Milan, Italy</i>
Grigioni Mauro	<i>Italian National Institute of Health, Rome, Italy</i>
Griselli Massimo	<i>King Faisal Specialist Hospital & Research Centre, Riyadh, Kingdom of Saudi Arabia</i>
Hasan Asif	<i>Freeman Hospital, Newcastle upon Tyne, England</i>
Horton Stephen	<i>Royal Children Hospital, Melbourne, Australia</i>

Hübler Michael	<i>University Children's Hospital, Zurich, Switzerland</i>
Iacobelli Roberta	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Iodice Francesca	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Iorio Fiore Salvatore	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Jarvik Robert	<i>CEO, Jarvik Inc, New York, USA</i>
Kroschwitz Robert	<i>President and CEO Berlin Heart Inc., USA</i>
La Salvia Ondina	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Luciani Giovanni Battista	<i>University of Verona, Verona, Italy</i>
Marino Antonella	<i>Biomedical Engineer, Vega, Italy</i>
Massetti Massimo	<i>Catholic University of Sacred Heart, Rome, Italy</i>
Massicotte Patricia	<i>Stollery Children's Hospital, Edmonton, Canada</i>
Miera Oliver	<i>Deutsches Herzzentrum Berlin, Berlin, Germany</i>
Michael Monge	<i>Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, USA</i>
Morales David	<i>Cincinnati Children's Hospital Medical Center, Cincinnati, USA</i>
Morelli Stefano	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Moscato Francesco	<i>Center for Medical Physics and Biomedical Engineering, Vienna, Austria</i>
Paglietti Maria Giovanna	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Perri Gianluigi	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Pierce William	<i>Penn State University, Hershey, USA</i>
Pizzarro Christian	<i>Alfred I. du Pont Hospital for Children, Wilmington, USA</i>
Rosenthal Tami	<i>Children's Hospital of Philadelphia, Philadelphia, USA</i>
Snyder Trevor	<i>Vice President VadoVations, Oklahoma City, USA</i>
Stiller Brigitte	<i>Heart Center, University of Freiburg, Freiburg, Germany</i>
Stoppa Francesca	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Tenderich Gero	<i>Heart and Vascular Center, Duisburg, Germany</i>
Testa Giuseppina	<i>Bambino Gesù Children's Hospital, Rome, Italy</i>
Trivella Maria Giovanna	<i>Institute of Clinical Physiology, Pisa</i>
Ündar Akif	<i>Penn State University, Hershey, USA</i>
VanderPluym Christina	<i>Boston Children's Hospital, Boston, USA</i>
Wilson Ronald	<i>Penn State University, Hershey, USA</i>

SCIENTIFIC PROGRAM

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**

Pediatric Cardiopulmonary Bypass and Adult Congenital Heart Disease
Moderators: Giamberti A. (Italy) - Galletti L. (Italy) - Rosenthal T. (USA)

CBP

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)

GUCH

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. (Kazakistan)

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

Kroschwitz 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

Adorasio R. (Italy)

4. Monitoring of Bivalirudin Therapy in Children on Extracorporeal Circulatory Support Devices – Thromboelastometry vs Routine Coagulation Testing

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

30th September 2017

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)