



Science, Medicine and Industry
Innovating for the Future.



PROGRAM

ASAIO 59th Annual Conference - *"Measuring Success"*

Chicago - June 12-15, 2013

Medical Device Design



Manufacturing



IP Innovations



Engineering Exceptional Results

For over 15 years, Minnetronix has combined design and manufacturing, and our own innovative IP solutions, to help customers transform ideas into commercial success. Our teams expand the boundaries of device performance to create sophisticated medical devices that reliably meet regulatory and market needs.

FDA Registered ■ ISO 13485 Certified

Visit us at www.minnetronix.com

Medical Device Innovation concept  commercialization⁺

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ASAIOfyi - for young innovators

For individuals Under Age 40.
A strategic initiative of ASAIO to assist
in the development of the future generation
of scientists, engineers & clinicians.
Details at www.asaio.com under "Membership"



Cover photo courtesy
of "Choose Chicago"

ASAIO EDUCATIONAL GRANT SPONSORS

As Of May 10, 2013

PLATINUM LEVEL



GOLD LEVEL



SILVER LEVEL

Kurt A Dasse, PhD

KURT A DASSE, PHD



BRONZE LEVEL



ASAIO CONFERENCE CO-SPONSORS



ACCREDITATION

Physicians | Nurses

ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the University of Massachusetts Medical School Office of Continuing Medical Education (UMMS-OCME) and ASAIO. The UMMS-OCME is accredited by the ACCME to provide continuing medical education for physicians.

CME CREDIT STATEMENT

The University of Massachusetts Medical School designates this live activity for a maximum of **28.25 AMA PRA Category 1 Credit(s)**[™]. Physicians should claim only credit commensurate with the extent of your participation in the activity.

NURSING ACCREDITATION

This offering meets the requirements for up to 33.9 contact hours, as specified by the Massachusetts Board of Registration in Nursing (244-CMR 5.04).

CERTIFICATION

All those who sign in on each day attend and complete a course evaluation will receive a certificate of credit from the University of Massachusetts Medical School Office of Continuing Medical Education. Each person should claim only those hours of credit that he/she actually spent in the educational activity. Pick up your course evaluation as well as a list of Accredited Sessions at the ASAIO Registration / Accreditation Counter in the Imperial Ballroom B2 Level.

CME INQUIRIES

For all CME certificate inquiries, please contact the UMMS-OCME registrar at (508) 856-1671 or 877-234-1673

INTENDED AUDIENCE

Physicians, Perfusionists, Nurses, Scientists, Engineers & Industry

COURSE OBJECTIVES

At the conclusion of the Conference, the participant will be able to:

- Gain knowledge regarding the design, development and clinical utility of artificial organs
- Better understand regulatory and quality issues facing medical device development
- Observe current clinical trial results related to Renal, CV & Pulmonary Medical Devices
- Appreciate how entrepreneurs create and successfully run new businesses

Perfusionists

The American Board of Cardiovascular Perfusion will allot Category 1 CEUs to those Perfusionists who attend the Conference with a **Total Possible of 34.9**.

A photo ID is required to obtain Registration materials. All Perfusionists must sign in daily at the ASAIO Registration / Accreditation Counter in the Imperial Ballroom B2 Level. On the first day, pick up a list of Accredited Sessions for Perfusionists and mark each Session you attend each day of the Conference. At the end of the Conference turn in this document to the ASAIO Registration / Accreditation Counter.

ASAIO NEWS

ASAIO 2014 ANNUAL CONFERENCE

THE ASAIO 60TH ANNIVERSARY CONFERENCE

will be held in Washington, DC

June 18-21, 2014



Peter Wearden, MD, PhD
ASAIO Program Chairman 2014



Jonathan Haft, MD
ASAIO Deputy Program
Chairman 2014

ASAIO JOURNAL EDITOR IN CHIEF



Joseph B. Zwischenberger, MD
Johnston-Wright Professor &
Chairman of Surgery
Chandler Medical Center
University of Kentucky

Dr. Zwischenberger will be retiring from the ASAIO Editorship June 30, 2013.

ASAIO EDITOR IN CHIEF JULY 1, 2013

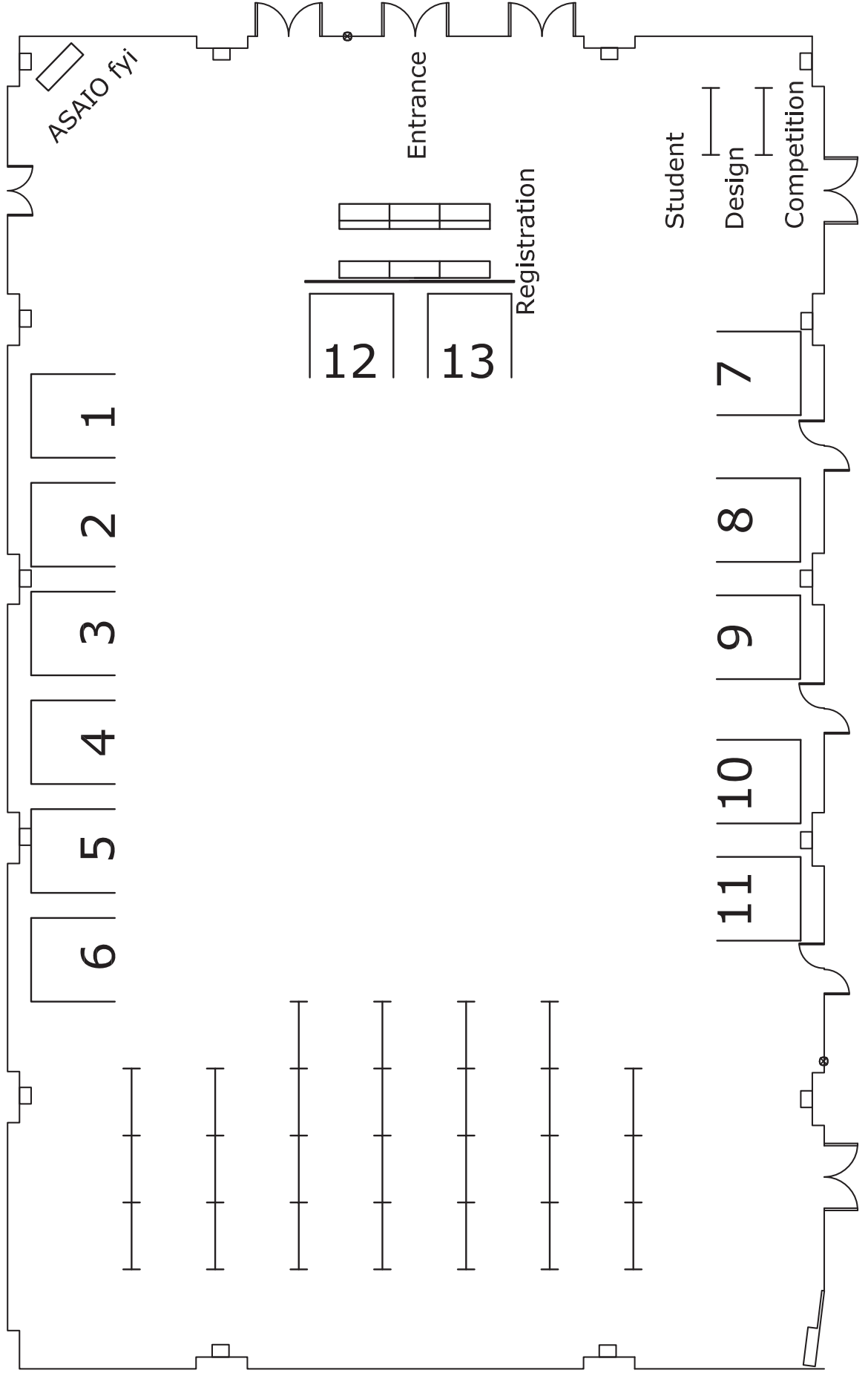


Mark S. Slaughter, MD
Professor & Chief
Thoracic & Cardiovascular Surgery
University of Louisville

ASAIO EXHIBITS, POSTERS, REFRESHMENTS & REGISTRATION

June 13 - 15, 2013

Imperial Ballroom / Fairmont Chicago



ASAIO EXHIBITORS



Recovering hearts. Saving lives.

ABIOMED INC

Danvers, Massachusetts

BOOTH 9

Abiomed (NASDAQ: ABMD) is a pioneer and global leader in healthcare technology and innovation, with a mission of RECOVERING HEARTS AND SAVING LIVES. The Company, founded in 1981, is focused on developing ground-breaking technologies designed to assist the life-sustaining pumping function of the failing heart. Abiomed's portfolio of products and services offer healthcare professionals an array of choices across a broad clinical spectrum. From the world's first total replacement heart to the world's Smallest Heart Pump, 1/100th the size of the heart with rapid and simple insertion, Abiomed is dedicated to finding ways to bring the most advanced and beneficial technology to patients and physicians.



BERLIN HEART INC

The Woodlands, Texas

BOOTH 2

Berlin Heart, the only company worldwide, that develops, manufactures and distributes VADs for patients of every age and body size. EXCOR® Pediatric provides medium to long-term circulatory support specifically for infants and children awaiting heart transplants. EXCOR Pediatric is approved for use in the USA under HDE regulations by FDA.



CARDIACASSIST INC

Pittsburgh, PA

BOOTH 13

CardiacAssist's TandemHeart® extracorporeal circulatory support system provides a steady, high flow of oxygenated blood to the organs while also decompressing the left ventricle to unload and rest the heart. TandemHeart® offers dependable performance with real cardiac power.



CIRCULITE INC

Teaneck, New Jersey

BOOTH 3

CircuLite® is developing disruptive solutions to improve the treatment of chronic heart failure. The Company's minimally-invasive circulatory support systems are intended to work in conjunction with the native heart to enhance clinical outcomes and improve quality of life for patients and their families. The SYNERGY® Surgical System, which has received CE Mark approval in Europe, features the world's smallest surgically implanted blood pump designed for long-term use in ambulatory patients diagnosed with chronic heart failure. Next-generation circulatory support systems in development that incorporate CircuLite's micro-pump technology include an endovascular system, a right-heart system, a pediatric system, and an all-support system.



HEARTWARE INC

Framingham, Massachusetts

BOOTH 6

HeartWare is dedicated to delivering safe, high-performing and transformative therapies that enable patients with heart failure to get back to life. The company's innovative technologies are creating advances in the miniaturization of Ventricular Assist Devices (VADs) leading to less invasive surgical procedures and increasing the patient population who may be suitable for VAD therapy. HeartWare's breakthrough innovations begin with the HVAD® Pump, designed to be implanted next to the heart in the pericardial space avoiding the more invasive surgical procedures required with older LVAD technologies. The HVAD Pump is commercially available around the world.



ICAOT

Painesville, Ohio

BOOTH 5

The International Center for Artificial Organs and Transplantation is organized to maintain and operate an educational center. It supports the International Center for Medical Technologies' Museum on artificial organ technologies, manages the publication of Artificial Organs and Therapeutic Apheresis and Dialysis, and disseminates information on the historical development, current state of the art and future development of artificial organs and organ transplantation.

MAQUET GETINGE GROUP

MAQUET MEDICAL SYSTEMS USA

Wayne, New Jersey

BOOTH 4

MAQUET Medical Systems, USA is a global market leader offering a comprehensive portfolio of products utilized in the Hybrid OR, ICU, Cath Lab including tables, lights and booms as well as Anesthesia, Ventilation and Cardiac support. Our products are designed to meet the needs of clinical professionals in the areas of: surgery, cardiac intervention, perfusion, anesthesia, and respiratory. MAQUET is focused on improving patient care and quality of life, providing clinicians with future-oriented technology that fits their daily practice and investing in the development of innovative technologies and solutions that will help further advance clinical practice and significantly improve patient outcomes.



PRECLINICAL SURGICAL SERVICES
Winston-Salem, North Carolina
BOOTH 8

Preclinical Surgical Services (PSS) is a full-service preclinical contract research organization (CRO) offering:

- Contract services focusing on proof-of-principle, method development, and efficacy testing in the preclinical medical technology research arena
- Surgical training in multiple fields and species, both on and off-site
- Consult with a dedicated team can come straight to your door to assist you in your study. Our team will travel to any location on the globe.
- Product testing via pre-surgical bench analysis, ex-vivo modeling, dynamic imaging and surgical models in all specialties.



SUNSHINE HEART
Eden Prairie, Minnesota
BOOTH 12

The C-Pulse Heart Assist System is an extra-aortic balloon pump using counterpulsation technology to treat moderate to severe heart failure (Class III/IVa). It can be performed minimally invasively, is placed outside the bloodstream, and the patient has the ability to disconnect from the system. It is designed to improve heart function by increasing coronary blood flow, decreasing afterload and augment cardiac function, C-Pulse's goal is to halt the progression of heart failure. Sunshine Heart is currently undergoing enrollment for its FDA approved IDE Pivotal Trial. CE mark has been approved for use outside the US.



SYNCARDIA SYSTEMS INC
Tucson, Arizona
BOOTH 11

The SynCardia temporary Total Artificial Heart (TAH-t) is the world's only FDA, Health Canada and CE approved Total Artificial Heart. It is approved as a bridge to transplant for patients dying from end-stage biventricular failure. Visit our booth for updates on the Freedom™ portable driver, 50cc TAH-t and destination therapy.



THORATEC CORPORATION
Pleasanton, California
BOOTH 1

Thoratec is the world leader in mechanical circulatory support with the broadest product portfolio to treat the full range of clinical needs for patients suffering from advanced heart failure. The company's products include the HeartMate LVAS and Thoratec VAD, with more than 20,000 devices implanted in patients suffering from heart failure. Thoratec also manufactures and markets the CentriMag and PediMag / PediVAS product lines. Thoratec is headquartered in Pleasanton, California. For more information, visit www.thoratec.com.



TRANSONIC SYSTEMS INC
Ithaca, New York
BOOTH 7

To Measure is to Know. Transonic flowmeter products are there to help you know volume flow in Cardiovascular Surgery, Vascular Access Angioplasty, Neurosurgery, Intensive and Critical Care, Product Testing, Laboratory Research, Hemodialysis Monitoring and as components in VAD, CPB and many other clinical devices. Transonic has a cutting edge line of pressure and pressure volume catheters for laboratory use.

Transonic's display will feature:

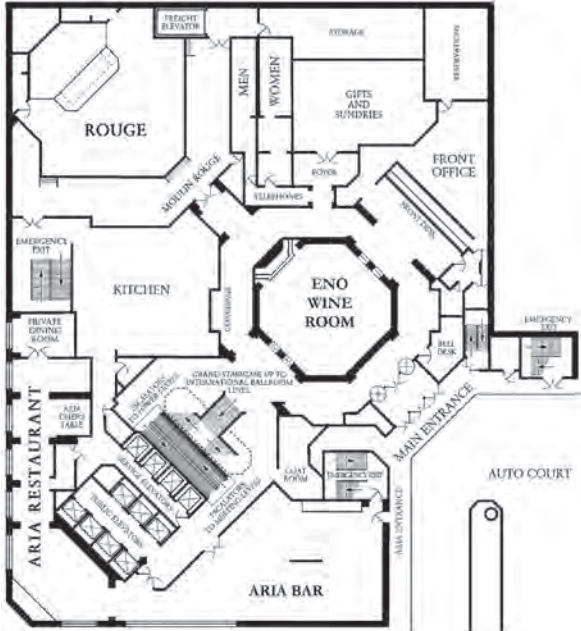
- Transonic laboratory flowmeters for intra-operative and implantable use
- Transonic Scisense laboratory PV apparatus
- 'Transonic Inside' OEM capabilities
 - with a first look at our flowmeter-on-a-chip.



WOLTERS KLUWER HEALTH – LIPPINCOTT WILLIAMS & WILKINS
Philadelphia, Pennsylvania
BOOTH 10

Wolters Kluwer Health (Philadelphia, PA) is a leading global provider of information, business intelligence and point-of-care solutions for the healthcare industry and the proud publisher of the ASAIO Journal, A Peer Reviewed Journal of the American Society for Artificial Internal Organs. Major brands include traditional publishers of medical and drug reference tools, journals and textbooks, such as Lippincott Williams & Wilkins; and electronic information providers, such as Ovid®, UpToDate®, Medi-Span®, Facts & Comparisons®, Pharmacy OneSource® and ProVation® Medical.

THE FAIRMONT CHICAGO FLOOR PLAN



LOBBY LEVEL

6/13 – 6/15 • Bioengineering Sessions • Rouge Room

2ND FLOOR

6/12 • Pediatric MCS Program • International Ballroom

6/13 – 6/15 • General Sessions • International Ballroom

6/14 • VAD Coordinator Session 2 • State Room

6/13 – 6/15 • Cardiac 1, 2, 4, 6, 8, 10 • International Ballroom

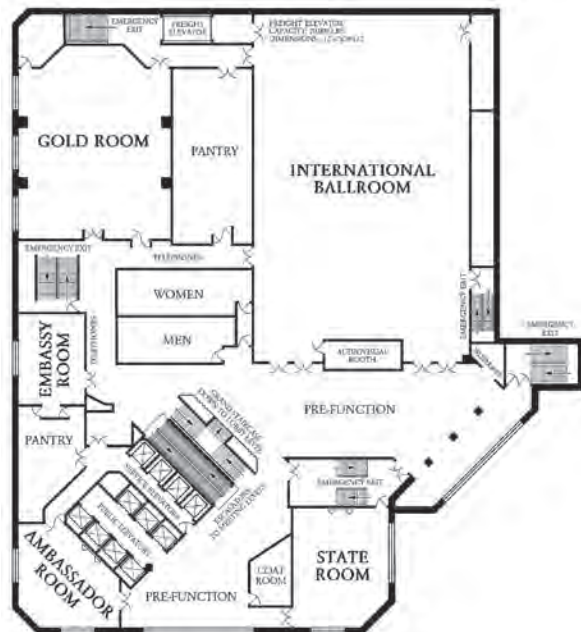
6/13 – 6/15 • Cardiac 3, 5, 7, 9 • Gold Room

6/13 • Pediatric 1 • Ambassador Room

6/15 • Pediatric 2 • Gold Room

6/13 – 6/15 • Pulmonary Sessions • State Room

6/14 • Member Business Meeting • Ambassador Room



3RD FLOOR

6/12 • VAD Coordinator Session 1 • Regent Room

6/13 – 6/15 • Renal Sessions • Regent Room



B2 LEVEL - IMPERIAL BALLROOM

6/13 – 6/15 • Exhibits, Posters, Registration, Refreshment Breaks

6/13 • Welcome Reception

ASAIO PROGRAM OUTLINE

WEDNESDAY, JUNE 12, 2013

8:30AM-5:00PM 2ND ANNUAL PEDIATRIC MECHANICAL CIRCULATORY SUPPORT PROGRAM - International Ballroom 2nd Floor
6:00PM-9:00PM VAD COORDINATOR SESSION 1 - REGENT ROOM 3RD FLOOR

THURSDAY, JUNE 13, 2013

7:30AM-12:15PM GENERAL SESSION 1 - International Ballroom 2nd Floor
Measuring Success: Medical Devices... | ASAIOfyi Rapid Fire Session 1 | ASAIO 1st Annual Student Design Competition

10:00AM-10:45AM VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS - Imperial Ballroom B2 Level

12:15PM-1:15PM LUNCH BREAK

1:30PM-3:15PM CARDIAC 1 Continuous Flow Pumps - International Ballroom 2nd Floor
PEDIATRIC 1 Abstract Session - Ambassador Room 2nd Floor
BIOENGINEERING 1 FDA Presentations - Rouge Room Lobby Level
PULMONARY 1 Biomarkers (ECMO and Lung Injury: Clinical Trial Design) - State Room 2nd Floor
RENAL 1 Quotidian Home Hemodialysis - Regent Room 3rd Floor

3:15PM-4:00PM VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS - Imperial Ballroom B2 Level

4:00PM-5:30PM CARDIAC 2 Short-Term Mechanical Circulatory Support - International Ballroom 2nd Floor
CARDIAC 3 Abstract Session - Gold Room 2nd Floor
BIOENGINEERING 2 Cardiovascular Device Technology Abstracts - Rouge Room Lobby Level
PULMONARY 2 Pulmonary Circulation, Right Heart Assistance - State Room 2nd Floor
RENAL 2 Applications of Optical Blood Composition Sensing - Regent Room 3rd Floor

6:00PM-7:00PM ASAIO WELCOME RECEPTION - IMPERIAL BALLROOM B2 LEVEL **ADMISSION BY TICKET**

FRIDAY, JUNE 14, 2013

8:00AM-10:00AM VAD COORDINATOR SESSION 2 - State Room 2nd Floor

7:30AM-12:15PM GENERAL SESSION 2 - International Ballroom 2nd Floor
2nd Annual Medical Device Entrepreneur's Forum | ASAIOfyi Rapid Fire Session 2

10:00AM-10:45AM VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS - IMPERIAL BALLROOM B2 LEVEL

10:45AM-12:15AM GENERAL SESSION 2 Continued - International Ballroom 2nd Floor
ASAIO Hastings Lecture | President's Address | Tribute to Dr. Zwischenberger | ASAIO Fellowships & Awards

12:15PM-1:15PM LUNCH BREAK

1:30PM-3:15PM CARDIAC 4 Complications With Mechanical Circulatory Support - International Ballroom 2nd Floor
CARDIAC 5 Abstract Session - Gold Room 2nd Floor
BIOENGINEERING 3 Blood Contacting Surfaces, What's The Big Deal? Abstracts - Rouge Room Lobby Level
PULMONARY 3 Evolving Technologies In Artificial Lung - State Room 2nd Floor
RENAL 3 Novel Extracorporeal Support In SIRS Pathophysiology - Regent Room 3rd Floor

3:15PM-4:00PM VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS - IMPERIAL BALLROOM B2 LEVEL

4:00PM-5:30PM CARDIAC 6 Preoperative Evaluation & Optimization For LVAD - International Ballroom 2nd Floor
CARDIAC 7 Abstract Session - Gold Room 2nd Floor
BIOENGINEERING 4 Biomaterials Galore Abstracts - Rouge Room Lobby Level
PULMONARY 4 ECMO and Transplant - State Room 2nd Floor
RENAL 4 (RE) - Emerging Issues In Hemodialysis - Regent Room 3rd Floor

5:45PM-6:30PM ASAIO MEMBER BUSINESS MEETING - AMBASSADOR ROOM 2ND FLOOR

SATURDAY, JUNE 15, 2013

8:00AM-9:15AM GENERAL SESSION 3 - International Ballroom 2nd Floor
IFAO Session | Keynote Address

9:15PM-10:00AM VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS - IMPERIAL BALLROOM B2 LEVEL

10:00AM-12:00PM CARDIAC 8 Improvements in Device Technology & The Future of LVAD Therapy - International Ballroom 2nd Floor
CARDIAC 9 Abstract Session - Gold Room 2nd Floor
BIOENGINEERING 5 Devices For Rare Diseases - Rouge Room Lobby Level
PULMONARY 5 ECMO / Lung Assist: Clinic & Experimental - State Room 2nd Floor
RENAL 5 Abstract Session - Regent Room 3rd Floor
PEDIATRIC 2 Abstract Session - Gold Room 2nd Floor

12:00PM-1:00PM LUNCH BREAK

1:00PM-3:00PM CARDIAC 10 Debates Controversial Topics ... Advanced Heart Failure - International Ballroom 2nd Floor
BIOENGINEERING 6 Cardiovascular Bioengineering Abstracts - Rouge Room Lobby Level
PULMONARY 6 Abstract Session - State Room 2nd Floor

PEDIATRIC MECHANICAL CIRCULATORY SUPPORT PROGRAM

"PEDIATRIC DEVICES - REALITY CHECK?"

8:30 AM - 5:00 PM

International Ballroom - 2nd Floor



Co-Chairmen:

Peter Wearden, MD, PhD, Assistant Prof
Cardiothoracic Surgery, University of Pittsburgh



Robert Kroslowitz, President & CEO,
Berlin Heart Inc

INTRODUCTION

8:30AM - 8:40AM

Peter Wearden, MD, PhD, Assistant Prof Cardiothoracic
Surgery, University of Pittsburgh

GOVERNMENT EFFORTS TO FOSTER DEVELOPMENT OF PEDIATRIC DEVICES... WHAT'S REALLY HAPPENING?

8:40AM-9:00AM

PumpKIN From Idea To IDE
Tim Baldwin, PhD, NHLBI

9:00AM-9:20AM

FDA Pediatric Consortia
Eric Chen, MS, FDA

9:20AM-9:40AM

NICHD
Steven Hirschfeld, MD PhD, National Institute of Child
Health & Human Development, Bethesda

9:40AM-10:00AM

Panel Discussion

REFRESHMENT BREAK

10:00AM-10:15AM International Ballroom - 2nd Floor

PEDIATRIC MCS DEVICES TODAY...WHAT ARE WE REALLY DOING AT OUR CENTERS?

10:15AM-10:35AM

Point: ECMO Is Coming Back / Here To Stay
Peter Wearden, MD, PhD, University of Pittsburgh

10:35AM-10:55AM

Counter-Point: ECMO's Days Are Numbered If Not Over
David Morales, MD,
Cincinnati Children's Hospital Medical Center

10:55AM-11:15AM

Rotary Blood Pumps In Children
Jonathan Chen, MD, Weill Cornell Medical College

11:15AM-11:35AM

Total Artificial Hearts In Congenital Heart Disease
William Gaynor, MD, Childrens Hospital of Philadelphia

11:35AM-12:00PM

Panel Discussion

LUNCH BREAK

12:00PM-1:00PM

THE REALITY OF RUNNING AND MONITORING A MECHANICAL SUPPORT PROGRAM

1:00PM-1:20PM

The Real World: University of Minnesota
James St. Louis, MD, University of Minnesota

1:20PM-1:40PM

Data Collection: Pediatric INTERMACS
Joseph Rosanno, MD, Children's Hospital of Philadelphia

1:40PM-2:00PM

Pediatric Heart Transplant Society
Charles Canter, MD, St. Louis Children's Hospital

2:00PM-2:20PM

Data Collection:
Society Of Thoracic Surgeons Database
Marshall Jacobs, MD, Society of Thoracic Surgeons

2:20PM-2:30PM

Panel Discussion

REFRESHMENT BREAK

2:30PM-2:45PM International Ballroom - 2nd Floor

NONCARDIAC PEDIATRIC DEVICES...WHAT IS REALLY GOING ON?

2:45PM-3:05PM

Pediatric Device Development
From Idea To Clinical Trial
Shuvo Roy, PhD, University of California San Francisco

3:05PM-3:25PM

Pathologic Evaluation Of Medical Devices
Fred Clubb, PhD, DVM, Texas A&M University

3:25PM-3:45PM

Novel Pediatric Lung Devices In Development
William Federspiel, PhD, University of Pittsburgh

3:45PM-4:05PM

The Clinical Use Of Pumpless Lung Support
Pirooz Eghtesady, MD, PhD,
Washington University School of Medicine

4:05PM-4:25PM

Update On Pediatric Renal Devices In Development
Paul Brakeman, MD, PhD,
University of California San Francisco

4:25PM-5:00PM

Panel Discussion

VAD COORDINATOR SESSION 1

6:00PM-9:00PM Regent Room - 3rd Floor

Co-Chairs: Pamela Combs, PhD, RN, VAD
Coordinator Jewish Hospital Louisville

Michael Petty, PhD, RN, CT Clinical Nurse Specialist,
Univ of Minnesota Med Ctr -Fairview

Emergency Response And The Care
Of The VAD Patient

Roxanne Siemeck, MSN, APRN-BC,
Advocate Christ Medical Center, Louisville

The VAD Coordinator's Involvement With Pump Thrombosis
Laura Blue, Duke University Medical Center

The VAD Patient Living Alone: What Are The Outcomes?
Pamela Combs, PhD, RN, Jewish Hospital, Louisville

Translating Bedside Technology To Home Technology:
Do We Leave Caregivers Holding The (Tool) Bag?

Mike Petty, PhD, RN, CCNS, ACNS-BC, University of
Minnesota Medical Center, Fairview, MN

Panel Discussion

GENERAL SESSION 1

7:30AM-12:15PM

International Ballroom - 2nd Floor



MEASURING SUCCESS: MEDICAL DEVICES & ORGAN FAILURE

Welcome

Kurt Dasse, PhD, ASAIO President - President, GeNO LLC



Program Introduction

William Fissell, MD, ASAIO Program Chairman - Assoc Prof Med, Nephrology, Vanderbilt University

The Future of Mechanical Circulatory Support

Mark Slaughter, MD, Professor & Chief, Thoracic & CV Surgery, University of Louisville

Micro/Nanotechnologies for Biomarker Detection

Robert Keynton, PhD, Chair & Prof Bioengineering, University of Louisville

Successes Of Intensive Dialysis In Restoring Health

Robert P. Pauly, MD, Division of Nephrology, University of Alberta

ECMO For Adult Respiratory Failure: Do The Ends Justify The Means?

Daniel Brodie, MD, Associate Professor Medicine, Columbia University

ASAIOfyi - for young innovators MEMBERS - RAPID FIRE SESSION 1

9:30AM-10:00AM International Ballroom - 2nd Floor

These Presentations are also available as Posters

POSTER BOARD

Co-Chairs: Tim Kaufmann, PhD, RWTH Aachen University

Caitlyn Hastie, MS, Abiomed Inc

9:30AM-9:35AM

Increasing Local Oxygen Tension Using Nanomagnets Based Targeted Drug Delivery System In A Whole Animal Model

Pedro Cabrales, PhD, University of California San Diego

9:35AM-9:40AM

2 Evaluation Of Long-Term Durability Of An Antithrombogenic-Coated ECMO System With Gyro Pump

Nobumasa Katagiri, PhD, National Cerebral and Cardiovascular Center Research Institute, Japan

9:40AM-9:45AM

3 Fabrication Parameters Altering Microstructure Of Small Intestinal Submucosa Vascular Grafts Drastically Modulate Patency, Endothelialization And Remodeling "In Vivo"

Diana Sanchez-Palencia, Universidad de los Andes, Colombia - ASAIO Fellowship Recipient

9:45AM-9:50AM

4 Bio-Inspired, Anti-Coagulant Surfaces: Role Of Surface Coating Type

Kagya Amoako, PhD, University of Michigan

9:50AM-9:55AM

5 2D Velocity Mapping With Echo-Particle Image Velocimetry

Katharine Fraser, PhD, Imperial College London

9:55AM-10:00AM

6 Planar PDMS/Silicon Asymmetric Membranes For Extracorporeal Membrane Oxygenation

Torin Yeager, University of California San Francisco

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

10:00AM-10:45AM Imperial Ballroom - B2 Level

ASAIO FIRST ANNUAL STUDENT DESIGN COMPETITION

10:45AM-12:15PM International Ballroom - 2nd Floor



Co-Chairs:

William Federspiel, PhD, University of Pittsburgh



Salim Olia, BS, University of Pittsburgh

ORAL PRESENTATIONS - will also be presented as posters in the Imperial Ballroom B2 level - SDC Section

Safe Pace: Pacemaker Lead Placement Feedback System

Johnny Zhang, Purdue University

Extracorporeal Pancreas for the Treatment of Insulin-Dependent Diabetics

Emily Abada, University of California, San Diego

Development of a Novel Instrument for Use in Percutaneous Dilatational Tracheostomy

Scott Kleinpeter, Tulane University

Design and Fabrication of Biomimetic 3D Bioscaffolds for Tissue Regrowth by 3D Printing

Sarah Walker, Worcester Polytechnic Institute

The Student Design Projects below will be presented in the Imperial Ballroom B2 Level as Posters - SDC Section

Metallic Biodegradable Orthopedic Implant

Emily Hester, University of Florida

Clinical Tools for Thrombotic Risk Assessment in Children With Coronary Aneurysms Caused by Kawasaki Disease

Hema Sulkar, University of California San Francisco

Baby Sound Monitor

Illinois Institute of Technology / Mercy Hospital and Medical Center

Sydney Williams, Illinois Institute of Technology

Microfluidics-based Bioreactor for Stem Cell Differentiation

Alberto Purwada, Boston University

LUNCH BREAK

12:15PM-1:15PM

CARDIAC 1: CONTINUOUS FLOW PUMPS

1:30PM-3:15PM *International Ballroom - 2nd Floor*

Co-Chairs: Jeffrey Morgan, MD, Henry Ford Hospital, Detroit, MI

Mark Slaughter, MD, University of Louisville

Outcomes Using Continuous Flow Pumps

John Conte, MD, Johns Hopkins University

Concomitant Procedures - Aortic Valve Repair

Edwin McGee, MD, Northwestern Memorial Hospital, Chicago

Concomitant Procedures - Tricuspid Valve Repair

Ani Anyanwu, MD, Mount Sinai Medical Center

Concomitant Procedures - Planned RVAD For Short-Term Right Ventricular Support As An Adjunct To Long-Term Implantable LVAD

Matthias Loebe, MD, PhD, Methodist Hospital

Is There Added Value With Off-Pump Technique?

Benjamin Sun, MD, Minneapolis Heart Institute

PEDIATRIC 1: ABSTRACT SESSION

1:30PM-3:00PM *Ambassador Room 2nd Floor*

Co-Chairs: James St. Louis, MD, University of Minnesota

Mark Rodefeld, MD, Indiana University School of Medicine

1:30PM-1:45PM

Seven-Day In Vivo Evaluation Of A Low-Flow Active-Mixing Extracorporeal Carbon Dioxide Removal System (ECCO2R) For Pediatric Respiratory Support

Garrett Jeffries, BS, University of Pittsburgh

1:45PM-2:00PM

In Vitro Evaluation of an External Compression Device for Fontan Mechanical Assistance

John Valdovinos, MS, University of California, Los Angeles - ASAIOfyi Member - ASAIOfyi Fellowship Recipient

2:00PM-2:15PM

Outcomes Following Heartmate II Left Ventricular Assist Device Implantation In Pediatric Patients

Katsuhide Maeda, MD, Stanford University

2:15PM-2:30PM

Inflow Cannula Enhancements And Biocompatibility Results For The PediaFlow® Pediatric VAD

Salim Olia, BS, University of Pittsburgh - ASAIOfyi Member

2:30PM-2:45PM

Biocompatibility Profile Comparison between an Integrated Pediatric Pump-Lung (PediPL) and a Pediatric Axial Flow Ventricular Assist Device (VAD) in an Ovine Model

Yang Liu, MD, PhD, University of Maryland School of Medicine

2:45PM-3:00PM

Effect Of Atrial Septostomy Size On Hemodynamics During Mock Circulation Simulation Of Extracorporeal Membrane Oxygenation Support For Pediatric Systemic Ventricular Failure

George Pantalos, PhD, University of Louisville

BIOENGINEERING 1 FDA PRESENTATIONS

1:30PM-3:15PM *Rouge Room - Lobby Level*

Co-Chairs: Kurt Dasse, PhD, President, GeNO LLC

Eric Chen, MS, Director Humanitarian Use Devices, FDA

CDRH Medical Device Innovation Pathway

Daya Ranamukhaarachchi, PhD, Senior Advisor for Innovation Center for Devices and Radiological Health, FDA

FDA Perspectives On Computational Modeling In Medical Devices

Tina Morrison, Interdisciplinary Scientist, Center for Devices and Radiological Health, FDA

Use And Limitations Of Computational Modeling Related to Medical Devices

Richard Malinauskas, PhD, Biomedical Engineer, Center for Device and Radiological Health, FDA

Comparison And Review of Preclinical And Clinical Testing For Percutaneous Heart Valves And Mechanical Circulatory Support

Changfu Wu, PhD, Senior Staff Fellow, CV Devices, FDA

Panel Discussion

PULMONARY 1: BIOMARKERS

(ECMO AND LUNG INJURY: CLINICAL TRIAL DESIGN)

1:30PM-3:15PM *State Room 2nd Floor*

Co-Chairs: Charles Hoopes, MD, University of Kentucky

Daniel Brodie, MD, Columbia University

Biomarkers And Genomics: Candidate Gene Approach

Joe GN Garcia, MD, University of Illinois Hospital

Respiratory Muscle Dysfunction And Mechanical Ventilation: Can ECMO Improve Muscle Function?

Gerald Supinski, MD, University of Kentucky

Ambulatory ECMO As A Bridge To Transplant - Necessary , Needed, Or Nice

Joseph Zwischenberger, MD, University of Kentucky

Discussion

ABSTRACT

3:00PM-3:15PM

Effect Of Warm Perfusion Of Donor Lungs Using The Organ Care System® On Immune Mediator Release During Preservation
Bettina Wiegmann, MD, Hannover Medical School - ASAIOfyi Member

RENAL 1: QUOTIDIAN HOME HEMODIALYSIS

1:30PM-3:15PM *Regent Room 3rd Floor*

Co-Chairs: *Stephen Ash, MD, HemoCleanse, Lafayette, IN*
Howard Loree, PhD, Flow Forward Medical, LLC., Lowell, MA

Platelet Activation During Dialysis: Implications For Daily And Nocturnal Hemodialysis
John Daugirdas, MD, University of Illinois

Home Nocturnal Hemodialysis: Technology Needs For Expanded use
Balasz Szamosfalvi, MD, Henry Ford Hospital, Detroit, MI

Technology Achievements And Future Directions In Home Short Quotidian HD
Denny Treu, NxStage Medical Inc, Lawrence, MA

Home Hemodialysis: Focus On Information Technology
Terry Ketchersid, MD, IT Services Group, Brentwood, TN

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

3:15PM-4:00PM *Imperial Ballroom - B2 Level*

CARDIAC 2: SHORT - TERM MECHANICAL CIRCULATORY SUPPORT

4:00PM-5:30PM *International Ballroom - 2nd Floor*

Co-Chairs: *William Holman, MD, University of Alabama at Birmingham*

Margarita Camacho, MD, Newark Beth Israel

Bridge to Decision Algorithm
Ranjit John, MD, University of Minnesota

Impella
Mark Zucker, MD, Newark Beth Israel

Tandem Heart
Igor Gregoric, MD, University of Texas Health Sciences Center

CentriMag
Hiroo Takayama, MD, Columbia Presbyterian Medical Center

ECMO
Jonathan Haft, MD, University of Michigan

CARDIAC 3: ABSTRACT SESSION

4:00PM-5:15PM *Gold Room - 2nd Floor*

Co-Chairs: *Keith Aaronson, MD, University of Michigan*
Ramesh Singh, MD, University Of Louisville

4:00PM-4:15PM

Wireless Power Transmission for Ventricular Assist Devices
Lori Lucke, PhD, Minnetronix Inc, Saint Paul, MN

4:15PM-4:30PM

A Wireless Ultra-Compact Pulsatile Driver for Continuous Flow Left Ventricular Assist Devices
Siavesh Asgari, MS, Yale School of Medicine - ASAIOfyi Member - ASAIO Fellowship Recipient

4:30PM-4:45PM

The MVAD® Pump: Flow Estimation Theory of Operation
Fernando Casas, PhD, HeartWare Inc, Miami Lakes, FL

4:45PM-5:00PM

The MVAD® Pump: Motor Stator Core Loss Characterization
Kelly Mesa, HeartWare Inc, Miami Lakes, FL - ASAIOfyi Member - ASAIO Fellowship Recipient

5:00PM-5:15PM

A Miniature Axial Flow Pump with Suspended Rotor
LI Guorong, PhD, Fu Wai Heart Hospital & Cardiovascular Institute, China - Presentation Cancelled

BIOENGINEERING 2: CARDIOVASCULAR DEVICE TECHNOLOGY ABSTRACTS

4:00PM-5:30PM *Rouge Room - Lobby*

Co-Chairs: *Keefe Manning, PhD, Pennsylvania State University*

David Demos, MD, University of Michigan - ASAIOfyi Member

4:00PM-4:15PM

An Automated Perfusion System For Use In Extracorporeal Support Assisted Donation After Cardiac Death (EDCD)
David Demos, MD, University Of Michigan - ASAIOfyi Member - ASAIOfyi Fellowship Recipient

4:15PM-4:30PM

Powering Implantable Ventricular Assist Devices: In Vivo Experimentation Of A New Percutaneous Osseointegrated Connector
Steven Tsui, Papworth Hospital, United Kingdom

4:30PM-4:45PM

Bearing Design For A Temporary Wearable Low-Flow Rotary Blood Pump System
Howard Loree, PhD, Flow Forward Medical LLC, Lowell, MA

4:45PM-5:00PM

Dual Impeller Project Of Implantable Centrifugal Blood Pump After Seven Years
Aron Andrade, PhD, Deng, Institute Dante Pazzanese of Cardiology, Brazil

5:00PM-5:15PM

Computational Modeling Of Ivc Filter Deployment And Blood Flow In Compliant, Patient-Specific Vein Geometries
Kenneth Aycock, The Pennsylvania State University

5:15PM-5:30PM

A Fluid Dynamic Study Of The Heartmate II Continuous Flow Ventricular Assist Device Under Physiological Pulsatile Conditions
Benjamin Knisely, BS, The Pennsylvania State University

PULMONARY 2: PULMONARY CIRCULATION, RIGHT HEART ASSISTANCE

4:00PM-5:30PM State Room - 2nd Floor

Co-Chairs: Charles Hoopes, MD, University of Kentucky

Keith Cook, PhD, University of Michigan

Modeling And Understanding Pulmonary Vascular Function And Right Ventricular Afterload

Robin Shandas, PhD, University of Colorado

Compliant Artificial Lung

Keith Cook, PhD, University of Michigan

New Approaches For Mechanical Pulmonary Support - In Series RVAD Operation

Po-Lin Hsu, PhD, Helmholtz Institute, Germany

ABSTRACTS

5:00PM-5:15PM

Increasing Gas And Heat Exchange By Inducing Physiological Pulsation Into A Heat Exchanging Oxygenator

Ralf Borchardt, Dipl-Ing, Institute of Applied Medical Engineering, RWTH Aachen University - ASAIOfyi Member

5:15PM-5:30PM

Development of an Artificial Placenta: Pumpless Arteriovenous Extracorporeal Life Support in a Premature Lamb Model

Haruo Usuda, Tohoku University Hospital, Japan

RENAL 2: APPLICATIONS OF OPTICAL BLOOD COMPOSITION SENSING

4:00PM-5:30PM Regent Room - 3rd Floor

Co-Chairs: Balazs Szamosfalvi, MD, Henry Ford Hospital, Detroit

Stephen Ash, MD, HemoCleanse, Lafayette, IN

Online Hemoglobin And Hematocrit Monitoring: Optical Principles And Discussion Of Available Systems

Daniel Schneditz, PhD, Medical University of Graz, Austria

A Crit-Line Technology Overview Leading To The Nextgen Crit-Line Clip (CLiC)

Lee Barrett, MSEE, Fresenius Medical Care NA

Telemetry On Central Venous Optical Hb And O2 Saturation In CRRT-RCA

Lenar Yessayan, MD, Henry Ford Hospital, Troy, MI - ASAIOfyi Member

Optical In Vivo Glomerular Filtration Rate Monitoring In AKI

Bruce Molitoris, MD, Indiana University School of Medicine

ASAIO WELCOME RECEPTION

Admission by Ticket

6:00PM - 7:00PM

Imperial Ballroom - B2 Level

CARDIAC POSTER SESSION 1

8:00AM-5:00PM Imperial Ballroom - B2 Level

POSTER BOARD#

- N/A Antithrombin Use In Adult ECMO Patients Is Associated With A Reduction In Blood Product Usage
Paul Nolan, Pharm D, University of Arizona - Presentation Cancelled
- 8 Assessment Of Anticoagulation Management As A Measurement Of Pump Thrombus Risk
Sean McCandless, Intermountain Medical Center, Murray, UT - ASAIOfyi Member
- 9 Centrimag Ventricular Assist System: Clinical Outcomes in Acute Decompensated Heart Failure Patients as Bridge to Decision
Geetha Baht, MD, PhD Advocate Christ Medical Center, Oak Lawn, IL
- 10 Outcomes Of Chronic Antimicrobial Suppression Therapy In Patients With Previous Infection On Continuous Flow Left Ventricular Device Support
Douglas Jennings, Pharm D, Henry Ford Hospital, Detroit, MI - ASAIOfyi Member
- 11 Temporal Trends In HeartMate II LVAD Suspected PumpThrombus Events And Pump Replacements - The Integris Baptist Medical Center Experience
Trevor Snyder, PhD, Integris Baptist Medical Center, Oklahoma City - ASAIOfyi Member
- 12 The Effect Of Speed Modulation Induced Pulsatility On Hemolysis Using A HeartMate II® LVAD
Megan Stauffer, BS, Penn State College of Medicine, Hershey, PA - ASAIOfyi Member
- 13 Is Fast Track Anaesthesia In Left Ventricular Assist Device Implantation Feasible And Reasonable?
Jan Unterkolfler, MD, RWTH University Hospital Aachen, Germany
- 14 Is Early Power Dysfunction A Benign Phenomenon After HeartMate II Implant?
Alana Lewis, MD, BS, Vanderbilt University Medical Center, Nashville, TN
- 15 The Influence Of Mechanical Circulation Support Device On Lung Transplantation
Masatoshi Akiyama, MD, Tohoku University Hospital, Japan
- 16 A Cost Reducing ECMO Model: A Single Institution Experience
En Yaw Hong, Thomas Jefferson University, Philadelphia
- 17 Off-Pump Centrifugal Ventricular Assist Device Implantation Via Left Thoracotomy With Outflow To The Descending Thoracic Aorta: The Initial United States Experience
Travis Abicht, MD, Northwestern Memorial Hospital, Chicago
- 18 Symptom Burden And Mental Health After Mechanical Circulatory Support: Patient Perspectives
Kathleen Grady, PhD, APN, Northwestern University, Chicago
- 19 Extracorporeal Membrane Oxygenation (ECMO) Weaning In Intensive Care Unit Using The Miniaturized Hemodynamic Transesophageal Echocardiogram (hTEE)
Konrad Serosik, MD, Thomas Jefferson University Hospital - ASAIOfyi Member
- 20 Reduction Of Microvascular Obstruction By Para-Aortic Counterpulsation On Acute Ischemia/Reperfusion In Pigs
Prof. Pong-Jeu Lu, National Cheng Kung University, Taiwan

- 21 **Shear Stress Analysis Of A Centrifugal Blood Pump With Different Straight Impeller Blade Profiles Using Numerical Study**
Paweena Diloksumpan, DVM, Mahidol University, Thailand
- 22 **Transplantation of Extracorporeal Long-Term Preserved Beating Donor Hearts: A Acute Animal Study**
Jens Garbade, MD, PhD, Heart Center, University Leipzig, Germany
- 23 **The Role Of Mechanical Circulatory Support In Acute Myocardial Infarction Complicated By Cardiogenic Shock: Implications Of Improved In-Hospital Mortality**
Lauren Truby, BS, Columbia University College of Physicians and Surgeons, New York
- 24 **Safety And Feasibility Of The Combined Use Of Venoarterial Extracorporeal Membrane Oxygenation And A Percutaneous Left Ventricular Assist Device With Micro-Axial Pump**
Lauren Truby, BS, Columbia University College of Physicians and Surgeons, New York
- 25 **Improving Patient Selection In LVAD Candidacy: Enhancing Team Decision-Making, Patient Education, And Informed Consent**
Caroline Saulino, PsyD, Henry Ford Health System, Detroit, MI
- 26 **Mechanical Circulatory Support: Emergency Procedures And Education Of Community Services**
Juliane Vierecke, MD, Deutsches Herzzentrum Berlin
- 27 **Effects Of Optimal Medical Management And Lowering LVAD Speed On Aortic Valve Function**
Patrycja Ganslmeier, MD, University Medical Center Regensburg, Germany
- 28 **Enhancement Of The Myocardial Perfusion By A Novel Cardiac Cycle-Synchronized Rotation Control Mode In A Continuous-Flow LVAD In Chronic Ischemic Heart Failure Model**
Mamoru Arakawa, MD, National Cerebral and Cardiovascular Center, Research Institute, Japan - ASAIOfyi Member
- 29 **First Implantation of a HeartWare Right Ventricular Assist Device For Right Ventricular Failure Caused By Severe Idiopathic Pulmonary Hypertension**
Juliane Vierecke, Deutsches Herzzentrum Berlin
- 30 **Incidence Of Postoperative Bleeding In Patients With A HeartMate II Left Ventricular Assist System With Sealed Grafts**
Juliane Vierecke, Deutsches Herzzentrum Berlin
- 31 **First Analysis Of Artificial Myocardium Applied To Chronic Heart Failure In Canine Model**
Yukihiko Hayatsu, MD, Tohoku University, Japan
- 32 **Computational Framework To Predict Pulsatile Pressure And Power For Axial-Flow LVADs Operating In Pulsatile Mode**
Mohammad Waqar Mohiuddin, PhD, Texas A&M University, College Station, TX
- 33 **TransApical To Aorta Double Lumen Cannula Based Neonate LVAD Achieves Total LV Unloading**
Dongfang Wang, MD, PhD, University of Kentucky College of Medicine
- 34 **Dynamic Hydraulic Response In The HVAD® Centrifugal Pump**
Michael Brown, HeartWare Inc, Miami Lakes, FL

- 35 **Air And Ground Transportation Of Extra Corporeal Membrane Oxygenation Dependent Patients**
Jess Thompson, MD, University of Arizona

BIOENGINEERING POSTER SESSION 1

BIOENGINEERING IMPACT TO CLINICAL SETTINGS

8:00AM-5:00PM Imperial Ballroom - B2 Level

- 36 **Detoxification Efficiency of Molecular Adsorbent Recirculating System**
Vincenzo Morabito, MD, Sapienza University of Rome - ASAIOfyi Member
- 37 **Fluid Resuscitation: Comparison Between Typical Normoxic Fluid Resuscitation And Hyperoxic Fluid Resuscitation**
Julian Crump, MSc, Universidad de Los Andes, Colombia
- 38 **Nitrite-Enhanced ATP Synthesis And Release From Red Blood Cells (RBC) Is Attenuated By Extracellular Hemoglobin (Hb) In Hypoxia And Normoxia**
Jan Simoni, DVM, PhD, Texas Tech University Health Sciences Center
- 39 **Early Detection Of Blood Coagulation During Hemodialysis Using Non-Invasive Monitoring Of Blood Flow Sounds**
Naoya Shimazaki, MEng, Toin University of Yokohama
- 40 **External Fixator Pin Coatings Used To Reduce The Incidence of Infection**
Toby Jennison, MBChB, Oxford University, United Kingdom
- 41 **In Vivo Evaluation Of The Skin Conditions Around The Percutaneous Site Of VAD System**
Yuichi Atsuta, National Cerebral And Cardiovascular Center Research Institute, Japan
- 42 **Fluid Resuscitation: Comparison Between Typical Normoxia Resuscitation And Nitric Oxide As Coadjuvant During Resuscitation**
Julian Crump, MSc, Universidad de Los Andes, Colombia
- 43 **Preparation And Characterization of Bone Adhesives For Trauma Surgery**
Camila Castro, MS, Universidad de los Andes, Colombia
- 44 **Study Of The Interaction Of A Perfluorocarbon Based Oxygen Carrier With Colloid Plasma Expanders And Blood**
Diana Marcela Vasquez Gutierrez, Universidad de los Andes - ASAIOfyi Member
- 45 **Clinical Validation of Rapid Hemodynamic Data Analysis**
Vinod Havalad, MD, Columbia University Medical Center - ASAIOfyi Member

PULMONARY POSTER SESSION

8:00AM-5:00PM Imperial Ballroom - B2 Level

- 46 **1H-NMR Analysis Of The Interaction Among Perfluorinated Liquids And Polymers In A Ventilator Prototype For Total Liquid Ventilation**
Paola Bagnoli, PhD, Politecnico di Milano - ASAIOfyi Member

THURSDAY, JUNE 13 (CONTINUED)

- 47 Evaluation Of Silicone Hollow Fiber Membranes For Total Liquid Ventilation Oxygenator
Motoi Kagaya, BS, Tokyo Denki University
- N/A Relationship Between Frequency Modulation And Total Lung Volume
Mohamed Elnachef, MD, SIOF Institute, Orange, CA - Presentation Cancelled
- 49 Elevated Levels Of Sphingolipids Correlate With Good Clinical Outcomes In Patients With Severe ARDS On ECMO Support
Gopal Singh, MD, Columbia University - NY Presbyterian Hospital - ASAIOfyi Member

FRIDAY, JUNE 14, 2013

VAD COORDINATOR SESSION 2

- 8:00AM-10:00AM** *State Room - 2nd Floor*
Chair: Pamela Combs, PhD, RN, Jewish Hospital Louisville
Michael Petty, PhD, RN, Univ of Minnesota Med Ctr -Fairview
- Economics Of VAD Patients - Keeping It Human
Frederick McNeil, DNP, RN, ACNP, CCRN, HeartWare Inc
- Prevailing Vs. Progressive: VAD Coordinator Paradigm Across The Continuum Of Care
Jennifer Beckman, BSN, RN, CHFN, Froedtert Health, Milwaukee, WI
- Utilizing Clinical Engineers In A VAD Program
Andrew Bowser, Aurora St Luke's Medical Center, Milwaukee
- Psychological And Behavioral Criteria When Referring Advanced Heart Failure Patients For Advanced Surgical Therapies
Kathleen Grady, PhD, APN, FAASN, Assoc Professor, Northwestern University, Chicago
- The Future Of VAD Therapy
Mark Slaughter, MD, University of Louisville

GENERAL SESSION 2

7:30AM-12:15PM *International Ballroom - 2nd Floor*

THE 2ND ANNUAL MEDICAL DEVICE ENTREPRENEUR'S FORUM

7:30AM-9:30AM

Chairman: H. David Humes, MD, Professor of Medicine, University of Michigan

MAGNAMOSIS: Magnetic Compression Device For Better / Faster / Cheaper Bowel Reconstruction
Michael Harrison, MD, University of California San Francisco

Hvalve: The First Hybrid Tissue-Engineered Heart Valve
Arash Kheradvar, MD, PhD, University of California Irvine

The Intraperitoneal Artificial Pancreas: Closing The Loop By Overcoming The Fundamental Limitations Of The Interstitial Space
Marcie Hamilton, BS, Theranova LLC, San Francisco

PANELISTS:

Edward Berger, PhD, Principal, Larchmont Strategic Advisors, Chestnut Hill, MI
Brian Duncan, MD, MBA, Vice President, BioEnterprise, Cleveland, OH
Eric Chen, MS, Dir Humanitarian Use Device Products, FDA - ASAIOfyi Member

MEET AND GREET

ASAIOfyi - for young innovators MEMBERS - RAPID FIRE SESSION 2

These Presentations are also available as Posters

- 9:30AM-10:00AM** *International Ballroom - 2nd Floor*
Co-Chairs: Salim Olia, BS, University of Pittsburgh
Ralf Borchardt, Dipl. Ing, Inst Applied Medical Engineering, RWTH Aachen University
- 9:30AM-9:35AM**
50 **Single Center Experience On Different Anticoagulation Protocols In The Management Of Veno-Arterial ECMO**
Cristiano Amarelli, MD, Monaldi Hospital Azienda Ospedaliera dei Colli, Italy
- 9:35AM-9:40AM**
51 **Hemodynamically Optimized Outflow Cannula For Cardiopulmonary Bypass**
Tim Kaufmann, PhD, Institute of Applied Medical Engineering, Helmholtz Institute, RWTH Aachen Univ, Germany
- 9:40AM-9:45AM**
52 **In Vitro And In Vivo Evaluation Of A Compact Wearable Pneumatic Drive Unit For A Ventricular Assist Device**
Hirohito Sumikura, PhD, National Cerebral And Cardiovascular Center Research Institute, Japan
- 9:45AM-9:50AM**
N/A **Impella Pediatric Insertion Techniques**
Caitlyn Hastie, MS, Mechanical Engineer, Abiomed Inc, Danvers, MA
- 9:50AM-9:55AM**
54 **Designing The Impella Pediatric For Smaller Patients**
David Price, MS, Abiomed, Inc

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

10:00AM-10:45AM *Imperial Ballroom - B2 Level*

GENERAL SESSION 2 - CONTINUED

10:45AM-12:15PM

Co-Chairs: Kurt Dasse, PhD, President GeNO LLC

Mark Slaughter, MD, Prof & Chief Thoracic & CV Surgery, University of Louisville

10:45AM-11:15AM



ASAIO HASTINGS LECTURE
A Look At The Remarkable Success Of Dialysis In Restoring Health: The Past, The Present And The Future
Andreas Pierratos, MD, Professor of Medicine, University of Toronto

11:15AM-11:45AM

ASAIO PRESIDENT'S ADDRESS
Kurt Dasse, PhD, President, GeNO LLC

11:45AM-11:55AM

Tribute To Josph Zwihschenberger, MD, Editor ASAIO Journal
Mark Slaughter, MD, Prof & Chief Thoracic and CV Surgery, University of Louisville

11:55AM-12:15PM

ASAIO Fellowships & Awards
Kurt Dasse, PhD, President, ASAIO

LUNCH BREAK

12:15PM-1:15PM

CARDIAC 4: COMPLICATIONS WITH MECHANICAL CIRCULATORY SUPPORT

1:30PM-3:15PM International Ballroom - 2nd Floor

Co-Chairs: *O. Howard Frazier, MD, St. Luke's Episcopal Hospital*

Jeffrey Morgan, MD, Henry Ford Hospital, Detroit

Aortic Insufficiency In LVAD Patients
Soon Park, MD, Mayo Clinic, Rochester, MN

Gastrointestinal Bleeding
Antone Tatoes, MD, Advocate Christ Medical Center, Oak Lawn, IL

Neurologic Complications / Stroke
Stuart Russell, MD, Johns Hopkins University

Drive Line Infections, Fractures
Robert Brewer, MD, Henry Ford Hospital, Detroit

Pump Thrombosis
George Wiesenthaler, MD, University of California San Francisco

CARDIAC 5: ABSTRACT SESSION

1:30PM-3:15PM Gold Room - 2nd Floor

Co-Chairs: *Linda Bogar, MD, Cardiac, Vascular, & Thoracic Surgical Associates*

William Holman, MD, University of Alabama at Birmingham

1:30PM-1:45PM

Clinical Experience With Sternotomy Versus Less Invasive Subcostal Approach For Exchange Of The HeartMate II Left Ventricular Assist Device
Behzad Soleimani, MD, Penn State Hershey Medical Center

1:45PM-2:00PM

Severity Of End Organ Dysfunction As A Predictor Of Survival After Implantation Of Left Ventricular Assist Devices (LVAD) For Bridge To Transplantation (BTT)
Behzad Soleimani, MD, Penn State Hershey Medical Center

2:00PM-2:15PM

Validation Of A Novel Assay For Predicting Non-Surgical Bleeding Risk In Ventricular Assist Device Recipients
Daniel Joyce, BFA, Mayo Medical School, Rochester

2:15PM-2:30PM

Preliminary Driveline Infection Results From The Multicenter Silicone-Skin-Interface (SSI) Registry
Shahab Akhter, MD, University of Chicago Medical Center

2:30PM-2:45PM

Effects Of Blood Product Transfusion In Patients With Left Ventricular Assist Devices
Geetha Bhat, MD, PhD Advocate Christ Medical Center Oak Lawn, IL

BIOENGINEERING 3: BLOOD CONTACTING SURFACES, WHATS' THE BIG DEAL? ABSTRACTS

1:30PM-3:15PM Rouge Room - Lobby

Co-Chairs: *Joshua Cysyk, PhD, Penn State College of Medicine*

Kagya Amoako, PhD, University of Michigan - ASAIOfyi Member

1:30PM-1:45PM

LVAD Patient Differences In Plasma Platelet GPIb Fragment Predict Bleeding Risk
Trevor Snyder, PhD, Integris Baptist Medical Center, Oklahoma City - ASAIOfyi Member

1:45PM-2:00PM

"In Vitro" And Computational Studies Of Thrombus Growth And Associated Wall Shear Stress Development In A Backward-Facing Step Geometry
Joshua Taylor, BS, The Pennsylvania State University - ASAIOfyi Member

2:00PM-2:15PM

CFD Derived Parameters And Models For In-Vitro Blood Damage Assessment
Mustafa Ertan Taskin, PhD, HeartWare Inc, Miami Lakes, FL

2:15PM-2:30PM

Bio-Inspired, Anti-Coagulant Surfaces: Role Of Flow Rate And No Concentration
Kagya Amoako, PhD, University of Michigan - ASAIOfyi Member

2:30PM-2:45PM

Thrombosis At ECMO Connector Junctions Is Related To Low Shear Rates
Susan Hastings, Georgia Institute of Technology

2:45PM-3:00PM

The Effects Of Hematocrit And Rotation Time On Platelet Adhesion To A Polyurethane Urea Surface
Lauren Grunenwald, MS, The Pennsylvania State University

3:00PM-3:15PM

Real Time Characterization Of Flow Induced Platelet Deposition Onto Clinically-Relevant Opaque Surfaces
Megan Jamiolkowski, BBE, University of Pittsburgh - ASAIOfyi Member

PULMONARY 3: EVOLVING TECHNOLOGIES IN ARTIFICIAL LUNG

1:30PM-3:15PM State Room - 2nd Floor

Co-Chairs: William Federspiel, PhD, University of Pittsburgh
Zhongjun Wu, PhD, University of Maryland School of Medicine

Respiratory Lung Assist: From Hemolung To Paracorporeal Ambulatory Assist Lung (PAAL)
William Federspiel, PhD, University of Pittsburgh

Wearable Artificial Pump-Lung For Ambulatory Respiratory Support
Zhongjun Wu, PhD, University of Maryland School of Medicine

Oxygenator Development At The Helmholtz-Institute Aachen: Past, Present, and Future
Jutta Arens, Dipl Ing, RWTH Aachen University, Germany

Percutaneous Ambulatory Lung And Right Heart Assist
Dongfang Wang, MD, PhD, University of Kentucky

ABSTRACTS

3:00PM-3:15PM

Development Of A Biomimetic Microfluidic Oxygen Transfer Device
Alla Epshteyn, MEng, Draper Laboratory, Cambridge, MA - ASAIOfyi Member

RENAL 3: NOVEL EXTRACORPOREAL SUPPORT IN SIRS PATHOPHYSIOLOGY

1:30PM-3:15PM Regent Room - 3rd Floor

Co-Chairs: Howard Loree, PhD, Flow Forward Medical, LLC, Lowell, MA

Balazs Szamosfalvi, MD, Henry Ford Hospital, Detroit

The Natural History Of Early Inflammation In Sepsis: Taking Advantage Of The Optimal Window Of Opportunity With Immunomodulation
Emanuel Rivers, MD, Henry Ford Hospital, Detroit

Update On The Selective Cytopheretic Device: Mechanism Of Action, Proposed Applications
H. David Humes, MD, University of Michigan

Forward To A Combined And Efficient Extracorporeal Blood Purification Technology Including Citrate Anticoagulation For The Treatment Of Sepsis
Dieter Falkenhagen, MD, PhD, Danube University

Polymyxin B Hemoperfusion For The Treatment Of Severe Sepsis
Gualtiero Guadagni, PhD, Spectral Diagnostics Inc, Toronto

Using Multiple Selective Affinity Agents In CPFA For Treating Wounded Warfighters With Sepsis
Rodney S. Kenley, Aethlon Medical Inc, Libertyville, IL

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

3:15PM-4:00PM Imperial Ballroom - B2 Level

CARDIAC 6: PREOPERATIVE EVALUATION AND OPTIMIZATION FOR LVAD

4:00PM-5:30PM International Ballroom - 2nd Floor

Co-Chairs: Emma Birks, MD, PhD, University of Louisville
Stephanie Moore, MD, Massachusetts General Hospital

Optimal Timing for LVAD Implantation
Ulrich Jorde, MD, Columbia University

Assessment And Optimization Of Right Heart Function
Celeste Williams, MD, Henry Ford Hospital, Detroit

Role Of Mechanical Circulatory Support As A Bridge To Bridge
Andrew Civitello, MD, Texas Heart Institute

Improving Patient Selection in LVAD Candidacy: Enhancing Team Decision-Making, Patient Education, and Informed Consent.
Caroline Saulino, PhD, Henry Ford Hospital, Detroit

CARDIAC 7: ABSTRACT SESSION

4:00PM-5:15PM Gold Room - 2nd Floor

Co-Chairs: Walter Dembitsky, MD, Sharp Memorial Hospital

Ganga Prabhakar, MD, Iowa Heart Center

4:00PM-4:15PM

Stroke Is A Major Adverse Event During CentriMag Support
Lori Soni, MD, Columbia University

4:15PM-4:30PM

Late-Onset Right Ventricular Failure Emerges In Patients With Small Left Ventricle After Implantation Of Continuous Flow Left Ventricular Assist Device
Teruhiko Imamura, MD, Graduate School of Medicine, University of Tokyo - ASAIOfyi Member

4:30PM-4:45PM

Impact Of Pre-Operative ACE Inhibitor Exposure On The Incidence Of Postoperative Refractory Vasoplegia In Patients Undergoing Left-Ventricular Assist Device Implantation
Douglas Jennings, PharmD, Henry Ford Hospital, Detroit, MI - ASAIOfyi Member

4:45PM-5:00PM

Analysis Of A New Algorithm For Gastrointestinal Bleeding (GIB) In VAD Patients; A Faster, Cheaper Way For Diagnosis And Treatment
Konrad Sarosiek, MD, Thomas Jefferson University, Philadelphia, PA - ASAIOfyi Member

5:00PM-5:15PM

Cost-Effectiveness Of Ventricular Assist Device Implantation In Medicare Recipients: Is It Sustainable?
Michael Bowdish, MD, Keck School of Medicine, University of Southern California

BIOENGINEERING 4: BIOMATERIALS GALORE ABSTRACTS

4:00PM-5:30PM *Rouge Room - Lobby*

Co-Chairs: Jan Simoni, DVM, PhD, Texas Tech University Health Sciences Center

Trevor Snyder, PhD, INTEGRIS Baptist Medical Center, Oklahoma City - ASAIOfyi Member

4:00PM-4:15PM

Development Of A Novel Autologous Valve With A Stent (Biovalve Stent) For Transcatheter Implantation
Yoshiaki Takewa, MD, PhD, National Cerebral And Cardiovascular Center Research Institute, Japan

4:15PM-4:30PM

Development Of A Hybrid Membrane Oxygenator Using Fibrous Scaffolds And Cells
Masahiro Murai, BS, Tokyo Denki University

4:30PM-4:45PM

Effects Of DFAT (Dedifferentiated Fat) Cells In Cases Of Artificial Dermis Grafts - Rat Experimental Study
Kazutaka Soejima, MD, Nihon University School Of Medicine, Japan

4:45PM-5:00PM

A Novel Method For Clearance Of Prions And Viruses From Hemoglobin (Hb)-Based Blood Substitutes
Jan Simoni, DVM, PhD, Texas Tech University Health Sciences Center

5:00PM-5:15PM

Silicon Nanopore Membranes (SNM) Prevent Cytokine Infiltration Under Convective Transport
Shang Song, University of California, San Francisco - ASAIOfyi Member - ASAIO Fellowship Recipient

5:15PM-5:30PM

Use Of Perfluorocarbon Based Oxygen Carrier Improves Lactate Clearance In Resuscitation From Experimental Hemorrhage Compared To Isotonic Saline In A Swine Model
Daniel Ortiz, MSc, Universidad de Los Andes, Colombia - ASAIOfyi Member

PULMONARY 4: ECMO AND TRANSPLANT

4:00PM-5:30PM *State Room - 2nd Floor*

*Co-Chairs: Charles Hoopes, MD, University of Kentucky
Robert Love, MD, Medical College of Wisconsin*

Debate: ECMO As A Bridge To Transplant - Is It Standard Of Care?

*Pro: Christian Bermudez, MD, UPMC Presbyterian Hospital
Con: Charles Hoopes, MD, University of Kentucky*

Ex Vivo Lung Perfusion: State Of The Art, Current Trial Design, And Real Life Application

Robert Love, MD, Medical College of Wisconsin

ABSTRACTS

5:00PM-5:15PM

Two Decades Experience With Inter-Facility Transport On Extracorporeal Life Support
Benjamin Bryner, MD, University of Michigan - ASAIOfyi Member

5:15PM-5:30PM

14-Day In Vivo Testing Of A Compliant Thoracic Artificial Lung
David Skoog, MS, University of Michigan

RENAL 4: (RE) - EMERGING ISSUES IN HEMODIALYSIS

4:00PM-5:30PM *Regent Room - 3rd Floor*

*Co-Chairs: William Fissell, MD, Vanderbilt University
Balazs Szamosfalvi, MD, Henry Ford Hospital, Detroit*

Single Use Dialyzers vs Re-Use: New Considerations
Balazs Szamosfalvi, MD, Henry Ford Hospital, Detroit

A Novel Dialyzer Re-Processing System
Mohamed Labib, PhD, NovaFlux Technologies, Princeton, NJ

Dialysate Regeneration: The State Of The Art Of Sorbent-Based Systems
David Updyke, Fresenius Medical Care NA

Low Cost Protein-Bound Toxin Removal: A Review Of Available Technology
Stephen Ash, MD, HemoCleanse, Lafayette, IN

ASAIO MEMBER BUSINESS MEETING

5:45PM-6:30PM *Ambassador Room - 2nd Floor*

CARDIAC POSTER SESSION 2

8:00AM-5:00PM *Imperial Ballroom - B2 Level*

POSTER BOARD#

- 55 **Incidence And Characteristics Of Vascular Complications With Short-Term VAD Support**
Sean McCandless, Intermountain Medical Center, Murray, UT - ASAIOfyi Member
- 56 **Effect Of Cannula Implantation Site And Cardiomyopathy Etiology In The Remodeling Histopathologic Changes At Left Ventricular Assist Device (LVAD) Implantation**
Ana Maria Segura, MD, Texas Heart Institute
- 57 **Is Ventricular Remodeling More Severe In Patients \geq 70 Years Old Requiring LVAD Support?**
Ana Maria Segura, MD, Texas Heart Institute
- 58 **Left Ventricular End Diastolic Dimension Assessment During Echocardiographic Speed Optimization Of HeartWare Ventricular Assist Device**
Andrew Sauer, MD, Northwestern University Feinberg School of Medicine

- 59 Reaching Optimal Blood Pressure Control In Patients Supported By Ventricular Assist Devices: Utilizing A VAD Hypertension Protocol
Karen Meehan, MSN, Northwestern Memorial Hospital - ASAIOfyi Member
- 60 Chest Compressions In The HeartMate II Population
Marcia Stahovich, RN, Sharp Memorial Hospital, San Diego, CA
- 61 Is Clostridium Difficile Infection A Risk Factor For Patients Requiring Left Ventricular Assist Device?
Jens Garbade, MD, PhD, Heart Center Leipzig
- 62 In-Vitro Evaluation Of Vascular Autoregulation On Transient Posterior Cerebral Ischemia Caused By Subclavian Counterpulsatile Contraction Unloading
Prof. Pong-Jeu Lu, National Cheng Kung University, Taiwan
- N/A Development Of The Typell Axial Flow Pump For Left Ventricular Assistance
Tian Busheng, PhD, Heji Hospital Affiliated to Changzhi Medical College, China - Presentation Cancelled
- N/A Role Of Heart Transplantation In The Era Of Mechanical Circulatory Systems
Alberto Forni, MD, University Hospital, Italy - Presentation Cancelled
- 65 Pathology Of Ventricular Assist Devices
Staci Jessen, BS, Texas A&M University - ASAIOfyi Member
- 66 A Small, Thin, Novel, Maglev Ventricular Assist Device for Mild Heart Disease Patients
Michiko Murakami, MS, Ibaraki University, Japan
- 67 Full-Size Tridimensional Simulator Of The Human Chest For Continuous-Flow Total Heart Replacement Device Study
Danilo Galantini, MD, Dante Pazzanese Institute of Cardiology, Brazil
- 68 The Effects Of Continuous And Intermittent Reduced Speed Modes On Gastrointestinal Perfusion In An Ovine Model
Egemen Tuzan, MD, Texas A&M University
- 69 Ischemic Bowel In Patients With Mechanical Circulatory Support
Antone Tatoes, MD, Advocate Christ Medical Center, Oak Lawn, IL
- 70 Pathological Obsevation In The Goat Following Prolonged Venoarterial Bypass Using An Extracorporeal Membrane Oxygenation
Toshihide Mizuno, National Cerebral And cardiovascular Research Center Institute, Japan
- 71 Intra-Operative Coagulation-Based Hemotherapy Protocol Decreases Overall Blood Utilization With Left Ventricular Assist Device Implantation
Kerry Welsh, MD, University of Texas - HSC at Houston
- 72 Repair Of Left Ventricular Assist Device Driveline Damage Directly At The Transcutaneous Exit Site
Heinrich Schima, PhD, Medical University Vienna, Austria
- 73 Improved Design And Preliminary Evaluation Of A Miniaturized Centrifugal Blood Pump With Magnetic Suspension
Chen Chen, PhD, Soochow University, China
- 74 The Growing Process Of Stable Neointimal Tissue Around Titanium-Mesh Covered LVAD Inflow Cannula
Takuma Miyamoto, Tokyo Women's Medical University
- 75 A Proposal Of Flexible Control Algorithm For Artificial Heart Based On Stochastic Method
Kentaro Ohnuma, PhD, National Cerebral And Cardiovascular Center, Japan
- 76 Ventricular Work As A Function of MVAD® Pump Speed: A Comparison Between Healthy And Acute Heart Failure Models
Nathalie Nunez, MS, HeartWare Inc, Miami Lakes, FL - ASAIOfyi Member
- 77 SynCardia Total Artificial Heart Patient Supported More Than 700 Days In Turkey
Zumrut Tuba Demirozu, MD, SISLI Florence Nightingale Hospital, Turkey
- 78 Arterial Pressure Accommodation To Postural Changes In Calves Implanted With A Continuous Flow Total Artificial Heart
Steven Parnis, BS, Texas Heart Institute
- 79 Linearly Actuated Volume Displacement Pump For Ventricular Assist
Holley Love, PhD, University of Houston
- 80 Clinical Use Of Indigenously Prepared Decellularised Porcine Pulmonary Artery Xenografts
Sowmya Ramanan, MCh, Frontier Lifeline Hospital, India
- 81 Caval Collapse Modeling For Cardiopulmonary Bypass
Saad Abdel-Sayed, PhD, Research laboratory, Switzerland

BIOENGINEERING POSTER SESSION 2 - BIOENGINEERING TISSUE ENGINEERING OR BIOSCIENCES

8:00AM-5:00PM Imperial Ballroom - B2 Level

- N/A In-Situ Thermogelling Polypeptide For 3D Cell Culture
Byeongmoon Jeong, MD, Ewha Womans University, Seoul, South Korea - Presentation Cancelled
- 83 First Approximation To The Development Of 3D-Matrixes From SIS Membranes
Javier Navarro, MSc, Universidad de Los Andes, Colombia - ASAIOfyi Member
- 84 Development Of The Cell Transport Device In Autologous Culture Process
Norihiko Hata, PhD, Tokyo Denki University
- 85 Integrating Biomechanics, Hemodynamics And Mechanobiology To Predict Arterial Adaptation Induced By Continuous-Flow Left Ventricular Assist Devices
Phuc Nguyen, Texas A&M University
- 86 Development Of A Passive-Contracting Heart Platform For Device Testing, Research And Training
Alberto Leopaldi, MSc, Politecnico di Milano

GENERAL SESSION 3

8:00AM-9:15AM International Ballroom - 2nd Floor

Co-Chairs: Peter Wearden, MD, PhD, Assistant Professor of Surgery, University of Pittsburgh

Jonathan Haft, MD, Assoc Prof Cardiac Surgery / Director ECMO, University of Michigan

8:00AM-8:45AM

IFAO Session: World Innovation In Artificial Organs
Session Moderator: Takeshi Nakatani, MD, PhD, Dir Tx & Clinical Nutrition, Nat'l Cerebral & CV Center, Japan

JSAO - The Clinical Situation Of Circulatory Support In Japan

Shunei Kyo, MD, Vice President Cardiac Surgery, Tokyo Metropolitan Geriatric Hospital

ESAO - 2012 Congress Highlights

Bernd Stegmayr, MD, PhD, Professor Nephrology, Umea University

IFAO Update

Ryuji Tominaga, MD, PhD, Prof & Chairman CV Surgery, Kyushu University

8:45AM-9:15AM



KEYNOTE ADDRESS

Innovation, Medicine And Society:
Lessons Learned From The Frontlines With
A View To The Future

Marvin Slepian, MD, Professor of Medicine and
Biomedical Engineering, University of Arizona

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

9:15AM-10:00AM Imperial Ballroom - B2 Level

CARDIAC 8: IMPROVEMENTS IN DEVICE TECHNOLOGY AND THE FUTURE OF LVAD THERAPY

10:00AM-12:00PM International Ballroom - 2nd Floor

Co-Chairs: Aly El Banayosy, MD, Penn State Milton S Hershey Medical Center

Edwin McGee, MD, Northwestern Memorial Hospital

Thoratec: HeartMate III, Fully Implanted LVAD, And Percutaneous Heart Pump

David Farrar, PhD, Thoratec Corporation

Heartware

Jeffrey LaRose, MSME, HeartWare Inc

A Miniature, Less Invasive, Continuous Flow Pump For INTERMACS ≥ 4 Patients

Daniel Burkhoff, MD, PhD, CircuLite Inc

Total Artificial Heart

Francisco Arabia, MD, Cedars-Sinai Medical Center, Los Angeles

Transcutaneous Energy Transmission for Rotary Blood Pumps

William Weiss, PhD, Penn State College of Medicine

CARDIAC 9: ABSTRACT SESSION

10:00AM- 12:00PM Gold Room - 2nd Floor

Co-Chairs: Simon Maltais, MD, PhD, Vanderbilt University Medical Center

Mark Bonnell, MD, University of Toledo Medical Center

10:00AM-10:15AM

BiVACOR - Implantable Rotary Total Artificial Heart
Daniel Timms, PhD, BiVACOR Pty Ltd, Australia - ASAIOfyi Member - ASAI O Y Nose' International Fellowship Recipient

10:15AM-10:30AM

WorldHeart Levacor Clinical Experience

Trevor Snyder, PhD, Integris Baptist Medical Center, Oklahoma City - ASAIOfyi Member

10:30AM-10:45AM

Clinical Comparison Of The Centrimag[®] And The RotaFlow[®] Centrifugal Flow Devices

Annicka Carter, Intermountain Medical Center, Murray, UT - ASAIOfyi Member

10:45AM-11:00AM

We Came, We Cannulated, We Decided: ECMO To Implantable Mechanical Circulatory Support

Linda Bogar, MD, INOVA Health System, Falls Church, VA

11:00AM-11:15AM

The Primary Caregiver Model: A Novel Approach To The Care Of Patients On Extracorporeal Life Support

David Demos, MD, University of Michigan - ASAIOfyi Member

BIOENGINEERING 5: DEVICES FOR RARE DISEASES

10:00AM-12:00PM Rouge Room - Lobby

Co-Chairs: Eric Chen, MS, FDA - ASAIOfyi Member

Arielle Drummond, PhD, CircuLite Inc - ASAIOfyi Member

Overview Of Medical Device Regulations For Rare Diseases
Eric Chen, MS, FDA - ASAIOfyi Member

CircuLite's Circulatory Support System in Children and Infants

Arielle Drummond, PhD, CircuLite Inc, Saddle Brooke, NJ - ASAIOfyi Member

Orthopedic Devices For Rare Diseases

Robert Campbell Jr., MD, Children's Hospital of Philadelphia

Use of LVADs In Duchenne Muscular Dystrophy Patients
David Morales, MD, Cincinnati Children's Hospital Medical Center

Mechanical Support for Fontan Patients

Mark Rodefeld, MD, Indiana University School of Medicine

Removal Of Serum Free Light Chains In Acute Renal Failure Multiple Myeloma Patients

Colin Hutchison, PhD, Consultant Nephrologist, New Zealand

PULMONARY 5: ECMO / LUNG ASSIST: CLINIC AND EXPERIMENTAL

10:00AM-12:00PM *State Room - 2nd Floor*

*Co-Chairs: Matthew Bacchetta, MD,
Columbia University Medical Center*

William Federspiel, PhD, University of Pittsburgh

**Low Blood Flow ECMO For Treatment Of Hypercapnic
Respiratory Failure: A Contemporary Case Study**
*Matthew Bacchetta, MD, Columbia University Medical
Center*

**Low Blood Flow ECMO For Treatment Of Hypercapnic
Respiratory Failure: Why Pulmonologists Resist**
*Enrique Diaz-Guzman, MD, University of Alabama,
Birmingham*

DISCUSSION

ABSTRACTS

11:15AM-11:30AM

**Practical Operating Method Of Venovenous
Extracorporeal Membrane Oxygenation Aiming For
Effective Oxygenation**
*Konomi Togo, National Cerebral and Cardiovascular
Center, Japan*

11:30AM-11:45AM

**The Use Of gmp-Produced MultiStem® Cells In
Combination Of Extra Corporeal Membrane
Oxygenation In ARDS**
Ergin Kocyildirim, MD, University of Pittsburgh

11:45AM-12:00PM

**Oxygenator and Heat Exchanger Modules For A
Modular Cardiopulmonary Support System**
Georg Wagner, Dipl.-Ing, University Hospital RWTH Aachen

RENAL 5: ABSTRACT SESSION

10:00AM-12:00PM *Regent Room - 3rd Floor*

*Co-Chairs: Balazs Szamosfalvi, MD,
Henry Ford Hospital, Detroit*

Howard Loree, PhD, Flow Forward Medical, LLC, Lowell, MA

10:00AM-10:15AM

**ECS-Assisted Donation After Cardiac Death In A Non-
Anticoagulated Porcine Model After 60 Minutes Of
Warm Ischemia**
*David Demos, MD, University of Michigan - ASAIOfyi
Member*

10:15AM-10:30AM

**A Strategy For Eliminating Passenger Leukocytes In
Human Allografts**
Lauren Brasile, PhD, BREONICS, Inc, Albany, NY

10:30AM-10:45AM

**Rotary Blood Pump Promotes Rapid Dilation Of Porcine
Peripheral Vein**
*Nicholas Franano, MD, Novita Therapeutics, LLC,
Olathe, KS*

10:45AM-11:00AM

**Mathematical Model Of The Different On-Line
HDF Therapies**
Giustina Casagrande, PhD, Politecnico di Milano

11:00AM-11:15AM

**Microfluidic Devices For Mechanotransduction Studies
In Polarized Kidney Epithelial Cells**
*Nicholas Ferrell, PhD Vanderbilt University - ASAIOfyi
Member - ASAIO Willem J Kolff / Don B Olsen Award Winner*

11:15AM-11:30AM

**Preliminary Assessment Of Silicon Nanopore
Membranes For Hemodialysis**
*Steven Kim, MD, University of California San Francisco -
ASAIOfyi Member - ASAIOfyi Fellowship Recipient*

CORRECTED TIMES FOR PEDIATRIC 2: ABSTRACT SESSION

1:00PM-3:00PM *Gold Room - 2nd Floor*

*Co-Chairs: Peter Wearden, MD, PhD, University of
Pittsburgh*

Robert Kroschwitz, Berlin Heart Inc

1:00PM-1:15PM

**Discharging Home An 8 Years Old Child on Intra-
Corporeal LVAD As Bridge To Decision**
*Martin Schweiger, MD, University Children's Hospital,
Switzerland*

1:15PM-1:30PM

**A Novel Pediatric Biventricular Assist Device: Test Bench
Results**
Stephanie Perrodin, CHUV, Switzerland

1:30PM-1:45PM

**Numerical Study Of Pediatric Left Ventricular Assist
Device With Different Impeller Designs**
*Paweena Diloksumpan, DVM, Mahidol University,
Thailand*

1:45PM-2:00PM

**A Practical Double Lumen Cannula Based
Cavopulmonary Assist Device Reverses Failing
Fontan Circulation**
*Dongfang Wang, MD, PhD, University of Kentucky College
of Medicine*

2:00PM-2:15PM

Durability Testing Of The Penn State Pediatric VAD
Branka Lukic, MS, Penn State University

2:15PM-2:30PM

**Comparison Of Two Impellers for the Jarvik Infant
Pump: A Computational Fluid Dynamic (CFD) Study**
*Jiafeng Zhang, PhD, University Of Maryland School Of
Medicine*

2:30PM-2:45PM

**Modified TandemHeart Ventricular Assist Device For
Pediatric Circulatory Support**
*Hyde Russell, MD, Ann & Robert H. Lurie Children's Hospital
of Chicago*

2:45PM-3:00PM

**Simulation-Based Training For Ventricular Assist Device
Emergency Education In A Pediatric Institution**
Aimee Gardner, BS, CCP, Cincinnati Children's Hospital

LUNCH BREAK

12:00PM-1:00PM

CARDIAC 10: DEBATES ON CONTROVERSIAL TOPICS RELATING TO THE MANAGEMENT OF ADVANCED HEART FAILURE

1:00PM-3:00PM International Ballroom - 2nd Floor

Co-Chairs: Michael Givertz, MD,
Brigham And Woman's Hospital

Nicholas Smedira, MD, Cleveland Clinic

Should LVADS Be Implanted In The Elderly?

Pro: Walter Dembitsky, MD, Sharp Memorial Hospital,
San Diego

Con: Mike Kiernan, MD, Tufts Medical Center, Boston, MA

Should / Will LVADs Render Heart Transplant A Treatment Of The Past?

Pro: Andrew Boyle, MD, Cleveland Clinic, Florida

Con: David Lanfear, MD, Henry Ford Hospital, Detroit, MI

Should We Implant LVADs in NYHA Class III Patients?

Pro: Keith Aaronson, MD, University of Michigan

Con: Mario Deng, MD, UCLA Medical Center

Which Should Be Used Preferentially As A BTT - LVADs or Milrinone?

LVADs: Michael Bowdish, MD, University of
Southern California

Milrinone: Hassan Nemeah, MD, Henry Ford Hospital,
Detroit, MI

BIOENGINEERING 6: CARDIOVASCULAR BIOENGINEERING ABSTRACTS

1:00PM-3:00PM Rouge Room - Lobby

Co-Chairs: Zhongjun Wu, PhD, University of Maryland
School of Medicine

Amanda Daly, BS, University of Pittsburgh - ASAIOfyi
Member

1:00PM-1:15PM

Effects Of Autologous Stem Cell Transplantation On Cell
Proliferation And Apoptosis In Chronic Non-Ischemic
Heart Failure

Jens Garbade, MD, PhD, University Leipzig, Germany

1:15PM-1:30PM

Hemoglobin (Hb) Pharmacologically Cross-Linked
With ATP, Adenosine And Reduced Glutathione (GSH)
Designed To Treat Anemia And Ischemic Diseases

Jan Simoni, DVM, PhD, Texas Tech University Health
Sciences Center

1:30PM-1:45PM

Hydrodynamic Changes Induced By Transfusion Of
Stored Blood

Pedro Cabrales, PhD, University of California San Diego -
ASAIOfyi Member

1:45PM-2:00PM

On The Mechanisms Of Thrombosis In Assisted Blood
Circulation: Trafficking Of Red Blood Cells And Platelets
In Microfluidic Systems

Amanda Daly, University Of Pittsburgh - ASAIOfyi Member

2:00PM-2:15PM

Characterization Of Blood Clot Formation In A
Backwards-Facing Step Model

Kory Witmer, The Pennsylvania State University

2:15PM-2:30PM

Characterizing Left Ventricular Assist Device Parameters
for Early Thrombus Detection

Sean McCandless, BS, Intermountain Medical Center,
Murray, UT - ASAIOfyi Member

2:30PM-2:45PM

Association Between Left Ventricular Assist Device
(LVAD) Drive-Line Exit Site Healing And Post-Implant
Hematocrit Levels

Annicka Carter, Intermountain Medical Center, Murray, UT
- ASAIOfyi Member

2:45PM-3:00PM

Comparative Biocompatibility Assessment Of Coatings
Applied On Hollow Fiber Membranes Of Blood
Oxygenators

Narayana Garimella, PhD, University of Maryland
Baltimore - ASAIOfyi Member

PULMONARY 6: ABSTRACT SESSION

1:00PM-2:30PM State Room - 2nd Floor

Co-Chairs: Charles Hoopes, MD, University of Kentucky

Dongfang Wang, MD, PhD, University of Kentucky

1:00PM-1:15PM

Patients With Extra Corporeal Lung Assist As Bridge To
Lung Transplantation Versus Patients without - A Single
Center Experience

Sven Lehmann, MD, PhD, Heartcenter Leipzig, Germany

1:15PM-1:30PM

Comparison Of The Fluidynamics Induced In The
Bronchial Bifurcation By Different Prototypes For Total
Liquid Ventilation

Paola Bagnoli, PhD, Politecnico di Milano - ASAIOfyi
Member

1:30PM-1:45PM

Novel Small-Animal Ex-Vivo Lung Perfusion
As A Platform For Organ Modification In Lung
Transplantation

Tyler Spata, MD, The Ohio State University Medical Center

1:45PM-2:00PM

Biomarkers of Lung Injury After Initiation Extracorporeal
CO₂ Removal In Acute Exacerbation Of COPD

Gopal Singh, MD, Columbia University Medical Center

2:00PM-2:15PM

Development Of A Liquid-Liquid Oxygenator With
Micro-Drops Of Blood

Norihiro Miyagi, BS, Tokyo Denki University

2:15PM-2:30PM

Development Of An Intravascular Membrane
Oxygenator With Small Axial Pump

Tatsuya Aoki, BS, Tokyo Denki University

CARDIAC POSTER SESSION 3

8:00AM-12:00PM Imperial Ballroom - B2 Level

POSTER BOARD#

- 87 Radial Access For Percutaneous Coronary Interventions (PCI) Leads To A Reduced Collagen-Induced Platelet Aggregability Compared To Femoral Access
Alejandro Velasco, MD, Texas Tech University Health Sciences Center - ASAIOfyi Member
- 88 A New Axial Flow Pump Install The Base Of Ascending Aorta: Initial Report Of Development Of The Valvo Pump II
Eiji Okamoto, PhD, Tokai University, Japan
- 89 Effect Of Valve Housing Oscillation On Hinge Point Stagnation In Artificial Heart Valves
Shawn Robinson, MD, Drexel University College of Medicine, Philadelphia, PA - ASAIOfyi Member
- 90 Treatment Of LVAD Induced RV Failure In A Hypoxemic Model Of Pulmonary Hypertension With Ultrapure NO
Mark Lovich, MD, PhD, Steward St. Elizabeth's Medical Center, Brighton, MA
- 91 Troidal Convolution Blood Pump For ECLS System
Takashi Isoyama, PhD, The University of Tokyo
- 92 Evaluation of Platelet Aggregation In Patients Supported By Centrifugal Continuous Flow Left Ventricular Assist Device
Kenji Suzuki, MD, The Heart Institute, Tokyo Women's Medical University
- 93 Challenges In Establishing New Center For Advanced Treatment Of End-Stage Heart Failure
Rodney Thomas, M. Ed., Memorial Hermann Hospital, Houston, TX
- 94 Circadian Rhythm Is One Of The Factors Influencing Thrombus Formation In An Extra-Corporeal Left Ventricular Assist Device
Hiroki Tatsukawa, Graduate School of Medical Science, Saga University, Japan - ASAIOfyi Member
- 95 Heart Assist 5 Left Ventricular Assist Device Experience In Turkey
Zumrut Tuba Demirozu, MD, SISLI Florence Nightingale Hospital, Turkey
- 96 The Development Of A Miniaturised Myocardial Analysis System As A Novel Experimental Technique For Heart Tissue Research
Imran Riaz, BSc, MBChB, Castel Hill, Hospital, United Kingdom
- 97 Higher Expression Of AgNOR And NOR Associated Proteins In Blood Leukocytes Of Heart Failure Patients Supported By Continuous Flow Left Ventricular Assist Devices (LVADs)
Zhongjun Wu, PhD, University of Maryland School of Medicine
- 98 Venous-Venous Extracorporeal Membrane Oxygenation Support After Total Artificial Heart Implantation
Sean McCandless, BS, Intermountain Medical Center, Salt Lake City, Utah - ASAIOfyi Member
- 99 Long-Term Outcomes In Patients With Advanced Heart Failure Living Alone While Supported With Left Ventricular Assist Devices
Pamela Combs, PhD, Jewish Hospital, New Albany, IN
- 100 "In Vivo" Test Acquiring Electrocardiogram Signal For Rotational Speed Control Of An Implantable Centrifugal Blood Pump
Tarcisio Leao, MSc, IFSP - Federal Institute of Technology in Sao Paulo
- 101 Left Ventricular Assist Device Implantation Or Heart Transplantation In Ischemic Heart Failure After Previous Coronary Artery Bypass Graft And Mitral Valve Surgery Is Still A Challenge
Jens Garbade, MD, PhD, University Leipzig, Germany
- 102 Hydrogen Gas Suppresses Systemic Inflammatory Response During Cardiopulmonary Bypass In A Rat Model
Yutaka Fujii, National Cerebral and Cardiovascular Center Research Institute, Japan - ASAIOfyi Member
- 103 Late Cause Of Right Heart Failure In A LVAD Patient: Aortic Root Thrombus
Serkan Ertugay, MD, Ege University Medical Faculty Hospital, Turkey
- 104 Effective Perioperative Bilirubin Plasma-Adsorption In A Total Artificial Heart Recipient: Report Of The First Clinical Application
Marianna Buonocore, MD, Second University Of Naples
- 105 Finite Element Investigation Of Novel Designed Three-Dimensional Bicuspid Valve For Right Ventricular Outflow Tract Reconstruction
Guangya Zhu, KK Women's and Children's Hospital, Singapore
- 106 Prolonged Ex-Situ Heart Perfusion In Swine
Benjamin Bryner, MD, University of Michigan - ASAIOfyi Member
- 107 The Patient-Specific Cardiac Support Device For Dilated Heart Failure Patients
Toshiaki Akita, MD, PhD, Kanazawa Medical University, Japan
- 108 An Ex-Vivo Perfusion Model For Validation Of NIRS Oxygen Saturation In Extracorporeal Systems And Correlated To Clinical Methods- Eliminating The Guess Work
Jeffrey Sites, Wake Forest University Health Sciences
- 109 Association Of Central ECMO And Impella In The Same Patient: The Right Way To Myocardial Recovery?
Cristiano Amarelli, MD, Monaldi Hospital, Italy
- 110 Hybrid Cardiovascular Simulator Validation Tests
Aron Andrade, PhD, Deng, Institute Dante Pazzanese of Cardiology, Brazil
- 111 Investigation Of Hemodynamics In The Assisted Isolated Porcine Heart
Heinrich Schima, PhD, Medical University of Vienna
- 112 Application of Extracorporeal Membrane Oxygenation during SynCardia Total Artificial Heart Implantation
Zumrut Tuba Demirozu, MD, ISLI Florence Nightingale Hospital, Turkey

BIOENGINEERING POSTER SESSION 3 - BIOENGINEERING ENGINEERING / MODELING

8:00AM-12:00PM Imperial Ballroom - B2 Level

- 113 Fluid Parameters Affecting Changes In Shunt Murmurs Arising From Differences In Degree Of Stenosis
Shinobu Yamauchi, PhD, Toin University of Yokohama
- 114 Particle Image Velocimetry Visualization And Analysis Of Flow At The Tip Of Hemodialysis Needles
Keiichi Yorizumi, M. Eng, Toin University of Yokohama
- 115 Transcutaneous Energy Transfer System Using A Magnetically Coupled Motor-Generator Set
Coley Duncan, MD, Rochester General Hospital
- 116 Implantable Centrifugal Blood Pump: Preliminary Acute "In Vivo" Experiments
Beatriz Uebelhart, Institute Dante Pazzanese of Cardiology, Brazil
- 117 "In Vitro" Shear Rate Measurements On The Surface Of A Rotating Disc For Varying Non-Newtonian Blood Analogs
Alexander Smith, BS, The Pennsylvania State University
- 118 Fluid Dynamic Study Of A Compliant Model For An Inferior Vena Cava Filter
Evan Fox, MS, The Pennsylvania State University
- 119 Development Of A Magnetic Bead Microrheometry System To Study Thrombus Rheology
Andrew Rogers, The Pennsylvania State University
- 120 Aortic Valve Opening Dynamics In cf-LVAD Support
Mercel Rutten, PhD, Technische Universiteit Eindhoven, Netherlands
- 121 Proposal Of A Method For Noninvasive, Ongoing Monitoring Of Thrombus Formation Inside PCPS Circuits
Hideo Sakamoto, M. Eng, Toin University of Yokohama
- 122 Analysis Of High Shear Induced Thrombus Formation Process On Pipe Orifice Flow By Laser Sheet Visualization Method
Masaaki Tamagawa, Dr. Eng, Kyushu Institute of Technology, Japan
- 123 In Vitro Investigation Comparing Different Impeller Angles Of A New Model Of Centrifugal Blood Pump To Be Used As Temporary Ventricle Assist Device (TVAD)
Aron Andrade, PhD, Deng, Institute Dante Pazzanese of Cardiology, Brazil
- 124 Development Of A Heart Valve Bioreactor To Conduct "In Vitro" Fluid Dynamic Studies
Kathryn Schmiech, BS, The Pennsylvania State University

RENAL POSTER SESSION

8:00AM-12:00PM Imperial Ballroom - B2 Level

- 125 Polymyxin B-Hemoperfusion And Endotoxin Activity Assay In Kidney Transplants
Vincenzo Morabito, MD, Sapienza University Of Rome
- 126 Investigations on The Nephrotoxic Potential Of Dialysate Taken From High Cut-Off Hemodialysis Treatments In Patients With Light Chain Induced Myeloma Kidney
Bernd Krause, Dipl. -Ing, Gambro Dialysatoren GmbH
- 127 Classifying The Membranes For Blood Purification By A Simple And Well-Known Method
Bernd Krause, Dipl. -Ing, Gambro Dialysatoren GmbH
- 128 Estimation Of Equivalent Continuous Clearance For Hemodialysis Patients From Midweek And Weekly Measurements
Jacek Waniewski, Institute Of Biocybernetics And Biomedical Engineering, Poland
- 129 Assessment Of Phosphate Removal By Equivalent Continuous Clearance In Patients On Hemodialysis
Jacek Waniewski, Institute Of Biocybernetics And Biomedical Engineering, Poland
- 130 Sequential Peritoneal Equilibration Test: Repeated Assessment Of Patients On Continuous Ambulatory Peritoneal Dialysis
Jacek Waniewski, Institute Of Biocybernetics And Biomedical Engineering, Poland
- N/A Impact Of Sterilization On Polymer Membranes And Platelet Interaction
Michael Hulko, PhD, Gambro Dialysatoren GmbH, Germany - Presentation Cancelled
- 132 How To Calculate KT/V In Dialysis Patients Who Are Not On Routine 3 Times/Week Dialysis Regimen?
Tugce Goksel, MSc, Institute For Applied Nephrology, Aachen, Germany
- 133 Measurement Of Intra-Peritoneal Volume During Continuous Flow Peritoneal Dialysis (CFPD)
David Carr, MS, HemoCleanse, Inc, Lafayette, IN
- 134 Dialyzer Reprocessing With A Two-Phase Cleaning System - Initial Assessment In Dialysis Clinics
Mohamed Labib, PhD, Novaflux Technologies, Princeton, NJ
- 135 Membrane vs. Centrifuge Based Therapeutic Plasma Exchange - A Randomized Prospective Cross-Over Study
Jan Kielstein, MD, PhD, Medical School Hannover

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- Clinical trial design and regulatory strategy
- Business strategy, business plans and equity financing

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We thank our clients and look forward to future collaborations in the development of innovative medical devices.

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Active and well - Year ... after Year...
after Year... after Year... after Year...
after Year...after Year.....

Our best wishes to Pascal Dugue
Infection free for 7½ years
and looking forward to many more

Jarvik Heart
It simply works

