



## Guest Editorial

## Outcomes of the Eighth International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion

The Eighth International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion was held at the Galatasaray University, Istanbul, Turkey, June 13–16, 2012 (Fig. 1). Atıf Akçevin, MD, was the local chair of the conference. The scientific co-chairs of the eighth event were Atıf Akçevin, Tijen Alkan-Bozkaya, İhsan Bakır, Hakan Ceyran, Yves Durandy, Huriyet Ersayin-Kantas, Colleen E. Gruenwald, David Palanzo, Linda Pauliks, Kerem Pekkan, Chitra Ravishankar, Eugen Sandica, Kyung Sun, Rıza Türköz, Akif Ündar, Bonnie Weaver, and John L. Myers.

As we stated in the past seven editorials, the overall objective of the meeting was and still is to bring together internationally known clinicians, bioengineers, and basic scientists involved in research on pediatric mechanical circulatory support systems and pediatric cardiopulmonary bypass procedures. Primarily, we focus to explicitly describe the problems with current pediatric mechanical circulatory support systems, methods, and techniques during acute and chronic support and to suggest solutions and future directions for research (1–3).

Over 200 participants from 20 countries participated at the eighth annual event. One hundred one formal presentations including a keynote lecture, 40 invited lectures, 29 oral, and 32 poster presentations began on Thursday morning June 14, 2012 and continued through Saturday evening June 16, 2012. To date, over 800 presentations (320 invited lectures, 220 slide, and 260 poster presentations) and 400 peer-reviewed articles were published based on this unique event (<http://pennstatehershey.org/web/pedscpb/home>).

It was a great honor to have William S. Pierce, MD, from Penn State Hershey College of Medicine, as the keynote lecturer. His lecture entitled “A 40-Year



**FIG. 1.** Haliş Türkoğlu, William S. Pierce, PeggyJayne Pierce, Akif Ündar, İhsan Bakır, and John L. Myers.

Odyssey in Mechanical Circulatory Support” was a great historic lecture and it was a privilege to listen to his talk (Figs. 2 and 3a,b).

In addition, platform presentations took place in 2-h blocks during the morning and afternoon sessions on Thursday, Friday, and Saturday.

Plenary sessions were held throughout the conference focusing on key topics including “Managing the Single Ventricle Patient from Fetus to Definite Treatment” (led by co-chairs David Anderson, MD, and John L. Myers, MD), “Pediatric MCS—Devices & Outcomes” (led by co-chairs William S. Pierce, MD, and Kyung Sun, MD, PhD, MBA), “Bioengineering Approaches in Pediatric Cardiovascular Medicine” (led by Akif Ündar, PhD, and Jeffrey D. Zahn, PhD), “Extracorporeal Life Support” (led by Chitra Ravishankar, MD, and Bonnie Weaver, RN, CCRN), “Multi-Disciplinary Team Approach to Solve the Complex Problems in Neonatal and Pediatric Cardiac Surgery” (led by İhsan Bakır, MD [Turkey], and Tayyar Sarioğlu, MD), “Cardiopulmonary Perfusion” (led by Colleen E. Gruenwald, PhD, and David Palanzo, CCP), “Myocardial Protection during CPB”



**FIG. 2.** Keynote lecturer, emeritus professor of surgery William S. Pierce, MD, from Penn State Hershey College of Medicine.

(led by Atıf Akçevin, MD, and Emre Belli, MD), “Neonatal and Pediatric Anesthesia & Neuromonitoring” (led by Chris Chin, MD, and Yves Durandy, MD), and “Pediatric CPB & MCS & Heart Transplantation in Turkey: Current Practices and Outcomes” (led by Sait Aşlamacı, MD).

### SPECIAL WET LABS

This year’s event had seven special wet labs moderated by Huriyet Ersayın-Kantas, FCCP, and David Palanzo, CCP. Instructors gave semiformal presentations at each coffee break.

#### *Wet labs:*

*ROTASSIST 2.8—Set Up, Priming, Safety Features*  
Claudia Otto, MAQUET Cardiopulmonary AG, Germany

#### *MEDOS DP3 ECLS System*

Andreas Spilker/Winfried Dramburg, Medos Medizintechnik AG, Germany

#### *Capiiox-FX Oxygenators*

Andreas Becker for Terumo Europe & Ferhat Cetinkaya for Vascomed

Terumo Europe N.V.—Cardiovascular Division & VASCOMED MEDİKAL SAN. VE TİC. A.Ş., Turkey



**FIG. 3.** Dr. Ündar presented a special traditional handmade artwork to (a) the late PeggyJayne Pierce and her husband William S. Pierce, as well as to (b) Professor John L. Myers, co-founder of the conference.

*NIRS*

Covidien Sağlık A.Ş., Turkey

*Affinity Pixie™ Oxygenation System in Pediatric and Infant Patients*

Michael Van Driel, Medtronic–Medtronic, Turkey

*Sorin Xtra Autransfusion System for the Smallest Patients*

Christian Chlela, Sorin Group Cardiopulmonary BU, Italy

*SynCardia Total Artificial Heart*

Rich Smith, SynCardia Systems, Inc., USA

**AYDIN AYTAÇ, MD**

The Eighth International Conference is dedicated to honor Prof. Dr. Aydın Aytaç for his lifelong contributions as a pioneering surgeon, an educator, and for his role in the development of pediatric cardiac surgery in Turkey (Fig. 4). Dr. Aytaç has not only done so many pioneering surgeries (including but not limited to the repair of tetralogy of Fallot, transposition of great arteries, and atrioventricular canal defect in Turkey), but he has also trained many surgeons in pediatric and adult cardiovascular surgery in Turkey (4).

We would like to share an e-mail we received a couple of months prior to the conference from one of Dr. Aytaç's first open-heart surgery patients in Turkey. We requested a few sentences from Dr. Aytaç's patient, Muammer Yazici, and he was kind enough to send the following note about his surgery and Dr. Aytaç:

"I had open heart surgery in 1962 to repair ASD; I was 12 years old then. I grew up as a sickly and weak child due to my medical condition. My ability in physical activities was limited. I understand the



**FIG. 4.** Prof. Dr. Aydın Aytaç.



**FIG. 5.** Muammer Yazici, one of the first open-heart patients operated on by Dr. Aytaç in Turkey.

prognosis was that I would not live past my mid twenties. Dr. Aydın Aytaç came into my life in 1962 as a young, energetic doctor and convinced my parents that he could help me using a new medical technique called 'open heart surgery'. I had my operation in mid June 1962, exactly 50 years ago. It was the first such surgery in Turkey and it was a total success. Two weeks after the operation I was cleared to do any physical activities that I desired, and was able to function as a normal 12 year old kid.

Dr. Aytaç not only helped me with my physical well-being but also had a great effect on me personally. He became a role model for me due to his dedication and kind, friendly manner. My priority in life became to live a healthy lifestyle and to strive to excel in any endeavor I undertook while being the best person I could. I graduated from Middle East Technical University as a mechanical engineer in 1972 and moved to Toronto, Canada in 1974. I have recently retired from my position as the President of a mid size engineering company and continue to enjoy a healthy life. I would like to send my heartfelt congratulations and express my gratitude to Dr. Aytaç" (Fig. 5).

It was wonderful to hear that one of the first patients to undergo open-heart surgery by Dr. Aytaç is still alive 50 years later and doing very well (4). This

story illustrates the level of contributions to pediatric cardiovascular patients by Professor Aytaç in Turkey. In fact, we are honored to dedicate this event to Dr. Aytaç.

### A SPECIAL DINNER BETWEEN ASIA AND EUROPE BY BOAT

In addition to a faculty-only dinner on the first night of the conference (Fig. 6), this year, all participants were treated to a special social event: a private dinner between Asia and Europe by boat. Participants enjoyed the 4-h trip with beautiful scenes of the Bosphorus (Fig. 7).

### A special surprise by Emre Belli, MD

Professor Belli, pediatric heart surgeon from Marie Lannelongue Hospital, Paris, France, brought his saxophone to the boat and gave an outstanding private concert on deck (Fig. 7). We appreciated very much Prof. Belli's contributions to

the scientific program on myocardial protection and for this special entertainment. After last year's wonderful operatic performance by mezzo soprano Lauren Ashleigh Lyles, this year's performance by Dr. Belli puts the event at the highest quality of entertainment in addition to the unique scientific program.

### CONFERENCE AWARDS

This event continues to recognize young investigators, residents, and medical and bioengineering students for their contributions to the advancement of cardiopulmonary bypass and mechanical circulatory support systems for pediatric patients. This year eight conference awardees were selected for recognition (Table 1).

The program committee members decided to add two new young investigator awards for the Istanbul meeting in honor of two pioneers' lifelong contributions to artificial organs.



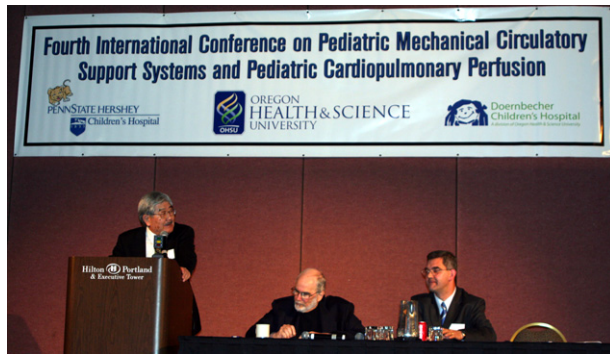
FIG. 6. Faculty dinner at the University of Istanbul's social club on Bosphorus.



FIG. 7. Boat trip and dinner between Asia and Europe and special performance by Professor Emre Belli.

TABLE 1. Eighth International Conference awards

Award	Awardee	Title of manuscript
John A. Waldhausen, MD, Young Investigator Award	Aron Frederik Popov, MD	Midterm results after arterial switch operation for transposition of the great arteries: a single center experience
William S. Pierce, MD, Young Investigator Award	Cui Yongli, MD	Dosage of vasoactive-inotropic agents: a powerful predictor of acute kidney injury in pediatric patients with extracorporeal life support
William Williams, MD, Young Investigator Award	Fabrizio De Rita, MD	Comparison between D901 Lilliput 1 and Kids D100 neonatal oxygenators: towards bypass circuit miniaturization
Aydın Aytaç, MD, Young Investigator Award	Ali Rıza Karacı, MD Ahmet Şaşmazel, MD Numan Ali Aydemir, MD Buğra Harmandar, MD	For performing 726 neonatal and pediatric open heart surgeries in 2011, Istanbul, Turkey
Yukihiko Nosé, MD, PhD, Young Investigator Award	Yasuhiro Kotani, MD, PhD	Left atrial decompression during venoarterial extracorporeal membrane oxygenation for left ventricular failure in children: current strategy and clinical outcomes
Peer M. Portner, PhD, Young Investigator Award	Prahlad G. Menon, MS	Pre-surgical evaluation of Fontan connection options for patients with apicocaval juxtaposition, using computational fluid dynamics
Special Education/Service Award	İhsan Bakır, MD	For building a state-of-art hospital for improving health-care in thousands of pediatric and adult patients each year in the Republic of Turkey
Special Travel Award	Jude Clark, CCP	For travelling the longest distance for the attendance of conference



**FIG. 8.** Yuki Nosé, Peer Portner, and Akif Ündar were on a panel discussion (of course, the topic was pulsatile vs. nonpulsatile flow) at the Fourth Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion Conference, Portland, Oregon, in 2008. While Yuki and Akif were debating on this topic, Peer was a moderator. May both of the legends of artificial organs rest in peace.

### **The Yukihiro Nosé, MD, PhD, Young Investigator Award and the Peer M. Portner, PhD, Young Investigator Award**

Both are no longer with us. One more time, we express our sincere condolences to Yukihiro Nosé's and Peer M. Portner's families, colleagues, and friends. We have lost not only pioneers of the artificial organs community but two great friends and educators (Fig. 8). Both will be greatly missed by their families, friends, and colleagues.

To keep their legacy, we have created two young investigator awards after their names.

The first Yukihiro Nosé Young Investigator Award was presented to Yasuhiro Kotani, MD, PhD, from the Hospital for Sick Children in Toronto, Canada, based on the manuscript entitled "Left atrial decompression during venoarterial extracorporeal membrane oxygenation for left ventricular failure in children: current strategy and clinical outcomes" by Professor Yuki Taenaka. The Peer M. Portner, PhD, Young Investigator Award was presented to Dr. Kerem Pekkan (on behalf of his graduate student, Prahlad G. Menon, MS, from Carnegie Mellon University, Pittsburgh, PA, USA) based on the manuscript entitled "Pre-surgical evaluation of Fontan connection options for patients with apicocaval juxtaposition, using computational fluid dynamics."

For this year only, the Aydın Aytaç, MD, Young Investigator Award was shared by four young surgeons in Istanbul, Ali Rıza Karacı, MD; Ahmet Şaşmazel, MD; Numan Ali Aydemir, MD; and Buğra Harmandar, MD, "For performing 726 neonatal and pediatric open heart surgeries at Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul in 2011." In addition, a Special Education/Service Award was presented to

İhsan Bakır, MD, Founder and President of the Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, "For building a state-of-art hospital for improving health-care in thousands of pediatric and adult patients each year in the Republic of Turkey." Finally, this year, we also created a new award called Special Travel Award. Jude Clark, CCP, from New Zealand, received the first travel award, "For travelling the longest distance for the attendance of conference."

### **FINANCIAL SUPPORT**

During the past eight years, we were able to organize this event using significant funds from the Penn State Hershey Children's Hospital and Pediatric Cardiovascular Research Center. This year, we are proud to say that we have received educational support and funds from the International Society for Pediatric Mechanical Cardiopulmonary Support, Covidien Sağlık A.S. (Turkey), Medical-Medtronic (Turkey), and Sorin Group Cardiopulmonary BU (Italy). In addition, Dr. Ündar also contributed a significant amount from his personal funds to balance the budget during the past two events.

In addition, major financial support was received from companies including the following:

#### *Platinum level supporters:*

Maquet Cardiovascular (Germany)  
Terumo Europe and Vascomed Medikal (Turkey)

#### *Bronze level supporters:*

Covidien Sağlık A.Ş. (Turkey)  
Medical-Medtronic (Turkey)  
Medos Medizintechnik AG (Germany)  
Sorin Group Cardiopulmonary BU (Italy)  
SnyCardia Systems, Inc. (USA)

### **CONFERENCE EVALUATIONS**

Conference evaluations included questions about the topics covered, registration process, and invited speakers' knowledge of the subjects, teaching strategies, speakers' presentations, presentations' freedom from commercial bias, facilities, and catering.

Conference evaluations were outstanding for all categories, and we received many compliments via e-mail about the scientific program along with the boat trip.

### **EDUCATIONAL CREDITS**

This program has been approved for 32.08 Category 1 Continuing Education Unit hours by the California Board of Registered Nursing and 26.73

Category 1 CEU hours by the American Board of Cardiovascular Perfusion.

### ARTIFICIAL ORGANS

Again, this year, we had an opportunity to publish all of the accepted conference abstracts in the May 2012 issue of the peer-reviewed journal *Artificial Organs*. In addition, the January 2013 issue of *Artificial Organs* was dedicated to peer-reviewed manuscripts that were based on regular slide and poster presentations during the Eighth Conference. Our special thanks to Angela T. Hadsell, *Executive Editor*, and Paul S. Malchesky, DEng, *Editor-in-Chief*, for making this special issue possible.

### SUMMARY

We have concluded another outstanding scientific event. This event continues to be a leading conference on this specific underserved research area. This year's event also attracted 100 participants all around Turkey to attend this unique event and meet with leading scholars around the globe on pediatric mechanical circulatory support and pediatric cardiopulmonary perfusion.

To date, during the past eight events, over 2055 participants from all continents of the world including over 32 countries have attended the conference. In addition, we have generated 400 manuscripts and 800 presentations on all aspects of pediatric mechanical circulatory support systems and pediatric cardiopulmonary perfusion in 8 years. Our goal is to reach 500 peer-reviewed publications and 1000 presentations at the end of the 10th conference. All of the details regarding the Eighth Conference as well as the previous past eight events along with future events can be found at our conference Website: <http://pennstatehershey.org/web/pedscpb/home>

### NINTH INTERNATIONAL CONFERENCE

The Ninth International Conference will be held at the Hershey Lodge, Hershey, PA, USA, May 8–11, 2013. This event will have several special features including animal experiments with newest extracorporeal life support systems in the United States. This special new session will be held at the animal facilities at the Penn State Hershey College of Medicine. We will continue to have several wet labs during the conference. We hope to see all of our friends and look forward to another outstanding scientific event in Hershey.

Our motto continues to be: *If the course of just one child's life is improved as a result of this event and our International Society for Pediatric*



FIG. 9. PeggyJayne Pierce.

*Mechanical Cardiopulmonary Support, we have reached our goal.*

### In loving memory of Mrs. PeggyJayne Pierce (1944–2012)

With great sadness, we have learned that Peggy-Jayne Pierce, the loving wife of Dr. Pierce, is no longer with us (Fig. 9). “PeggyJayne Pierce, 67, of Harrisburg (Pa.), died early on Saturday, June 23rd, at Harrisburg Hospital. Peggy was born on November 13, 1944 in Freeport, New York, to the late Arthur J. and Helene G. Stone. She died of complications from a blood infection. In 1992, Peggy was recruited to be part-time executive director of The Kidney Foundation of Central Pennsylvania (KFCP). Starting in 1994, she became a director and served in that role for 19 years. She was KFCP president in 2002–2003. For the last 10 years, she volunteered each summer with her husband at the organization's summer camp for children with kidney disease, Camp Kydnie. At KFCP, she led the development of several new programs that have improved the lives of many hundreds of central Pennsylvanians living with chronic kidney disease, including the Patient and Family Partner Program (PFPP), which pairs kidney patients with mentors who have already gone through the process. The PFPP, which has gained national attention, is the only program of its kind in the United States for kidney patients. At her death, Peggy was collaborating with medical professionals and educators to complete a textbook on the subject for use by other organizations. As a lifelong singer, she sang with the Harrisburg Choral Society for 18 years. She was also an avid gardener, photographer, potter, and traveler, who visited six of the world's seven continents. She spent time in China, Kenya, Iceland, Russia, Costa Rica, Brazil, and many other countries and was hot air ballooning over Cappadocia in Turkey only 19 days before her death.



**FIG. 10.** The Ündar family ([sitting—father] Fikret Ündar, Gülseren Erkara, Akifcan Ündar, Akif Ündar, Pınar Ündar, Damla Ündar, and Neriman Ündar [mother]).

She is survived by her husband of 47 years, William S. Pierce, MD; her son William Stone Pierce, a novelist and editor, and his wife, Gillian B. Pierce, of Boston, Massachusetts, and her son Jonathan Drew Pierce, co-founder of a company that designs and manufactures medical devices, and his wife, Talia A. Pierce, of Minneapolis, Minnesota; and her five grandchildren” (5). Our prayers go out to Dr. Pierce and his family during this time of sorrow.

**Acknowledgments:** In addition, we sincerely appreciate all the conference organizational support we receive from the Pediatric Clinical Research Office at Penn State. Our special thanks go to Heather Stokes, Jennifer Stokes, along with Dr. Shigang Wang from the Pediatric Cardiovascular Research Center at Penn State Hershey who helped to organize this event from A to Z. Doğan Karakuş, CCP, Aylin Karakuş, Perhan Yivli, CCP, and Meral Akyüz, CCP, also helped us during the registration process and throughout the conference. The authors also thank Ms. Senem Kudat (Director of Public Relations Office) and her team from Galatasaray University.

Dr. Ündar also appreciates the endless support that he receives from his family year after year (Fig. 10).

Parts of this editorial were extracted from Dr. Ündar’s earlier welcome letter from the Eighth International Conference Proceedings (6).

Parts were extracted from the obituary of the late PeggyJayne Pierce, published in the Patriot News on June 25, 2012.

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