

5th



**KOÇ
UNIVERSITY**

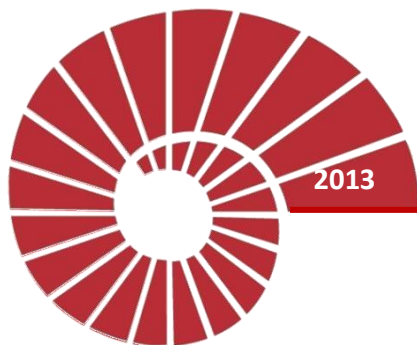
ISTANBUL SYMPOSIUM: BIOENGINEERING APPROACHES ON PEDIATRIC CARDIOVASCULAR MEDICINE

**Koç University, Engineering Auditorium
19 April 2013**

**Scientific Co-Chairs: Kerem Pekkan, PhD & Akif Ündar, PhD
Contact: snargul@ku.edu.tr**



Registration is **free of charge**. Please contact snargul@ku.edu.tr



**ABC's of Pediatric Cardiovascular Research
Applications of Computational Fluid Dynamics
Importance of Multidisciplinary Team Approach
Methods & Techniques for Improved Outcomes**

Invitation to Attend

The 5th Istanbul Symposium is intended for medical, engineering and nursing students, scientists, pediatric heart surgeons, engineers, cardiologists, intensivists, neonatologists, anesthesiologists, neurologists, pediatric perfusionists, respiratory therapists, nurses, residents and fellows. All are invited and encouraged to attend.

Invited Faculty

Mehmet A. Ağırbaşı, MD	Dept. of Cardiology, Marmara University, Istanbul, Türkiye
Atıf Akçevin, MD	Dept. of Cardiovascular Surgery, Medipol University, Istanbul, Türkiye
Tijen Alkan-Bozkaya, MD	Dept. of Cardiovascular Surgery, Medipol University, Istanbul, Türkiye
Ebru Aygar, RN	American Hospital, Intensive Care Unit, Istanbul, Türkiye
Ihsan Bakır, MD	Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye
Hakan Ceyran, MD	Istanbul Koşuyolu Heart Hospital, Cardiovascular Surgery, Istanbul, Türkiye
Sertaç Haydın, MD	Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye
Ender Ödemiş, MD	Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye
Ebru Toksoy Oner, PhD	Dept. of Bioengineering, Marmara University, Istanbul, Türkiye
Kerem Pekkan, PhD	Dept. Of Mechanical Engineering, Koc University, Istanbul, Türkiye
Şevket Ruacan, MD,	Dean, College of Medicine, Koç University, Istanbul, Türkiye
Ayda Türköz, MD	Başkent University, Department of Anesthesiology, Istanbul, Türkiye
Rıza Türköz, MD	Başkent University, Department of Cardiovascular Surgery, Istanbul, Türkiye
Akif Ündar, PhD	Penn State Hershey Pediatric Cardiovascular Research Center, Penn State Hershey College of Medicine, Penn State Hershey Children's Hospital, Hershey, PA, USA

Invited Students

Songül Yaşar Yıldız,	PhD Candidate. Dept. of Bioengineering, Marmara University, Istanbul, Türkiye
Mithat Kasap, MD	PhD Candidate. Dept. of Bioengineering & Biochemistry, Marmara University, Istanbul, Türkiye
Ibrahim Cansaran Tanıdır	Mehmet Akif Ersoy Surgery Center Department of Pediatric Cardiology, Istanbul, Türkiye
Ceren Bas	School of Nursing, Koc University, Istanbul, Türkiye
Mehmet Berk Yiğit	College of Engineering, Koc University, Istanbul

SCIENTIFIC PROGRAM

- 9:00 – 9:15 am Welcome
Şevket Ruacan, MD, Dean & Kerem Pekkan, PhD - College of Medicine, Koç University, Istanbul, Türkiye
- 9:15 – 10:00 am ABC's of Pediatric Cardiovascular Research for Medical, Engineering and Nursing Students
Akif Ündar, PhD – Penn State Hershey Pediatric Cardiovascular Research Center, Penn State Hershey College of Medicine, Penn State Hershey Children's Hospital, Hershey, PA, USA
- 10:00 – 10:20 am Break
- 10:20 – 11:00 am Key Note Lecture - Applications of Computational Fluid Dynamics to solve pediatric cardiovascular problems
Kerem Pekkan, PhD – Dept. Of Mechanical Engineering, Koc University, Istanbul, Türkiye

Introduction: Akif Ündar, PhD
- 11:00 am – Noon CASE STUDY: Novel fenestration designs for controlled venous flow shunting in failing Fontans with systemic hypertension

Cardiac Surgeon: Definition of the problem
Rıza Türköz, MD – Başkent University, Department of Cardiovascular Surgery, Istanbul, Türkiye

Scientist: Suggested Solution - Kerem Pekkan, PhD
- 12:00 – 13:00 pm Lunch
- 13:00 – 13:30 pm What are the “real” problems for pediatric cardiac patients in Türkiye? Why multi-disciplinary approach is necessity, not an option?
Atif Akçevin, MD – Dept. of Cardiovascular Surgery, Medipol University, Istanbul, Türkiye
- 13:30 – 15:00 pm PANEL: Importance of Multidisciplinary Team Approach to Improve the Outcomes During and After Neonatal and Pediatric Cardiopulmonary Bypass Procedures in Türkiye
Moderators: Atif Akçevin, MD and Ihsan Bakır, MD

Pediatric Cardiologists' Perspective

Ender Ödemiş, MD – Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye (20 min)

Pediatric Cardiac Surgeons' Perspective

Hakan Ceyran, MD – Istanbul Koşuyolu Heart Hospital, Cardiovascular Surgery, Istanbul, Türkiye (20 min)

Pediatric Anesthesiologists' Perspective

Ayda Türköz, MD – Başkent University, Department of Anesthesiology, Istanbul, Türkiye (20 min)

Pediatric Nurses' Perspective

Ebru Aygar, RN – Amerikan Hospital, Intensive Care Unit, Istanbul, Türkiye (20 min)

15:00 – 15:15pm Break

15:15 – 16:30pm MINI-SYMPOSIUM: STUDENTS' RESEARCH PROJECTS

Moderators: Ebru Toksoy Oner, PhD and Mehmet A. Ağırbaşı, MD

Functionally Stable Plasminogen Activator Inhibitor-1 In A Family With Cardiovascular Disease And Vitiligo

Songül Yaşar Yıldız, PhD – Dept. of Bioengineering, Marmara University, Istanbul, Türkiye (15 min)

Atrial Fibrilasyonda evde görüntüleme sistemi

Mithat Kasap, MD – Dept. of Bioengineering & Biochemistry, Marmara University, Istanbul, Türkiye (15 min)

Impact of NIRS during cardiac catheterization

Inrahim Cansaran Tanıdır, MD – Mehmet Akif Ersoy Surgery Center Department of Pediatric Cardiology, Istanbul, Türkiye(15 min)

Shear stress induced improvement in erythrocyte deformability

Ceren Bas, Nursing Student - Koc University, Istanbul, Türkiye(15 min)

Biomechanical Modeling from Fetal to Neonatal Circulation

Mehmet Berk Yiğit - College of Engineering, Koc University, Istanbul(15 min)

16:30 – 18:30pm PANEL: Pediatric ECLS Systems & Novel Techniques and Methods to Minimize the Injury during neonatal/Pediatric Cardiopulmonary Bypass Procedures

Moderators: Hakan Ceyran, MD and Rıza Türköz, MD

Pediatric Extracorporeal Life Support Systems in Türkiye – 2012 Update

Sertaç Haydın, MD – Istanbul Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye

Monitoring Biomarkers After Pediatric Cardiac Surgery: A New Paradigm in the Horizon

Mehmet A. Ağırbaşı, MD – Dept. Of Cardiology, Marmara University, Istanbul, Türkiye

IBSB: Multinational Research Activities on Glycotechnology

Ebru Toksoy Öner, PhD – Dept. of Bioengineering, Marmara University, Istanbul, Türkiye

Impact of Pulsatile Perfusion on Clinical Outcomes of Neonates and infants with Complex Pathologies undergoing Cardiopulmonary Bypass Procedures

Tijen Alkan-Bozkaya, MD – Dept. of Cardiovascular Surgery, Medipol University, Istanbul, Türkiye

Importance of Neonatal/Pediatric oxygenators with or without Arterial Filters for capturing microemboli during CPB procedures

Akif Ündar, PhD

18:30pm

Closing Remarks - Kerem Pekkan, PhD