



ASAIO 57th Annual Conference

Washington, DC | June 10-12, 2011

ARTIFICIAL ORGANS - PATHWAYS FROM CONCEPT TO PATIENT



PROGRAM



Art, age 75
HeartMate II® recipient
Baseline: NYHA Class IV
24 Months post-implant: NYHA Class I

*"I can breathe; I can walk; I can do almost anything now.
I can play with my grandkids."*

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Today, Thoratec offers the broadest range of mechanical circulatory support options available and has the experience and commitment required to support these proven therapies.



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Save. Support. Restore.™

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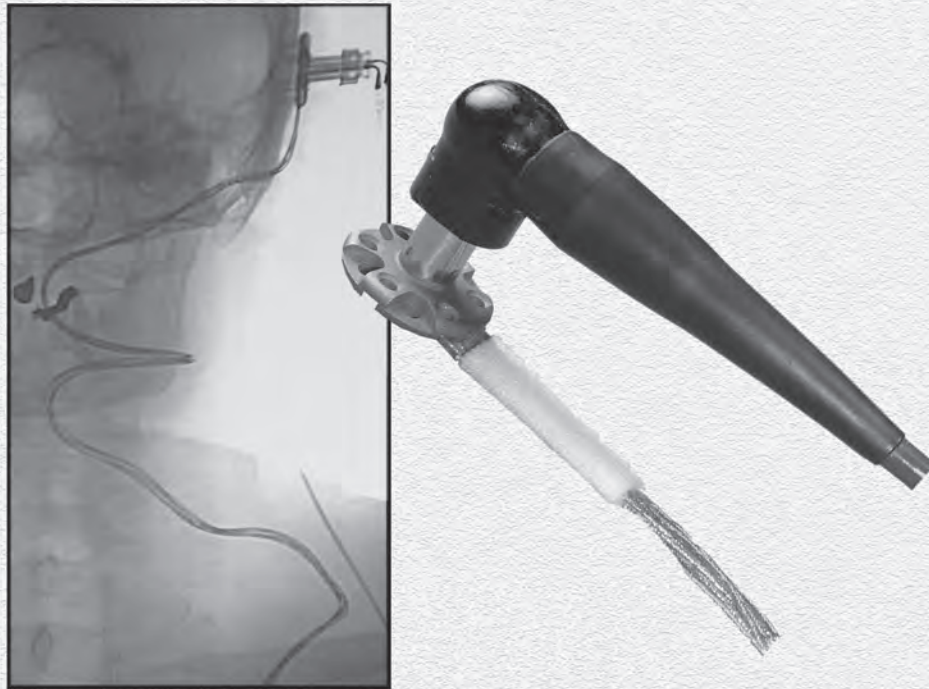
ASAIO 58th Annual Conference

In San Francisco, California

June 14 – 16, 2012

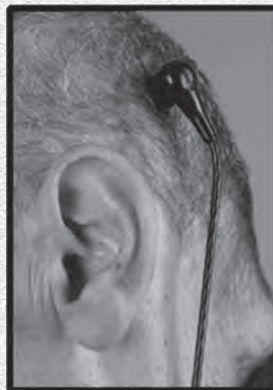


The Jarvik 2000[®] Postauricular Connector Improves Quality of Life and Simplifies Long Term Care



- Zero implanted cable failures in 160 patient years of support
- Zero pump replacements for connector infection
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- 97% free of serious cable infection
- No exit site dressing is needed
- Patients shower normally

It simply works



One Month



Six Months

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ASAIO WEBSITE WWW.ASAIO.COM

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ASAIO 58th Annual Conference San Francisco, California

June 14 – 16, 2012

ASAIO MISSION STATEMENT

TO ADVANCE THE RESEARCH, DEVELOPMENT AND
MEDICAL APPLICATION OF BIONIC TECHNOLOGIES

ASAIO EDUCATIONAL GRANT SPONSORS

PLATINUM LEVEL

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ASAIO JOURNAL MANUSCRIPTS

The ASAIO Journal Publisher, Wolters Kluwer Health -
Lippincott Williams will be in Exhibit Booth #107.

Manuscripts are to be submitted online to

www.editorialmanager.com/asaio

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Andre Kaplan, MD

Joshua Taylor, BS – The Pennsylvania State University

“Laser Doppler Velocimetry Study of the Flow Through the PSU-ABI Tesla Pump”

Salim Olia, BS – University of Pittsburgh

“The Effect of Inlet Pressure on Gas Embolism & Hemolysis in Continuous-Flow Blood Pumps”

Samuel Hund, PhD – Carnegie Mellon University

“Reduced Order Modeling for Rapid Simulation Without Significant Loss of Fidelity”

**SPONSORED BY THE PAUL S MALCHESKY
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ASAIO Y NOSÉ INTERNATIONAL FELLOWSHIP

Daniele Camboni, MD - Univ Med Cntr of Regensburg

“Veno-venous Extracorporeal Membrane Oxygenation (VV-ECMO) by Single Vessel Access in Adults”

SPONSORED BY THE Y NOSE FELLOWSHIP FUND

ASAIO WILLEM J KOLFF / DON B OLSEN AWARD

Pramod Bonde, MD – University of Pittsburgh

“Innovative Free-Range Resonant Electrical Energy Delivery System (Free-D System) for a Ventricular Assist Device Using Wireless Power”

SPONSORED BY THE MEDFORTE FOUNDATION

FELLOWSHIPS & AWARDS

ASAIOFYI – FOR YOUNG INNOVATORS FELLOWSHIP FINALISTS

Brian Gray, MD – University of Michigan

“Development of An Artificial Placenta: 24 Hour Veno-Venous Extracorporeal Life Support in Premature Lambs”

Renee Merchel – Intermountain Medical Center

“Novel Driveline Exit Site Dressing Technique for Left Ventricular Assist Devices Improves Infection”

Richard Jeffries, BS – University of Pittsburgh

“Rotating Impeller Spacing Effects in Hollow Fiber Membrane (HFM) Respiratory Assist Devices”

ASAIO FELLOWSHIPS

Michael Navitsky, BS – The Pennsylvania State University

“A Particle Image Velocimetry Study of the Penn State 50cc VAD during Varying Beat Rates”

Akihide Umeki, MS – Natl Cerebral and CV Ctr Research Inst

“The Change of Coronary Flow by Controlling the Power of Continuous-Flow Left Ventricular Assist Device in Acute Heart Failure: Counterpulse Drive Mode Can Increase the Coronary Flow”

Giovanni Biglino, PhD – UCL Inst of CV Sciences

“A Patient-Specific Paediatric Mock Circulatory System: Investigating the Circulation Following the Norwood Operation”

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ACCREDITATION CME / CNE / CCP

17.25 AMA PRA CATEGORY 1 CREDITS™

Sign In Daily At The Registration Counters & Complete Evaluation Forms For Every Session You Attend. Please present photo ID

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**.

The University of Massachusetts Medical School designates this educational activity for a maximum of **17.25** AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

FRIDAY, JUNE 10.....4.5 CONTACT HOURS
SATURDAY, JUNE 11.....10.25 CONTACT HOURS
SUNDAY, JUNE 12.....2.5 CONTACT HOURS

20.7 CREDIT HOURS CEU'S

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Nurses will be eligible for **20.7** CEU continuing education hours from the University of Massachusetts Medical School.

FRIDAY, JUNE 10..... 5.4 CONTACT HOURS
SATURDAY, JUNE 11..... 12.3 CONTACT HOURS
SUNDAY, JUNE 12..... 3.0 CONTACT HOURS

CCP 18.0 CATEGORY 1 CEU'S

Sign In Daily At The Registration Counters & Complete Evaluation Forms For Every Session You Attend.

The American Board of Cardiovascular Perfusion will allot the following Category 1 CEU's to those **Perfusionists** who attend the ASAIO 57th Annual Conference as follows:

FRIDAY, JUNE 10..... 6.6 CONTACT HOURS
SATURDAY, JUNE 11..... 7.2 CONTACT HOURS
SUNDAY, JUNE 12..... 4.2 CONTACT HOURS

EXHIBIT BOOTH NUMBERS & PRODUCT DESCRIPTIONS



BERLIN HEART INC

BOOTH 111

HOUSTON, TEXAS

Berlin Heart, the only company worldwide that manufactures and distributes implantable (INCOR®) and paracorporeal (EXCOR®) VAD's for patients of every age and size with cardiovascular disease. EXCOR® Pediatric is approved for clinical investigation in the US.

DUALIS SPACE FOR MEDICAL INNOVATION

DUALIS MEDTECH GMBH

BOOTH 113

WESSLING, GERMANY

Wireless Energy Supply for Full Freedom of Movement Round-The-Clock.

The innovative power transmission system, MedBase® allows a wireless transfer of data and energy to implants. With this, there is no more wiring necessary through the abdominal wall. The patient can move freely.

The company DUALIS MedTech, in collaboration with DLR – German Space Agency, develops currently an innovative energy and telemetry system for implantable ventricular assist systems, which fulfills the highest requirements in terms of dependability, safety and performance. With this innovative system, DUALIS offers a technology that has the potential to set new standards in the medical field.

EXHIBIT PRODUCT DESCRIPTIONS *CONTINUED*



HEARTWARE INC

BOOTH 112

FRAMINGHAM, MASSACHUSETTS

HeartWare, Inc. is developing a family of implantable mechanical circulatory support systems for the treatment of advanced heart failure. Through a cadence of progressively smaller devices implanted using less invasive techniques, HeartWare expects to treat an increasing proportion of heart failure patients and to access them at an earlier stage of their disease progression. HeartWare's lead device, the HeartWare® Ventricular Assist System, incorporates state-of-the-art peripherals and features the only full-output pump designed to be implanted less invasively in the pericardial space. The HeartWare® System has CE-Mark approval and is currently the subject of a 150-patient US IDE clinical trial.



INTERNATIONAL CENTER FOR ARTIFICIAL ORGANS AND TRANSPLANTATION

BOOTH 106

PAINESVILLE, OHIO

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.



JARVIK HEART INC

BOOTH 105

NEW YORK, NEW YORK

Jarvik Heart, Inc is a privately held, New York based company that develops and manufactures miniaturized heart assist devices for the treatment of severe heart failure. The Jarvik 2000 is a battery-powered axial-flow left ventricular assist device (LVAD). It is the smallest implantable blood pump available for the long-term treatment of Heart Failure.



LEVITRONIX

BOOTH 108

WALTHAM, MASSACHUSETTS

Levitronix designed, developed, and produces the CentriMag, PediMag and PediVAS circulatory support devices. In the United States, the CentriMag pump is approved for up to 30 days of use for patients requiring right ventricular support, and is undergoing clinical trials to treat patients in cardiogenic shock as a bridge to decision. The PediVAS is optimized to provide circulatory support for neonatal and pediatric patients, and is currently only available outside the United States. The PediMag pump is available in the United States for use in a cardiopulmonary circuit for up to 6 hours. CentriMag and PediVAS systems are both CE Mark approved for use for up to 30 days for use as a VAD or for ECMO.



MINNTECH CORPORATION

BOOTH 103

MINNEAPOLIS, MINNESOTA

Minntech Corp, a Cantel Medical Corp company, was founded in 1974 in Minneapolis. Minntech Corp is a leader in developing, manufacturing, and marketing medical devices, electronics, and sterilants. The Therapeutics Technologies Group is responsible for medical applications used for hemofiltration, hemoconcentration, immunomodulator removal, encapsulated cell technology, biopharmaceutical research, and bioartificial organs.



MITIHEART CORPORATION

BOOTH 102

ALBANY, NEW YORK

Mohawk Innovative Technology, Inc (MiTi) is an advanced R & D company specializing in oil-free, high speed, rotating machinery, such as gas turbine engines, turbochargers, compressors, cryogenic pumps and blood pumps. MiTiHeart Corporation, a MiTi subsidiary, has been established to further develop and market the magnetically suspended centrifugal blood pump, the MiTiHeart® LVAD. The MiTiHeart® LVAD is an implantable pump, designed for destination therapy, with extremely low hemolysis and power consumption attributed to its hybrid passive/active magnetic bearing system, which features single axis control. The pump's efficiency also translates to a minimal temperature rise that helps reduce the risk of blood damage.

EXHIBIT PRODUCT DESCRIPTIONS *CONTINUED*



PRECLINICAL SURGICAL SERVICES

BOOTH 109

WINSTON SALEM, NORTH CAROLINA

As a full-service Contract Research Organization; Preclinical Surgical Services focuses on Proof-of-principle, method development, and efficacy testing in the preclinical medical technology research arena. We provide pre-surgical bench analysis, ex-vivo modeling, dynamic imaging and surgical model development in all specialties. Our staff expertise in the medical arena spans development to clinical practice; this enables us to launch your products from basic concept to clinical use. To ensure the quality of your research, PSS utilizes state-of-the-art surgical and animal housing facilities and a highly experienced research team trained to GLP Regulations. From concept to clinical applications, PSS is your innovation partner.



PVA TEPLA AMERICA

BOOTH 104

CORONA, CALIFORNIA

PVA TePla specializes in advanced RF, Microwave and Atmospheric Plasma Processing systems for surface modification of implantable medical devices. Applications include organic residue removal, decontamination low temperature sterilization, quartz or PTFE coatings or surface activation prior to adhesive bonding. Alternately plasma can be used to tailor surface chemistries with specific functional groups (carboxyl, amine, epoxy, hydroxyl etc) to act as a defined bio-molecule tie layer. The plasma applied functional group chemistries allow higher concentration, better adhesion and cohesion of bimolecular such as enzymes, peptides, nucleic acids, heparin, and lubricous coatings. In our lab in Corona CA we offer a free proof of process, contract and R+D. We manufacture a range of R+D, custom and production RF, Microwave and Atmospheric plasma equipment.



SYNCARDIA SYSTEMS INC

BOOTH 110

TUCSON, ARIZONA

The SynCardia temporary Total Artificial Heart (TAH-t) is the world's only FDA, Health Canada and CE approved Total Artificial Heart. Originally used as a permanent replacement heart, the TAH-t is currently approved as a bridge to transplant for patients dying from end-stage biventricular failure. The 13.5 lb Freedom® portable driver has received CE approval in Europe and is undergoing an IDE clinical study in the U.S. The Freedom driver is designed to provide mobility for stable TAH-t patients both inside and outside the hospital. Visit our booth for updates on the clinical study and more.



THORATEC CORPORATION

THORATEC CORPORATION

BOOTH 100

PLEASANTON, CALIFORNIA

Thoratec Corporation is a world leader in therapies to address advanced-stage heart failure. The company's products include the HeartMate® LVAS and Thoratec® VAD (Ventricular Assist Device) with more than 15,000 devices implanted in patients suffering from heart failure. For more information, visit the company's web site at <http://www.thoratec.com>.



TRANSONIC SYSTEMS INC

BOOTH 101

ITHACA, NEW YORK

Transonic Systems' flowmeters and sensors are the recognized gold standard volume flow measurement apparatus for liquids in clinical and laboratory settings. Transonic Flowmeters are used worldwide in Cardiovascular Surgery, Vascular Access Angioplasty, Neurosurgery, Intensive and Critical Care, Product Testing, Laboratory Research, Hemodialysis Monitoring and as OEM components in VAD, CPB and numerous other controlled Flow Systems.

Featured in our booth will be Transonic laboratory research products – acute intra-operative, chronically implantable, extracorporeal, as well as telemetry systems plus the Transonic Inside OEM products and development capabilities.



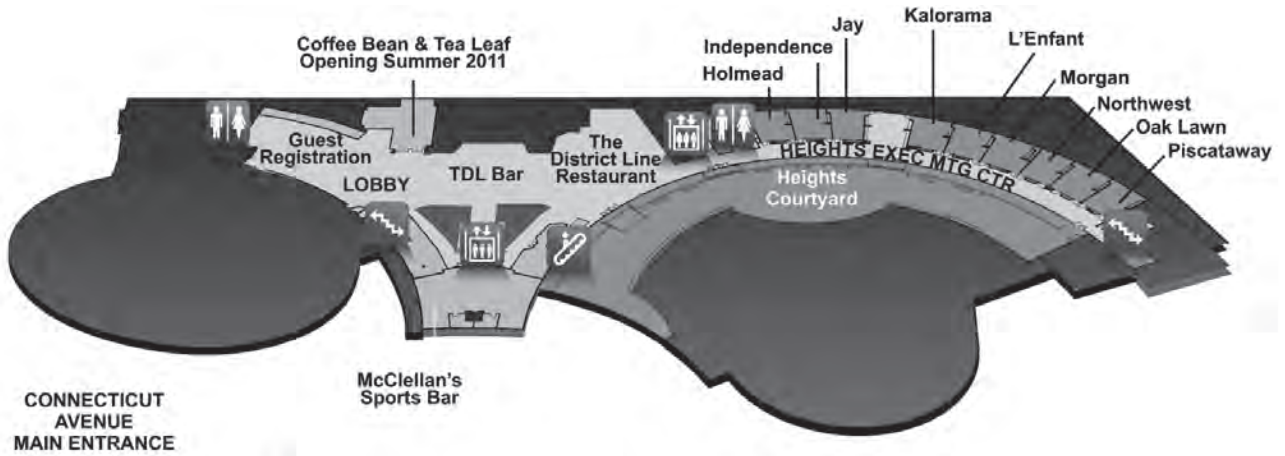
WOLTERS KLUWER HEALTH – LIPPINCOTT WILLIAMS & WILKINS

BOOTH 107

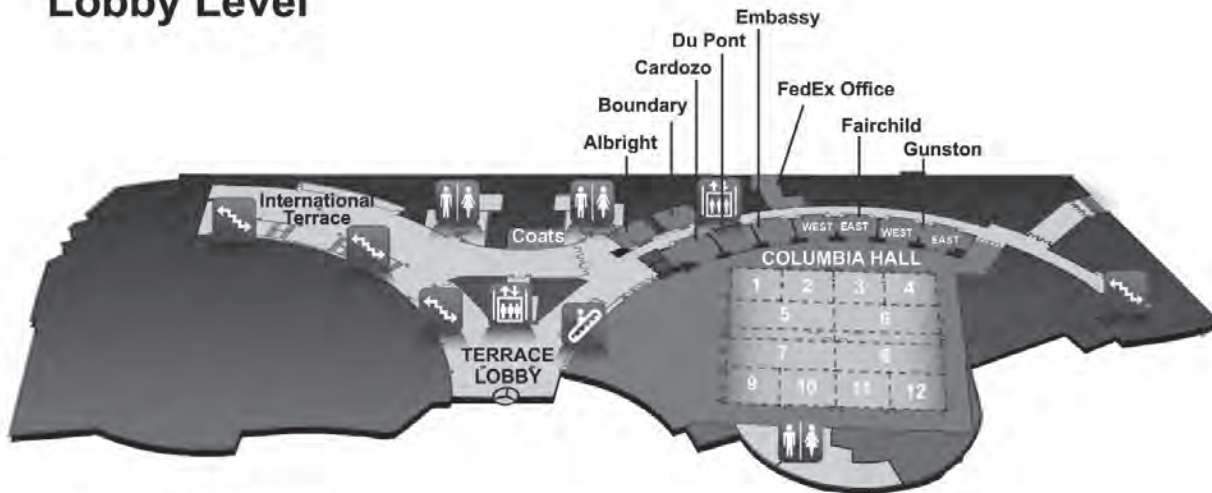
PHILADELPHIA, PENNSYLVANIA

Lippincott Williams & Wilkins, a Wolters Kluwer Health company is a leading international publisher of medical books, journals, and electronic media. We proudly offer specialized publications and software for physicians, nurses, students and clinicians. Please visit our booth to browse our comprehensive product line.

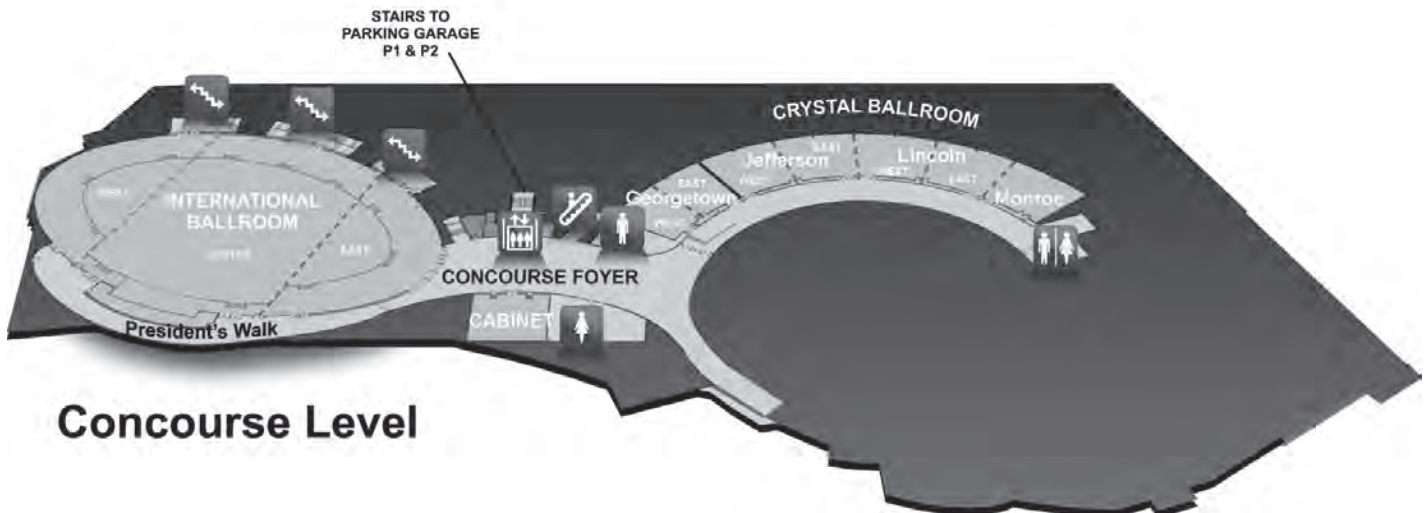
THE WASHINGTON HILTON FLOOR PLAN



Lobby Level

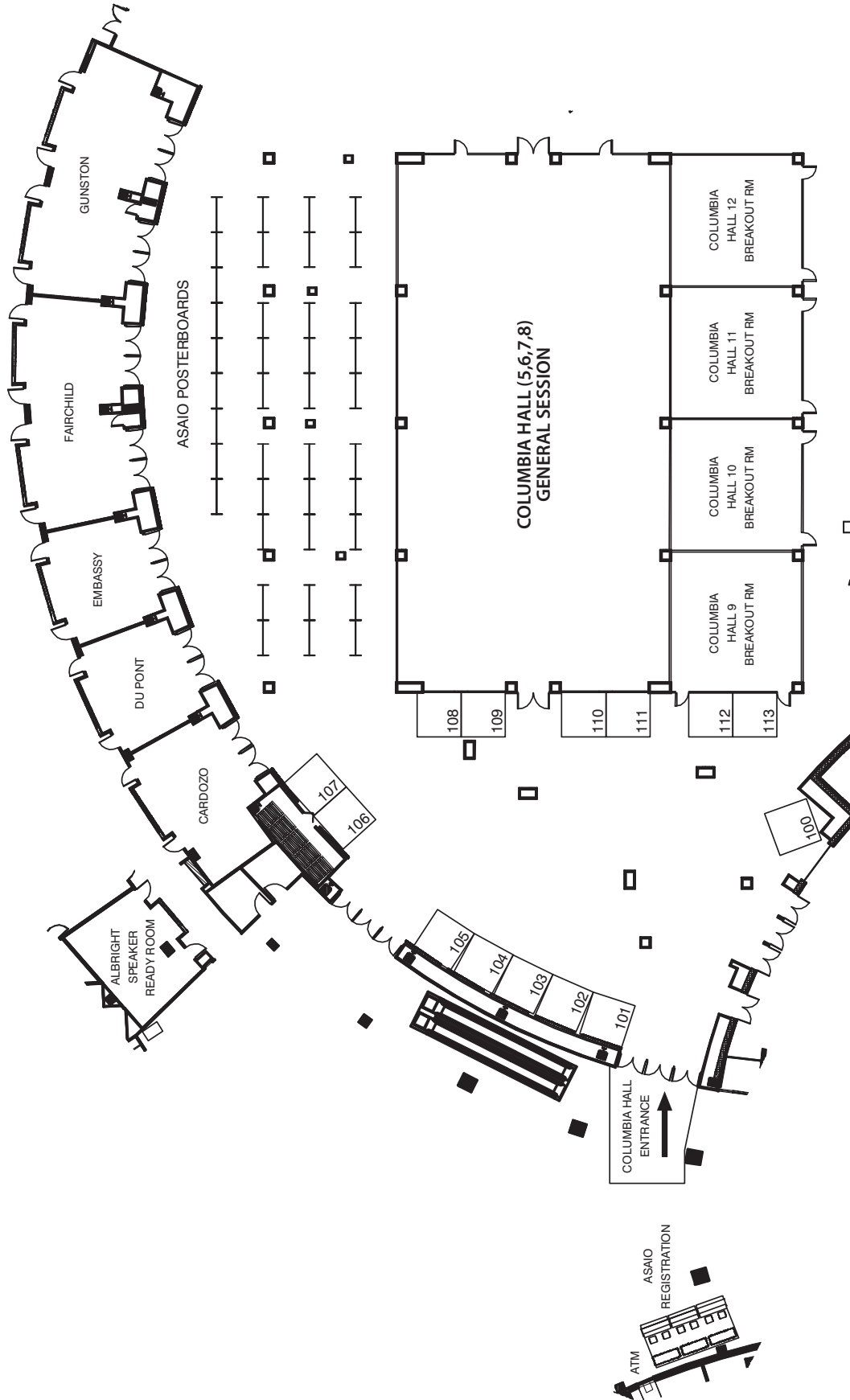


Terrace Level



Concourse Level

THE WASHINGTON HILTON COLUMBIA HALL—TERRACE LEVEL



ASAI0 PROGRAM OUTLINE

FRIDAY, JUNE 10, 2011

ROOM: COLUMBIA HALL 5, 6, 7 & 8

7:45AM – 8:00AM INTRODUCTION AND WELCOME

8:00AM – 9:30AM NIH ROLE IN DEVELOPING BIOMEDICAL TECHNOLOGY

Scientific Programs & Funding Opportunities at the National Inst of Biomed Imaging & Bioengineering
NIDDK research initiatives for Medical Device Innovation
Upcoming Trials and Developing Cardiovascular Technologies
Question & Answer Panel (10 Minutes)

9:30AM – 10:00AM KEYNOTE ADDRESS – Creating an Entrepreneurial Hotspot: How Northeast Ohio Has Grown Healthcare (and Other) Entrepreneurship

10:00AM – 10:45AM VISIT EXHIBITS & POSTERS – ENJOY REFRESHMENTS - *Columbia Hall Foyer*

10:45AM – 12:15PM GENERAL SESSION
Room: Columbia Hall 5, 6, 7 & 8

NEW VENTURE FORUM - UNITING SCIENTIFIC RESEARCH, CLINICAL PRACTICE, REGULATORY AFFAIRS & NEW BUSINESS DEVELOPMENT
Paragonix Technologies - The Developer of Sherpa, an Oxygenating Organ Preservation Carrier
LifeServe Innovations - SMART Technique for Definitive Emergency Percutaneous Airways
Stroke Rehabilitation Device Triggered by Patient's Own Brain Activity

12:15PM – 1:30PM LUNCH BREAK

1:30PM – 3:15PM CARDIAC 1
ADULT MECHANICAL ASSISTANCE
Room: Columbia Hall 5, 6, 7 & 8

Establishing an Acute Support Program
Abstracts

PULMONARY 1
ECMO & ECLS
Room: Columbia Hall 9 & 10

Cesar Trial – ECMO for ARDS
Abstracts

BIOENGINEERING 1
FDA SUPPORT OF PEDIATRIC DEVICES
Room: Columbia Hall 11 & 12

Intro to the FDA Pediatric Device Consortia Grant Program
Michigan Experience with Pediatric Device Consortia Grant Program
The UCSF Experience in Advancing Pediatric Device Development
Pediatric Cardiac Device Consortium
MISTRAL Pediatric Consortia -- Lessons Learned
PMDI & Small Businesses for Product Development
Don't Make It If You Can't Market It

3:15PM – 4:00PM VISIT EXHIBITS & POSTERS – ENJOY REFRESHMENTS - *Columbia Hall Foyer*

4:00PM – 5:30PM CARDIAC 2
PEDIATRIC MECHANICAL SUPPORT
Room: Columbia Hall 5, 6, 7 & 8
Trials and Tribulations in a Pediatric Ventricular Device IDE Study
Abstracts

PULMONARY 2
LONG-TERM PULMONARY SUPPORT
Room: Columbia Hall 9 & 10
Abstracts

BIOENGINEERING 2 - NEURAL
Room: Columbia Hall 11 & 12
Electrical Stimulation for the Treatment of Depression & OCD
Detecting & Stopping Seizures w/ Electrical Recordings & Stimulation
Electrical Stimulation for Treating Stroke
Abstracts

6:00PM – 7:00PM ASAI0 WELCOME RECEPTION – *Admission by Ticket*
Room: Columbia Hall Foyer

ASAIO PROGRAM OUTLINE

SATURDAY, JUNE 11, 2011

| | | | |
|--|---|---|--|
| <p>8:00AM – 8:45AM</p> <p>CARDIAC GENERAL SESSION Room: Columbia Hall 5, 6, 7 & 8 INDUSTRY SPEAKS – The Role of Intermax In Future Device Trials</p> <p>8:45AM – 9:45AM</p> <p>BIOENGINEERING GENERAL SESSION - SYSTEM BIOLOGY Room: Columbia Hall 5, 6, 7 & 8</p> <p>System Biology Approach to Platelet Function and Cardiovascular Disease Cardiac Electrophysiology & Biomechanics</p> | <p>RENAL 1 - ORGAN SUPPORT AND THE DIALYSIS CIRCUIT Room: Fairchild – Terrace</p> <p>Extracorporeal Liver Support Immune Modulation with Plasmapheresis Volume Control in Heart Failure Patients with Extracorporeal Fluid Removal Extracorporeal and Implantable Lung Support An Immunomodulating Device to treat MultiOrgan Failure in the ICU</p> | | |
| <p>9:45AM – 10:15AM</p> <p>GENERAL SESSION Room: Columbia Hall 5, 6, 7, & 8</p> <p>Asaio Hastings Lecture – A Tribute To My Mentors: Lessons Learned From Past & Present Leaders</p> | | | |
| <p>10:15AM – 11:00AM</p> <p>VISIT EXHIBITS & POSTERS – ENJOY REFRESHMENTS - Columbia Hall Foyer</p> | | | |
| <p>11:00AM – 11:15AM</p> <p>GENERAL SESSION ROOM: Columbia Hall 5, 6, 7, & 8</p> <p>Test Case for Outcomes for Pediatric Devices</p> | | | |
| <p>11:15PM – 11:45AM</p> <p>President's Address – Working in the Golden Triangle</p> | | | |
| <p>11:45AM – 12:15PM</p> <p>ASAIO Fellowships & Awards</p> | | | |
| <p>12:15PM – 1:30PM</p> <p>LUNCH BREAK</p> | | | |
| <p>1:30PM – 3:15PM</p> <p>CARDIAC 3 -Complications Associated with Circulatory Support Room: Columbia Hall 5, 6, 7, & 8 Abstracts</p> | <p>PULMONARY 3 - New Technologies: Integrated Pump / Lung Systems Room: Columbia Hall 9 & 10 Abstracts</p> | <p>BIOENGINEERING 3 - Biological Approaches to Organ Replacement Room: Columbia Hall 11 & 12</p> <p>The Leicester Experience with an Ex-vivo Autologous Perfused Porcine Liver Model Abstracts</p> | <p>RENAL 2 - Pro / Con Session Controversial Topics in Hemodialysis Access Room: Fairchild – Terrace</p> <p>Vascular Biology Stent Use in Vascular Access Stenosis Renal Artery Stenosis</p> |
| <p>3:15PM – 4:00PM</p> <p>VISIT EXHIBITS & POSTERS – ENJOY REFRESHMENTS - Columbia Hall Foyer</p> | | | |
| <p>4:00PM – 5:30PM</p> <p>CARDIAC 4 - Circulatory Support Devices Under Development Room: Columbia Hall 5, 6, 7, & 8</p> <p>New Technology: Let the Spinning Continue Abstracts</p> | <p>PULMONARY 4 - Pediatric Pulmonary Support Room: Columbia Hall 9 & 10 Abstracts</p> | <p>BIOENGINEERING 4 - FYI Bioengineering Rapid Fire Session Room: Columbia Hall 11 & 12 Abstracts</p> | <p>RENAL 3 - Pro / Con Session Controversial Topics in Hemodialysis Access Room: Fairchild – Terrace</p> <p>Catheter Function</p> |
| <p>5:30PM – 6:30PM</p> <p>ASAIO MEMBER BUSINESS MEETING Room: Fairchild – Terrace</p> | | | |

ASAIO PROGRAM OUTLINE

SUNDAY, JUNE 12, 2011

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|---|--|
| <p>8:00AM – 9:30AM</p> <p>PULMONARY GENERAL SESSION Room: Columbia Hall 5, 6, 7 & 8 ELSO Registry Update</p> <p>Clinical Perspective of Current Pulmonary Support Bench to Bedside: Engineering Challenges Facing Artificial Lung Transplantation Regulatory Issues for Pulmonary Support</p> | <p>JSAO, ESAO, IFAO SESSION Room: Columbia Hall 11 & 12</p> <p>JSAO - Japanese Society for Artificial Organs Current Activity of the JSAO Current Therapy with VAD for Severe Heart Failure Patients in Japan Artificial Organs in East Japan Earthquake</p> <p>ESAO - European Society for Artificial Organs To What Extent Is Perfusive Flow Beneficial To Bioreactor Performance For Therapeutic Applications? Does Flux Matter In Hemodialysis? How Critical Is Cannula Flow For Cerebral Perfusion During Heart & Lung Support? Flow Patterns of Cardiac Assist Devices: Abundant Information About The Ventricular Status</p> |
| <p>9:30AM – 10:00AM</p> <p>VISIT EXHIBITS & POSTERS – ENJOY REFRESHMENTS - Columbia Hall Foyer</p> | |
| <p>10:00AM – 12:00PM</p> <p>CARDIAC 5 Design and Testing of Circulatory Support Devices Room: Columbia Hall 5, 6, 7, & 8 Abstracts</p> | <p>PULMONARY 5 Panel Discussion Room: Columbia Hall 9 & 10</p> <p>ECMO For Bridge to Lung Transplant: Maryland Experience ECMO For Respiratory Failure: A Pulmonologist's Perspective Role and Future of ECMO for ARDS Abstracts</p> |
| <p>BIOENGINEERING 5 Fluid Dynamics and Shear Effects Room: Columbia Hall 11 & 12 Abstracts</p> | |

7:45am – 12:15pm

GENERAL SESSION 1 – FRIDAY

Room: Columbia Hall 5, 6, 7 & 8 – Terrace

Chairmen: William Wagner, PhD & Mark Slaughter, MD

7:45am – 8:00am

INTRODUCTION AND WELCOME

8:00am – 9:30am

GENERAL SESSION 1 – FRIDAY

NIH Role in Developing Biomedical Technology

Scientific Programs & Funding Opportunities
at the National

Christine Kelley, PhD - Dir Bioeng, Sci & Tech NIH / NIBIB
Inst of Biomed Imaging & Bioengineering

NIDDK research initiatives for Medical Device Innovation

Guillermo Arreaza-Rubin, MD - Prog Dir

Glucose Sensing & Insulin Delivery Technologies NIDDK

Upcoming Trials and Developing Cardiovascular
Technologies

Marissa Miller, DVM, MPH – Branch Chief AdvTech
& Surgery, NIH / NHLBI

Question & Answer Panel (10 Minutes)

9:30am – 10:00am

KEYNOTE ADDRESS

Creating an Entrepreneurial Hotspot:
How Northeast Ohio Has Grown Healthcare
(and Other) Entrepreneurship
Ray Leach - CEO JumpStart Inc



10:00am – 10:45am

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

Room: Columbia Hall Foyer

10:45am – 12:15am

NEW VENTURE FORUM

Moderators: Brian Duncan, MD, Jenny Son, Elyssa Campbell

Panelists – Eric Chen, MS, Edward Berger, PhD, Scott Merz, PhD

Uniting Scientific Research, Clinical Practice, Regulatory
Affairs & New Business Development

Paragonix Technologies - The Developer of Sherpa, an
Oxygenating Organ Preservation Carrier

Lisa M. Maier, PhD – Pres & COO Paragonix Tech, Inc

LifeServe Innovations - SMART Technique for Definitive
Emergency Percutaneous Airways

Zachary Bloom, BS - Project Manager LifeServe Innovations

Stroke Rehabilitation Device Triggered by Patient's
Own Brain Activity

Bill Checovich, PhD - University of Wisconsin

12:15pm – 1:30pm

LUNCH BREAK

1:30pm – 5:30pm

CARDIAC TRACK

1:30pm – 3:15pm

CARDIAC 1 - Adult Mechanical Assistance

Room: Columbia Hall 5, 6, 7 & 8 - Terrace

Moderators: William Holman, MD & Jeffrey Morgan, MD

1:30PM – 2:00PM

Establishing An Acute Support Program

Edwin McGee, MD - Surg Dir Heart Tx & Mech Assist,
Northwestern Memorial Hosp

2:15PM

Prediction of Outcome after Left Ventricular Assist
Device Implantation: Relevance of the Lietz Score
for Continuous Flow Devices

Juliane Vierecke, MD, PhD - German Heart Inst Berlin

2:30PM

Predictors of Early Mortality in Recipients of the
Jarvik 2000 Left Ventricular Assist Device

Sasa Borovic, MD - Texas Heart Institute

2:45PM

Pre-Implant Characteristics Predict Death in Post-
Levitronix Centrimag Temporary Ventricular Assist
Device (VAD)

Renee Merchel - Intermountain Medical Center

3:00PM

The Implantable Axial Flow Blood Pump for Tem-
porary VAD in Postcardiotomy Cardiogenic Shock
Li Guo Rong, MD - Fu Wai Heart Hospital CV Inst

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

Room: Columbia Hall Foye

4:00pm – 5:30pm

CARDIAC 2 - Pediatric Mechanical Support

Room: Columbia Hall 5, 6, 7 & 8 - Terrace

Moderators: Peter Wearden, MD, PhD & Christopher Almond, MD

4:00PM – 4:30PM

Trials & Tribulations In A Pediatric
Ventricular Assist Device IDE Study

Mary Beth Kepler, MBA - VP Regulatory Affairs Berlin Heart
Christopher Almond, MD - Cardiac, Children's Hosp Boston

4:30PM

Pilot Studies Using the Circulite Synergy Micro-
Pump for Mechanical Support of Fontan Circulation.

Vinod Sebastian, MD - Stanford Univ

4:45PM

Computational Design of the Fourth PediaFlow [TM]
Pediatric Ventricular Assist Device

James Antaki, PhD - Carnegie Mellon Univ

5:00PM

Acute Hemodynamic Evaluation of the Infant Jarvik
Ventricular Assist Device in a Piglet Model

Xufeng Wei, MD, PhD - Univ of Maryland

5:15PM

Mechanical Circulatory Support of Systemic Ventricle
in Adults with Prior Corrected Transposition of Great
Arteries

Alexander Stepanenko, MD - Deutsches Herzzentrum

CARDIAC POSTERS SESSION 1

- 1 **Extracorporeal Support Assisted Organ Donation in Donors after Cardiac Death: 10 Year Experience**
Alvaro Rojas-Pena, MD - At the University of Michigan
- 2 **Advanced Heart Failure Managed with New Generation of Non-Pulsatile Ventricular Assist Device**
Jens Garbade, MD, PhD - Heart Center Leipzig
- 3 **Surgical Repair of the Native Heart during Heartmate II Insertion**
Walter Dembitsky, MD - Sharp Memorial Hospital
- 4 **Hemolysis Rate after Biventricular Centrifugal Ventricular Assist Device Implantation: Retrospective Comparison between Biventricular and Left Ventricular Assist Device Recipients**
Alexander Stepanenko, MD - Deutsches Herzzentrum Berlin
- 5 **Preoperative Lower Left Ventricular Ejection Fraction and Implantation of Continuous Flow Pump Are Independent Risk Factors for Postoperative Onset of Aortic Insufficiency in Patients with Left Ventricular Assist Device**
Hatano Masaru, MD - Graduate School of Medicine
- 6 **The Modified Ultrafiltration Is Associated with Inflammatory Modulation and Less Postoperative Blood Loss in Adults Undergoing Coronary Artery Bypass Grafting: A Randomized and Controlled Study**
Orlando Petrucci, MD, PhD - University of Campinas
- 7 **The Change of Coronary Flow by Controlling the Power of Continuous-Flow Left Ventricular Assist Device in Acute Heart Failure: Counterpulse Drive Mode Can Increase the Coronary Flow**
Akihide Umeki - Natl Cerebral and CV Ctr Research Inst
- 8 **Impact of Surgical Approach on Adverse Neurological Events: Single-Center Experience with HeartWare HVAD Implanted Via Left Lateral Thoracotomy**
Alexander Stepanenko, MD - Deutsches Herzzentrum Berlin
- 9 **Aortic Valve Replacement in Left Ventricular Assist-Device Recipients: Single-Center Experience**
Nikolay Dranishnikov, MD - Deutsches Herzzentrum Berlin
- 10 **Clinical Outcomes with Early Right Ventricular Assist Device Placement after Left Ventricular Assist Device Insertion**
Jonathan Yang, MD - Columbia Univ
- 11 **Single Center Clinical Outcomes of Heartmate II Continuous-Flow Left Ventricular Assist Device**
O.H. Frazier, MD - Texas Heart Institute
- 12 **Non-Cardiac Surgery in Continuous Flow Left Ventricular Assist Device Patients**
Geetha Bhat, PhD, MD - Advocate Christ Medical Center
- 13 **Quantification of TangoPlus FullCure®930 Compliance for Printing Patient-Specific Vascular Models**
Giovanni Biglino, PhD - UCL Inst of CV Sciences
- 14 **Design and Characterization of a Miniaturized Magnetically Suspended Centrifugal Blood Pump**
Chen Chen, PhD - China Heart Biomedical Inc
- 15 **Long-Term Effect of Centrifugal-Continuous Flow LVAD Support to Aortic Valve**
Takuma Miyamoto, MD - Tokyo Women's Med Univ
- 16 **Tricuspid Valve Repair in Patients Supported with Left Ventricular Assist Devices**
Martin Schweiger, MD - Deutsches Herzzentrum Berlin
- 17 **Very Low Infection Rate after Implantation of the HeartMate II LVAD**
Ares K. Menon, MD - University Hospital RWTH
- 18 **Finite Element Analysis of Transcatheter Aortic Valve Implantation in a Calcified Native Valve**
Dr Liang Ge - Univ of California at San Francisco
- 19 **First Complete Replacement of a Failed Percutaneous Lead without LVAD Exchange**
Garrett Morgan, BSN - Integris Baptist Medical Center
- 20 **Left Ventricular Assist Device Replacement for Recurrent Bacteremia**
Antone Tatoes, MD - Advocate Christ Medical Center
- 21 **Initial Clinical Experience with Oral Sildenafil in Patients with Elevated Pulmonary Artery Pressure after Implantation of Newer Left-Ventricular Assist Devices**
Surbhi Chamaria, MD - Henry Ford Hospital
- 22 **Are Hospital Readmissions a Common Occurrence in the Current Era with Continuous Flow (CF) LVADs?**
Forum Kamdar, MD - University of Minnesota
- 23 **The Effect of Inlet Pressure on Gas Embolism and Hemolysis in Continuous-Flow Blood Pumps**
Salim Olia, BS - University of Pittsburgh
- 24 **CFD-Based Shape Optimization of the PediaFlow VAD**
Jeongho Kim, MS - Carnegie Mellon University
- 25 **Evaluation of Contributing Factors to Nonsurgical Bleeding in Continuous-Flow Left Ventricular Assist Device (CF-LVAD) Recipients**
Jingping Hu, PhD - University of Maryland
- 26 **Contractility and Compliance of Left Ventricle by Continuous Flow Pump**
Choon-Sik Jhun, PhD - The Penn State College of Med
- 27 **Do Pulmonary Function Tests Improve after Left Ventricular Assist Device Placement?**
Geetha Bhat, PhD, MD - Advocate Christ Medical Ctr
- 28 **In Vitro Experience with Impella Pumps as Cavopulmonary Assist for Failing Fontans**
Christopher Haggerty, BS - Georgia Inst of Technology
- 29 **Is High-Dose Vasopressor (HDV) Use Associated with Increased Risk of Renal Failure (RF) after Left Ventricular Assist Device (LVAD) Implant?**
Renee Merchel - Intermountain Medical Center
- 30 **Blood Compatibility Testing of the Centrifugal Blood Pump with the Hydrodynamic Bearing System**
Tomonori Tsukiya, PhD - Natl Cerebral and CV Ctr
- 31 **Comparison of a Valveless Pulsatile Assist Device with Continuous Flow in a Computational Model of the Cardiovascular System**
Jeffrey Gohean, MSME - Windmill CV Systems Inc
- 32 **Mock Circulatory - Based Numerical Simulation for Ventricular Assist Devices**
Choon-Sik Jhun, PhD - The Penn State College of Med
- 33 **Transcutaneous Energy Transfer System (TET) with Novel External Carrier System**
Thomas Schmid, PhD - German Aerospace Centre (DLR)
- 34 **A Quantitative Method To Assess the Wrinkling Effect of the Bioprosthetic Heart Valve's Leaflets**
Ahmad Falahatpsisheh - University of California Irvine

1:30pm – 5:30pm

PULMONARY TRACK

1:30am – 3:15pm

PULMONARY 1 - ECMO AND ECLS*Room: Columbia Hall 9 & 10 - Terrace**Moderators: Joseph Zwischenberger, MD & Zhongjun Wu, PhD*

1:30pm – 1:45pm

CESAR TRIAL - ECMO FOR ARDS*Joseph Zwischenberger, MD - Chair Surgery, Univ of Kentucky*

- 1:45PM** ECMO in Lung Transplantation: Bridging to Transplant, Replacing Cardiopulmonary Bypass during Implantation, and Supporting to Recovery for Graft Failure Following Transplantation
Hartmuth Bittner, MD, PhD - Hrt Ctr of Univ of Leipzig
- 2:00PM** Cardiopulmonary Bypass Surgery Aided by a Selective Cytopheretic Inhibitory Device
Christopher Pino, PhD - Innovative BioTherapies
- 2:15PM** Percutaneous Pulmonary Support Using Venovenous Type Emergency Bypass System: Single Center Experience of 15 Cases
Il Park, MD - Seoul National Univ Bundang Hospital
- 2:30PM** Inflammation and Hemolysis after Cardiopulmonary Bypass Compared between Roller and Gyro Pumps
Kehara Hiromu - Shinshu Univ School of Medicine
- 2:45PM** The Clinical Report of Chinese Extracorporeal Life Support: Summary of Multicenters Outcomes
Ju Zhao, MD - Fuwai Cardiovascular Hospital
- 3:00PM** ECMO Ambulance and Interdisciplinary Emergency Medical Care
David Macku, MD, MSc - Czech Technical Univ

3:15PM – 4:00PM

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS*Room: Columbia Hall Foyer*

4:00PM – 5:30PM

PULMONARY 2 - Long-Term Pulmonary Support*Room: Columbia Hall 9 & 10 - Terrace**Moderators: Aly El-Banayosy, MD & William Federspiel, PhD*

- 4:00PM** Developing a Biohybrid Lung - Comparative Endothelialization of Different Gas Exchange Membranes
Bettina Wiegmann, MD - Hannover Medical School
- 4:15PM** Ambulatory Venovenous Extracorporeal Respiratory Support as a Bridge for Cystic Fibrosis Patients to Emergent Lung Transplantation
Don Hayes, Jr, MD - Univ of Kentucky Medical Center
- 4:30PM** Unaffected Gas Transfer of Poly-4-Methyl-1-Pentene Gas Exchange Membranes by Endothelialization
Bettina Wiegmann, MD - Hannover Medical School
- 4:45PM** Primary Evaluation of Heparinized Hollow Fiber Membrane Sample Surfaces
Narayana Garimella, PhD - University of Maryland
- 5:00PM** Long Term Ambulatory Respiratory Support Platform Utilizing a Double Lumen Cannula
Xiaqin Zhou, MD - Univ of Kentucky
- 5:15PM** Development of a New True Membrane Hollow Fiber for a Long Term Artificial Lung
Dongfang Wang, MD - University of Kentucky

1:30am – 5:30pm

BIOENGINEERING TRACK

1:30am – 3:15pm

BIOENGINEERING 1 - FDA Support of Pediatric Devices*Room: Columbia Hall 11 & 12 - Terrace**Moderators: Eric Chen, MS & Francesca Joseph, MD*

- 1:30PM** Introduction to the FDA Pediatric Device Consortia Grant Program
Linda Ulrich, MD - CAPT US Public Health Service, FDA
- 1:45PM** The Michigan Experience with the Pediatric Device Consortia Grant Program
*James Geiger, MD - Prof Pediatric Surg
Mott Children's Hospital*
- 2:00PM** The UCSF Experience in Advancing Pediatric Device Development
*Shuvo Roy, PhD - Lab Dir & Principal Investigator
Univ of California*
- 2:15PM** Pediatric Cardiac Device Consortium: Cardiovascular Device Development & Clinical Trials
*Ajit Yoganathan, PhD - Assoc Chair Res Biomed Eng,
Georgia Inst Technology*
- 2:30PM** MISTRAL Pediatric Consortia -- Lessons Learned
Pablo Garcia, MSME - Principal Engineer, SRI Int'l
- 2:45PM** PMDI & Small Businesses for Product Development
*Andre Muelenaer, MD - Assoc. Professor of Pediatrics,
Virginia Tech Carilion School of Medicine*
- 3:00PM** Don't Make It If You Can't Market It
Ross Trimby, COO - Inst for Pediatric Innovation

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS*Room: Columbia Hall Foyer*

4:00pm – 5:30pm

BIOENGINEERING 2 - Neural*Room: Columbia Hall 11 & 12 - Terrace**Moderator: Nicholas Hatsopoulos, PhD*

- 4:00PM** Electrical Stimulation for the Treatment of Depression and OCD
*Peter Warnke, MD - Assoc. Prof of Surgery
Univ of Chicago*
- 4:30PM** Detecting and Stopping Seizures Using Electrical Recordings and Stimulation
Sydney Cash, MD, PhD - Asst Neurology, MA Gen Hosp
- 5:00PM** Electrical Stimulation for Treating Stroke
*Randolph Nudo, PhD - Dir Landon Ctr Aging,
Univ of Kansas*

Posters Available All Day in Columbia Hall Foyer

BIOENGINEERING POSTER SESSION 1

- 35 In Vitro Hemocompatibility Assessment of Silicon-Based Substrates for Miniaturized Renal Replacement Applications
Shuvo Roy - UCSF
- 36 Validation of Computational Fluid Dynamic Techniques Used To Evaluate Medical Devices: Interlaboratory Study #2 - FDA Benchmark Blood Pump Model
Richard Malinauskas, PhD - FDA
- 37 Novel Driveline Exit Site Dressing Technique for Left Ventricular Assist Devices Improves Infection Rates
Rene Merchel - Intermountain Medical Center
- 38 The FDA Office of Orphan Product Development's Pediatric Device Consortia Grant Program
Linda Ulrich, MD - FDA
- 39 Transient Fluid Analysis of a Magnetically Levitated Pediatric Ventricular Assist Device: Rotational Interfaces and Time Varying Boundary Conditions
Amy Throckmorton, PhD - Virginia Commonwealth Univ
- 40 A Nonthrombogenic Surface Based on Nitric Oxide (NO) Generation from Circulating Nitrosothiols (RSNO)
Terry Major, MS - Univ of Michigan
- 41 Analysis of Cell Behavior on Fibrous Scaffolds Coated with Amorphous Hydrogenated Carbon (a-C:H) Film
Kazuhiro Nonaka, PhD - Tokyo Denki Univ
- 42 Pneumatic Drive Requirements for Direct Mechanical Ventricular Actuation
Mark Anstadt, MD - Wright State Univ
- 43 A Simple Mock Circulatory System for Testing DMVA
Mark Anstadt, MD - Wright State Univ
- 44 Automatically Analyzing Shunt Murmurs Using Wavelet Transform as a New Method for Evaluating Vascular Access Function
Yuka Motohashi, MD - Toin Univ of Yokohama
- 45 A Study on Blood Recirculation of Double-Lumen Catheters Using Computational Fluid Dynamics
Yoichi Marushita, MD - Toin Univ of Yokohama
- 46 Hemoadsorption of High-Mobility Group Box 1 in Swine Acute Liver Failure Model
Ryo Nishiyama, MD - Keio University
- 47 New Roles & Functions for Biomaterials: Mimicking ECM
Birgit Glasmacher, PhD - Leibniz Universitaet Hannover
- 48 Detection of Suction for Rotary Blood Pumps Using Support Vector Machines
Yu Wang - Univ of Central Florida
- 49 Modeling and Simulation of a Hydraulic Mock Circulatory System
Huang Feng - Zhejiang University
- 50 Transcutaneous Energy Transmission System with Optimized Efficiency for the Artificial Heart
Yang Fu - Zhejiang University
- 51 Infection Safe Percutaneous Lead with an Active Exit Site
Klaus Affeld, PhD - Charite
- 52 Study of the Structures on Perfluorocarbon Emulsions Used as Oxygen Carriers (PFCOCs)
Camila Castro, MSc - Universidad de los Andes
- 53 A Conscious Swine Model of Extreme Normovolemic Hemodilution
Juan David Perez Coronado, MD - Univ de los Andes
- 54 Modifications of Sinusoids Area in the Progression of Liver Disease
Vincenzo Morabito, MD - Sapienza University of Rome
- 55 Reverse Engineering the Kolff-Designed Baxter/Travenol Twin Coil Dialysis Device
Connie Hall, PhD - The College of New Jersey

6:00am – 7:00pm

ASAIO WELCOME RECEPTION – Admission By Ticket*Room: Columbia Hall Foyer*

8:00am – 8:45am

CARDIAC GENERAL SESSION – Saturday*Room: Columbia Hall 5, 6, 7 & 8 – Terrace**Chairman: Mark Slaughter, MD***SYMPOSIUM – INDUSTRY SPEAKS****The Role of Internacs In Future Device Trials***David Hathaway, MD - Chief Medical Officer, HeartWare Inc**David Farrar, MD - VP Scientific Affairs, Thoratec Corp**William Holman, MD - Professor of CT Surg, Univ of Alabama Birmingham*

8:45am – 9:45am

BIOENGINEERING GENERAL SESSION-Systems Biology*Room: Columbia Hall 5, 6, 7 & 8 – Terrace**Chairmen: William Weiss, PhD & Trevor Snyder, PhD*

8:45AM – 9:15AM

System Biology Approach to Platelet Function and Cardiovascular Disease*Scott Diamond, PhD - Arthur E Humphrey Chair Chem & Biomolecular Eng, Univ of Pennsylvania*

9:15AM – 9:45AM

Von Willebrand Factor, Shear Stress, ADAMTS 13 and Microvascular Thrombosis*Han-Mou Tsai, MD, Prof of Med & Pathology, Hematology Penn State Hershey Medical Center*

9:45am – 12:15pm

GENERAL SESSION*Room: Columbia Hall 5, 6, 7 & 8 – Terrace**Chairmen: William Wagner, PhD & William Holman, MD*

9:45am – 10:15am

ASAIO HASTINGS LECTURE*Introduction: William Holman, MD***A Tribute To My Mentors:****Lessons Learned From Past & Present Leaders***Kurt Dasse, PhD - President & CEO, Levitronix*

10:15am – 11:00am

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS*Room: Columbia Hall Foyer*

11:00AM – 11:15AM

Test Case for Outcomes for Pediatric Devices*Peter Wearden, MD, PhD - Ped CT Surg, Children's Hosp Pittsburgh*

11:15am – 11:45am

PRESIDENT'S ADDRESS*Introduction: Harvey Borovetz, PhD***Working in the Golden Triangle***William Wagner, PhD – President ASAIO*

11:45am – 12:15pm

ASAIO FELLOWSHIPS & AWARDS**ASAIO WILLEM J KOLFF / DON B OLSEN AWARD**

Pramod Bonde, MD – University of Pittsburgh
Sponsored by the Medforte Foundation

BARNEY CLARK AWARD

Sponsored by the Medforte Foundation

ASAIO Y NOSÉ FELLOWSHIP

Daniele Camboni, MD - Univ Med Cntr of Regensburg
Sponsored by the Y Nosé Fellowship Fund

ASAIOFYI - FOR YOUNG INNOVATORS FELLOWSHIP FINALISTS

Brian Gray, MD - University of Michigan
Rene Merchel - Intermountain Medical Center
Richard Jeffries, BS - University of Pittsburgh
Joshua Taylor, BS - The Pennsylvania State University
Salim Olia, BS - University of Pittsburgh
Samuel Hund, PhD - Carnegie Mellon University
Sponsored by the Paul S Malchesky Fellowship Fund

ASAIO YOUNG RESEARCHER FELLOWSHIPS

Sponsored by Levitronix

12:15pm – 1:30pm

LUNCH BREAK

1:30pm – 5:30pm

CARDIAC TRACK

1:30pm – 3:15pm

CARDIAC 3- Complications Associated with Circulatory Support

Room: Columbia Hall 5, 6, 7 & 8 - Terrace
Moderators: Edwin McGee, MD & Christopher Mascio, MD

- 1:30PM** HeartMate II Left Ventricular Assist Device Implantation in Patients with Hepatic Dysfunction
Zumrut Demirozu, MD - Texas Heart Inst
- 1:45PM** Gastrointestinal Bleeding with the HeartMate II Left Ventricular Assist Device Predonation
Jeffrey Morgan, MD - Henry Ford Hosp
- 2:00PM** Postoperative Course and Changes in Mid-Term Follow-Up of Von Willebrand Factor in Heartware HVAD Recipients
Nikolay Dranishnikov, MD - Deutsches Herzzentrum Berlin
- 2:15PM** Challenges in Predicting Right Ventricular Failure in LVAD Patients: An Analysis of 484 Heartmate II Patients
Kartik Sundaeswaran, PhD - Thoratec Corp
- 2:30PM** Adverse Neurological Events after Implantation of a HeartMate II LVAD
Jeffrey Morgan, MD - Henry Ford Hospital
- 2:45PM** Risk Factors for Device-Related Infection in Patients with Continuous-Flow Left Ventricular Assist Devices
Sasa Borovic - Texas Heart Institute
- 3:00PM** Comparison of Gastrointestinal Bleeding in Patients Receiving Axial vs Centrifugal Continuous Flow (CF) Left Ventricular Assist Devices
Forum Kamdar - University of Minnesota

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

Room: Columbia Hall Foyer

4:00pm – 5:30pm

CARDIAC 4 - Circulatory Support Devices Under Development

Room: Columbia Hall 5, 6, 7 & 8 - Terrace
Moderators: Walter Dembitsky, MD & Steven Koenig, PhD

- 4:00PM** New Technology: Let the Spinning Continue
*Mark Slaughter, MD
Prof Chief Thoracic & CV Surgery, Univ of Louisville*
- 4:15PM** Miniaturization of Wide-Bladed Blood Pump Technology
Dan Tamez - HeartWare, Inc.
- 4:30PM** Results of the European Clinical Trial of Arrow CorAide™ LVAS
Diyar Saeed, MD - Heinrich-Heine University Dusseldorf
- 4:45PM** Completely Implantable Biventricular Assist Device for Destination Therapy
Thomas Schmid, PhD - German Aerospace Centre (DLR)
- 5:00PM** In Vivo Evaluation of a Percutaneous VAD for Treatment of Acute Right Heart Failure
Scott Corbett - ABIOMED, Inc
- 5:15PM** Development and in Vivo Test of a new VAD System with Hydrodynamically-Levitated Axial Flow Turbo Pump
Toshihide Mizuno, DVM, PhD - Natl Cerebral & CV Ctr Research Institute

Posters Available All Day in Columbia Hall Foyer

CARDIAC POSTER SESSION 2

- 56 The MVAD Impeller: Design Elements
Fernando Casas, PhD - HeartWare Inc.
- 57 Thromboelastography (TEG): An Evaluation of Its Correlation with Activated Partial Thromboplastin Time (APTT) in Patients Implanted with a Total Artificial Heart (TAH)
Pere Ventura, MS - Intermountain Medical Center
- 58 Implantable Cooling Device for the Control of the Atrial Fibrillation
Tomoyuki Yambe, MD, PhD - Tohoku University
- 59 Preoperative Risk Analysis for Requirement of Biventricular Assist Device in Japanese Patients with Left Ventricular Assist Device Implantation
Taro Shiga, MD, PhD - The Tokyo University Hospital
- 60 Feedback Controlled Induction of Axial-Flow LVAD Pulsatility To Optimize Instantaneous Perfusion under Normal or Failing Physiologies in a Coupled Ventriculoarterial Model
Alper Aksu, BS - Bahcesehir University
- 61 Overcoming Right Ventricular Afterload: A New Concept To Assist the Failing Right Ventricle - An Experimental Study
Marcus Haushofer, MD - University Hospital RWTH Aachen
- 62 Single Center VentriAssist LVAD Experience
Tadashi Motomura, MD, PhD - Baylor College of Medicine
- 63 Single Center Experience with the E-VITA® Hybrid prosthesis in 29 Patients with Acute Type A Aortic Dissection and Thoracic Aneurysms
Jan Wilhelm Spillner, MD - RWTH Aachen
- 64 Biochemical and Functional Changes in Donor Blood during Storage
Jan Simoni, DVM, PhD - Texas Tech Univ Health Sciences Ctr
- 65 A Hybrid Self-Regenerative Tissue Approach as a Proper Alternative for Prosthetic Heart Valves
Hamed Alavi, MSc - University of California

- 66 Comparison between Estimated Cardiac Function during Left Ventricular Assistance and during No Support
Telma Sugai - Tohoku University
- 67 Evaluation of Sub-Lethal Trauma to Erythrocytes Using Mathematical Modeling
Samuel Hund, PhD - Carnegie Mellon University
- 68 Evaluation of an Aortic Annuloplasty Ring in a Bovine Model
William Cohn - Texas Heart Institute
- 69 Retrograde Cerebral, Aortic, and Myocardial Flow during IABP Support
Steven Koenig, PhD - University of Louisville
- 70 Adrenal Insufficiency and Implanting LVADS
Rohaid Ali - Integrus Baptist Medical Center
- 71 Experience with HeartMate II Left Ventricular Assist Devices in Elderly Patients
Zumrut Demirozu, MD - Texas Heart Institute
- 72 Emergent Versus Non-Emergent Heartmate II Left Ventricular Assist Device Implantation
Igor Gregoric, MD - Texas Heart Institute
- 73 Unusual Presentation of a Known Complication in Heartmate II Left Ventricular Assist Devices (LVADS)
Renee Merchel - Intermountain Medical Center
- 74 Safety of Irradiating a Heartmate II during Cancer Treatment
Trevor Snyder, PhD - INTEGRIS Baptist Med Ctr
- 75 A Simplified Self-Expanding Cannula for Central Venous Cannulation
Saad Abdel-Sayed, PhD - Univ Hospital CHUV
- 76 Does Preoperative Heparin Infusion Affect Anticoagulation during Cardiopulmonary Bypass?
Masakazu Sogawa, MD, PhD - Saiseikai Niigata Second Hospital
- 77 Virtual Dor-Procedure Using the Finite Element Virtual Suture Method
Liang Ge - Univ of California San Francisco
- 78 Small Adult Patients with Heart Failure Need Ventricular Assist Device Newly Designed for Them
Takeshi Komoda, MD, PhD - Deutsches Herzzentrum Berlin
- 79 Temporary Elastic Support in Ischemic Cardiomyopathy: Effect of Patch Degradation Time on Functional Outcomes
Ryotaro Hashizume - University of Pittsburgh

1:30pm – 5:30pm

PULMONARY TRACK

1:30pm – 3:15pm

PULMONARY 3

New Technologies: Integrated Pump / Lung Systems

Room: Columbia Hall 9 & 10 - Terrace

Moderators: George Pantalos, PhD & Keith Cook, PhD

- 1:30PM Venous-Extracorporeal Membrane Oxygenation (VV-ECMO) by Single Vessel Access in Adults
Daniele Camboni, MD - Univ Med Center Regensburg
- 1:45PM Rotating Impeller Spacing Effects in Hollow Fiber Membrane (HFM) Respiratory Assist Devices
Richard Jeffries - University of Pittsburgh
- 2:00PM Biocompatibility Assessment of the Levitronix® Centrimag® Adult ECMO Circuit in a Model of Pulmonary Hypertension
Venkat Shankaraman, PhD - University of Pittsburgh
- 2:15PM Immobilized Carbonic Anhydrase on Hollow Fibers Accelerates CO₂ Removal from Blood
David Arazawa, BS - University of Pittsburgh

- 2:30PM Study on Development of an Aqueous Two-Phase Oxygenator Using PFC
Seiya Azumaya, BS - Tokyo Denki University

- 2:45PM A Percutaneous OxyRVAD for Lung and Right Heart Support
Dongfang Wang, MD, PhD - University of Kentucky

- 3:00PM Ex-Vivo Lung Perfusion Improves Organ Quality after Cardiac Death. Swine Model of Warm Ischemia Injury
Pablo Sanchez, MD, PhD - University of Maryland

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

Room: Columbia Hall Foyer

4:00pm – 5:30pm

PULMONARY 4 – Pediatric Pulmonary Support

Room: Columbia Hall 9 & 10 - Terrace

Moderators: Kurt Dasse, PhD & Guruprasad Giridharan, PhD

- 4:00PM Development of an Artificial Placenta: 24 Hour Venovenous Extracorporeal Life Support in Premature Lambs
Brian Gray, MD - University of Michigan

- 4:15PM Axillary Artery Cannulation for VA ECMO
Jeffrey Javidfar, MD - Columbia Univ Medical Center

- 4:30PM Performance Evaluation of the Ension Pediatric Cardiac Pulmonary Assist System with Dual-Lumen Cannulae
George Pantalos, PhD - University of Louisville

- 4:45PM In-Vitro Performance Testing of a Pediatric Oxygenator with Integrated Pulsatile Pump
Ralf Borchardt, Dipl.-Ing. - RWTH Aachen University

- 5:00PM Pre-Clinical Program of the Integrated Pediatric Pump-Lung (PediPL) for Kids, Infants and Neonates
Zhongjun Wu, PhD - University of Maryland

1:30pm – 5:30pm

BIOENGINEERING TRACK

1:30pm – 3:15pm

BIOENGINEERING 3

Biological Approaches to Organ Replacement

Room: Columbia Hall 11 & 12 - Terrace

Moderators: Amy Throckmorton, PhD & Steven Chopski, PhD

1:30PM – 2:00PM

- The Leicester Experience with an Ex-vivo Autologous Perfused Porcine Liver Model: Past Achievements and Potential Future Applications
Gianpiero Gravante, MD, PhD - Specialist Registrar, Univ Hosp of Leicester



- 2:00PM Development of an Implantable Small Camera for Angiogenesis
Yusuke Inoue - The University of Tokyo

- 2:15PM Neovascularization and Remodeling in Patients Injected with Autologous Bone Marrow Cells
Brian Bruckner, MD - The Methodist Hospital

- 2:30PM** In Vivo Evaluation of an In-Body Tissue-Engineered and Completely Autologous Aortic Valved Conduit (Biovalve) in a Goat Model
Yoshiaki Takewa, MD, PhD - Natl Cerebral & CV Center
- 2:45PM** Three Dimensional Polycaprolactone/Chitosan Scaffolds for Growth of Chondrocytes
Ying Wan, PhD - Huazhong Univ of Science & Tech
- 3:00PM** Liposome-Encapsulated Hemoglobin Reduced Cerebral Infarct Volume in Rodent Transient Focal Ischemia
Akira Kawaguchi, MD, PhD - Tokai Univ School of Med

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS

Room: Columbia Hall Foyer

4:00pm – 5:30pm

BIOENGINEERING 4 - FYI Bioengineering Rapid Fire Session

Room: Columbia Hall 11 & 12 - Terrace

Moderators: Scott Corbett, PhD & Trevor Snyder, PhD

These presentations are also available as Posters

- 4:00PM** Introduction - Trevor Snyder, PhD
- 4:05PM** Evaluating Soft Tissue Leaflet Stresses in Non-Circularly Deployed Heart Valves
Nandini Duraiswamy, PhD - FDA
- 4:10PM** Self-Sensing Magnetic Bearings for Maglev Blood Pumps
Shanbao Cheng, PhD - Rochester Inst of Technology
- 4:15PM** BIC MAC (Bioincompatible Material Apheresis for Cancer) Therapy
Junji Takaba, PhD - Baylor College of Medicine
- 4:20PM** Development of User-Centered and Work-Flow Adaptive Decision Guidance System for Personalized Mechanical Circulatory Assistance
Yajuan Wang, MS - Carnegie Mellon University
- 4:25PM** Pulsatile Control of Rotary Blood Pumps: Does the Modulation Waveform Matter?
Tohid Pirbodaghi, MSc - Bern University
- 4:30PM** An Animal Model of Small-Diameter SIS Vein Grafts: It Didn't Work
Lina M Quijano, MSc - Universidad de los Andes
- 4:35PM** A Pressure-Volume System for Measuring Mechanical Properties of Small Diameter Vessels
Diana Sanchez-Palencia, MSc - Univ de los Andes
- 4:40PM** Analysis of Pre and Post Implant Sleep-Disordered Breathing (SDB) in Patients with the Heart Mate II (HMII) Left Ventricular Assist Device (LVAD)
Renee Merchel - Intermountain Medical Center
- 4:45PM** A Particle Image Velocimetry Study of the Penn State 50cc VAD during Varying Beat Rates
Michael Navitsky, BS - The Pennsylvania State Univ
- 4:50PM** Study of Shear-Induced Blood Damage in Different Species
Tao Zhang, PhD - University of Maryland
- 4:55PM** High Shear-Short Exposure Time Induced Platelets Activation in Different Species
Shuqiong Niu, MD - University of Maryland

- 5:00PM** Exogenous Nitric Oxide Prevents Cardiovascular Collapse during Hemorrhagic Shock
Pedro Cabrales, PhD - University of California –CANCELLED
- 5:05PM** Small Volume Resuscitation from Hemorrhagic Shock Utilizing High Molecular Weight Tense-State Polymerized Hemoglobin
Pedro Cabrales, PhD - University of California –CANCELLED
- 5:10PM** Transcutaneous Energy Transmission System with External Water-Cooling Apparatus When Primary Coil Is Located Away from the Body
Shumpei Taguchi - Tokyo University of Science
- 5:15PM** Novel Mock Circulatory Loop for Testing and Evaluating Implanted HeartMate II (HMII) Left Ventricular Assist Device (LVAD)
Pere Ventura, MS - Intermountain Medical Center
- 5:20PM** In Vitro Evaluation of a Novel Short-Term Extracorporeal Ventricular Assist Device
David Spurlock, MD - University of Michigan Hospital
- 5:25PM** Numerical and Experimental Hydraulic and Hemolytic Evaluation of Axial Propeller Pumps
Mihai Miclea-Bleiziffer – Univ of Erlangen-Nuremberg

Posters Available All Day in Columbia Hall Foyer

BIOENGINEERING POSTER SESSION 2

- 80 Development of a New Stronger Tissue Adhesive Material Using Ion Beam Irradiated EPTFE
Yoichi Sugita, MD, PhD - Baylor College of Medicine
- 81 Usefulness of Hemocor HPH Hemoconcentrator in the Manufacturing of Hemoglobin (Hb)-Based Oxygen Carriers
Jan Simoni, DVM, PhD - Texas Tech Univ Health Sciences Ctr
- 82 An Elastomeric Micro-Fibrous Sheet Made from a Blend of Biodegradable Polyurethane and Extracellular Matrix Digest for Soft Tissue Reconstruction
Keisuke Takanari, MD, PhD - University of Pittsburgh
- 83 HeartMate II (HMII) Left Ventricular Assist Device (LVAD) Hyperbaric Chamber Performance
Pere Ventura, MS - Intermountain Medical Center
- 84 Behavior of Human Blood under Exposure of UV-A Light
Joerg Vienken, Dr. Eng. - Fresenius Medical Care
- 85 R & D of Foils, Wires and Mini-Tubes of Novel Biomedical Ti Alloy TLM Used in Artificial Organs
Zhentao Yu, PhD - NW Inst for Nonferrous Metal Research
- 86 Fluid Flow Analysis (FFA) of Common Inflow Graft Warping Problem in HeartMate II (HMII) Left Ventricular Assist Device (LVAD)
Pere Ventura, MS - Intermountain Medical Center
- 87 Investigation of the Relation between Cell Migration Direction and Cell Concentration using PIV Analysis for Tissue Formation Process
Hiroo Noguchi, BS - Tokyo Denki University
- 88 Pulsatile Flow or Continuous Flow: Effects on the Simulation of Flow through Native Aorta with a LVAD
Zhe Lin - Zhejiang University –CANCELLED
- 89 A Coupled 3D-0D Model To Study Blood Flow in Aortic Arch during Use of Intra-Aortic Balloon Pump
Gionata Fragomeni, PhD - Magna Graecia University
- 90 In Vitro Antithrombogenic Testing as a Pre-Evaluation for Ex Vivo Testing for a Disposable Centrifugal Blood Pump with Hydrodynamic Bearing
Osamu Maruyama, PhD - Natl Inst of Adv Ind Sci & Tech (AIST)

- 91 **Mathematical Model's Analysis To Improve Albumin Dialysis MARS Treatment**
Vincenzo Morabito, MD - Sapienza University of Rome
- 92 **Introductory Tests to In Vivo Evaluation: Prototypes Assembly and Anatomical Position**
Eduardo Bock, Eng - IDPC/IFSP
- 93 **Physical Cardiovascular Simulator (PCS) System Including the Baroreceptor Effect: The LVAD Assessment**
Jeison Fonseca, MSc - Inst Dante Pazzanese of Cardiology
- 94 **Quantification of Oxygen Capacity in an Emulsion of Perfluorooctylbromide by D-Glucose Oxidation**
Diana Marcela Vasquez Gutierrez - Universidad de Los Andes
- 95 **Decision Guidance System for Mechanical Circulatory Assistance**
Antonio Ferreira, PhD - Carnegie Mellon University
- 96 **Double Stator Maglev Artificial Heart for Infant Patients**
Masahiro Osa, BS - Ibaraki University
- 97 **Analysis and Tests of Supervisory Control Systems Applied to a Ventricle Assist Device**
Andre Cavalheiro, MD - Escola Politecnica of USP
- 98 **A Continuum Mechanics Modeling of Two-Component Blood Flow**
Jeongho Kim, MS - Carnegie Mellon University
- 99 **A Mathematical Model for Studying the Effect in Oxygen Extraction Ratio (OER) with the Increment in Pulmonary Vascular Resistance in Patients with Bidirectional Glenn Shunt**
Carolina Vallecilla, MSc - Universidad de los Andes
- 100 **Making Microsieves Work in Blood**
Edward Leonard, PhD - Columbia University
- 101 **Hemolysis in a Shearing Flow: The Role of Extensional Stresses**
Linden Down - University of Oklahoma
- 102 **Computational Fluid Dynamics Modeling of an Offset Volute Design for the Cleveland Clinic DexAide Right Ventricular Assist Device**
Mark Goodin - SimuTech Group - Central

8:00AM – 4:30PM

RENAL TRACK

8:00AM – 10:00AM

RENAL 1 - Organ Support and the Dialysis Circuit*Room: Fairchild – Terrace**Moderator: William Fissell, MD***Extracorporeal Liver Support***Kevin Finkel, MD - Professor of Medicine, University of Texas***Immune Modulation with Plasmapheresis***Andre Kaplan, MD - Professor of Medicine, Univ of Connecticut***Volume Control in Heart Failure Patients with Extracorporeal Fluid Removal***Maria Rosa Costanzo, MD - Medical Director Midwest Heart Specialists***Extracorporeal and Implantable Lung Support***Robert Bartlett, MD – Prof Emeritus Surgery, Univ of Michigan***An Immumodulating Device to treat MultiOrgan Failure in the ICU***H David Humes, MD - Prof of Internal Medicine Univ of Michigan*

10:00am – 10:45am

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS*Room: Columbia Hall Foyer*

1:30pm – 3:15pm

RENAL 2 – PRO / CON SESSION**Controversial Topics in Hemodialysis Access***Room: Fairchild – Terrace**Moderator: Stephen Ash, MD*

1:30pm – 2:00pm

VASCULAR BIOLOGY**Neointimal Hyperplasia is the Result of Vascular Shear Stress Due to Abnormal Flow***Pro – Prabir Roy-Chaudhury, MD, PhD - Assoc Prof Med, Univ of Cincinnati***Neointimal Hyperplasia is the Result of Inflammation***Con – Timmy Lee, MD, MSPH - Asst Prof Clinical Med, Univ of Cincinnati***Question and Answer**

2:00pm – 2:30pm

STENT USE IN VASCULAR ACCESS STENOSIS**Stents Should Be Used as the Primary Intervention at the AVG Anastomotic Lesions***Pro – Shahriar Moossavi, MD, PhD**- Assoc Prof of Nephrology, Wake Forest University***Stents Should Not Be Used as the Primary Intervention at the AVG Anastomotic Lesions***Con – Loay Salman, MD - Asst Prof of Clin Med, Univ of Miami***Question and Answer**

2:30pm – 3:15pm

RENAL ARTERY STENOSIS**There is Evidence that we Should Abandon Renal Artery Intervention as a Common Therapeutic Modality in CKD & HTN***Pro – Anil Agarwal, MD - Prof Internal Med, Ohio State Univ***We Should Continue to Perform Renal Artery Intervention for CKD & HTN***Con – Alexander Yevzlin, MD - Asst Prof Neph, Univ of Wisconsin***Question and Answer**

3:15pm – 4:00pm

VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS*Room: Columbia Hall Foyer*

4:00pm – 5:30pm

RENAL 3 – PRO / CON SESSION**Controversial Topics in Hemodialysis Access***Room: Fairchild – Terrace**Moderator: Alexander Yevzlin, MD*

CATHETER FUNCTION**Catheter Coatings and Tip Design Matter***Pro – Arif Asif, MD - Prof of Medicine, University of Miami***All Catheters Are Created Equal Regardless of Design***Con – Vandana Niyayar, MD - Asst Prof Medicine, Emory Univ***Question and Answer****Posters Available All Day in Columbia Hall Foyer****RENAL POSTER SESSION**

- 103 **Perfluorocarbon (PFC) Protects Kidney Tubular Epithelial Cells (TEC) by Septic Plasma-Induced Apoptosis And Promotes CD133+ Stem Cell Differentiation: Relevance for Bioartificial Renal Assist Devices (RAD)**
Vincenzo Cantaluppi, MD - Univ of Turin
- 104 **Pretransplant Ex Vivo Repair of Denuded Tubule Epithelium in an Uncontrolled Porcine DCD Kidney Model**
Lauren Brasile, PhD - BREONICS Inc –CANCELLED
- 105 **Near-Automated Regional Citrate Anticoagulation (RCA) during Dialysis: Building a Safe System and a Low Cost Clinical Program for New Extracorporeal Therapies**
Balazs Szamosfalvi, MD - Henry Ford Hospital
- 106 **CRARA (Cryo-Reactive Albumin Removal Apheresis) Therapy for the Prevention of Diabetic Complications**
Junji Takaba, PhD - Baylor College of Medicine
- 107 **A Double-Filtration Approach to Dialysate-Free Renal Replacement**
Shuvo Roy, PhD - UCSF
- 108 **Tidal Peritoneal Dialysis (TPD) Using Low Tidal (TV) and Reserve (RV) Volumes: Influence of Dialysate (D) Flow Rate (FR) on Clearance (C) and Ultrafiltration (UF)**
Martin Roberts, PhD - Sepulveda VA Medical Center
- 109 **Tailoring Adsorbents for the Treatment of Renal Disease**
Susan Sandeman, PhD - University of Brighton
- 110 **Influence of High Dialysate Glucose Concentration on Insulin to Glucose Relationship during Hemodialysis**
Daniel Schneditz, PhD - Medical University of Graz
- 111 **Possible Role of Red Blood Cell-Derived ATP in Dialysis-Induced Hypotension (DIH)**
Jan Simoni, DVM, PhD - Texas Tech Univ Health Sciences Ctr
- 112 **Therapeutic Plasma Exchange in Elderly**
John Hayes, MBBS - UVA Health Systems
- 113 **Microbubbles May Occur in the Organs in Hemodialysis Patients. A Case Report**
Bernd Stegmayr, MD, PhD - Univ Hosp of North Sweden
- 114 **Extracorporeal Support and Thrombolytics: A Strategy for Uncontrolled-DCD Organ Donation**
David Spurlock, MD - Univ of Michigan Hosp

5:30pm**ASAI0 MEMBER BUSINESS MEETING***Room: Fairchild – Terrace***8:00am– 9:30am****PULMONARY GENERAL SESSION – SUNDAY***Room: Columbia Hall 5, 6, 7 & 8 – Terrace**Chairmen: William Lynch, PhD & Zhongjun Wu, PhD***8:00AM – 8:15AM****ELSO Registry Update***Steven Conrad, MD - Chairman, ELSO Steering Committee***8:15AM – 8:40AM****Clinical Perspective of Current Pulmonary Support***Thomas Mueller, PhD - Head Med Int Care, Univ of Regensburg***8:40AM – 9:05AM****Bench to Bedside: Engineering Challenges Facing Artificial Lung Translation***Keith Cook, PhD - Res Asst Prof Bioeng & Surg, Univ of Michigan*

- What are the Technological Limitation Towards the Ideal Device
- What Engineers can do today

9:05AM – 9:30AM**Regulatory Issues for Pulmonary Support***Mark Macedo, BSN - Director Clinical Affairs, Levitronix***9:30AM – 10:00am****VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS***Room: Columbia Hall Foyer***8:00am – 9:30am****JSAO, ESAO, IFAO SESSION***Room: Columbia Hall 11 & 12 – Terrace**Chairman: Stephen Ash, MD***JSAO - JAPANESE SOCIETY FOR ARTIFICIAL ORGANS****Current Activity of the JSAO***Toru Masuzawa, PhD - Prof of Mechanical Eng Ibaraki Univ***Current Therapy with VAD for Severe Heart Failure Patients in Japan***Takashi Nishimura, MD - University of Tokyo***Artificial Organs in East Japan Earthquake***Prof Tomoyuki Yambe - Tohoku Univ***ESAO - EUROPEAN SOCIETY FOR ARTIFICIAL ORGANS****To What Extent Is Perfusive Flow Beneficial To Bioreactor Performance For Therapeutic Applications?***Prof Dr Gerardo Catapano**- University of Calabria, Rende, Italy***Does Flux Matter In Hemodialysis?***Prof Dr Joerg Vienkin - Fresenius Medical Care, Germany***How Critical Is Cannula Flow For Cerebral Perfusion During Heart & Lung Support?***Prof Dr Ulrich Steinseifer - RWTH Aachen Univ, Germany***Flow Patterns of Cardiac Assist Devices: Abundant Information About The Ventricular Statistics***Prof Dr Heinrich Schima - Medical University, Vienna***9:30am – 10:00am****VISIT EXHIBITS & POSTERS - ENJOY REFRESHMENTS***Room: Columbia Hall Foyer*

10:00am – 12:00pm

PULMONARY 5 - Panel Discussion

Room: Columbia Hall 9 & 10 - Terrace

Moderators: Dongfang Wang, MD, PhD & Matthew Bacchetta, MD

10:00AM – 10:20AM

ECMO Bridge to Lung Transplant: Maryland Experience
Jose P. Garcia, MD - Transplant Surgeon,
Univ of Maryland

10:20AM – 10:40AM

ECMO for Respiratory Failure: A Pulmonologist's Perspective
Daniel Brodie, MD - Asst Prof Clinical
Medicine, Columbia Univ

10:40AM – 11:00AM

Role and Future of ECMO for ARDS
William Lynch, MD - Director Adult ECMO Services,
Univ of Iowa

New Technology and Methodology

11:00AM

Using Biplane Angiography To Validate Computational Fluid Dynamic Models of Blood Flow in Artificial Lungs
Cameron Jones, BE - University of Kentucky

11:15AM

Negative Pressure Generation in Three Kinds of Oxygenators - An In-Vitro Study
Yoshiyuki Endo - Saiseikai Niigata Second Hospital

11:30AM

Cardiopulmonary Bypass Techniques and Clinical Outcomes in Beijing Fuwai Hospital: A Brief Clinical Review
Ju Zaho, MD - University of Kentucky

11:45AM

Nitric Oxide in Sweep Gas for Platelet Inhibition in the Artificial Lung
Kagya Amoako, MS - University of Michigan

10:00am – 12:00pm

CARDIAC 5 - Design and Testing of Circulatory Support Devices

Room: Columbia Hall 5, 6, 7 & 8 - Terrace

Moderators: Mark Slaughter, MD & Joshua Cysyk, PhD

10:00AM

Innovative Free-Range Resonant Electrical Energy Delivery System (Free-D System) for a Ventricular Assist Device Using Wireless Power
Prasad Bonde, MD - Univ of Pittsburgh Medical Ctr

10:15AM

Acute In Vivo Testing of a Novel Extracorporeal Short-Term Ventricular Assist Device
David Spurlock, MD - University of Michigan Hospital

10:30AM

A Computational Model of Apical Torsion for Cardiac Assist
Dennis Trumble, PhD - Carnegie Mellon University

10:45AM

Effects of Pulsatile Flow and Continuous Flow Ventricular Assist Device Failure on Hemodynamics and End-Organ Blood Flow
Guruprasad Giridharan, PhD - Univ of Louisville

11:00AM

Renin and Angiotensin-Converting Enzyme Levels in Calves Implanted with a Continuous Flow Total Artificial Heart
Steve Parnis, BS - Texas Heart Institute

11:15AM

In Vivo Evaluation of a New Extracorporeal Ventricular Assist Device
Brian Grace, MS - Texas Heart Institute

11:30AM

Analysis of Induced Internal Electric Field in Biological Tissues Surrounding Energy Transmission Transformer for an Artificial Heart
Shiba Kenji, PhD - Tokyo University of Science

11:45AM

Anticoagulation of Blood from Different Species for Potential Use in In Vitro Thrombosis Tests of Medical Devices
Qijin Lu, PhD - FDA

Posters Available All Day in Columbia Hall Foyer

CARDIAC POSTER SESSION 3

115

C-Pulse Extra-Aortic Counterpulsation Device - Amplifying Physiology in Chronic Heart Failure
Martin Cook, PhD - Sunshine Heart Company

116

Hemodynamic Effects of Timing on IABP Performance in Patients
Stephanie Schampaert, MSc
- Eindhoven Univ of Technology

117

Development of a Novel Skin-Button for Preventing the Driveline Infection of an Implantable VAD System
Toshihide Mizuno, DVM, PhD
- Natl Cerebral & CV Ctr Inst

118

Development of a Percutaneous Double Lumen Canula for Ambulatory Right Heart Support
Dongfang Wang, MD, PhD - Univ of Kentucky

119

Safety and Feasibility of Mapping and Delivery of Stem Cells in Sheep with an Implanted LVAD
Kimberly Moody

120

Effect of Secondary Flow on Hydrodynamic Bearings in Rotary Blood Pump
Qing Han - Zhejiang University - CANCELLED

121

Model-Based Control Design for the Excor Pediatric VAD
Andreas Arndt, PhD - Berlin Heart GmbH

122

The Continuous-Flow LVAD with Native Heart Load Control System (NHLCS) for Bridge to Recovery Could Control Myocardial Consumption of Oxygen in Acute Heart Failure Model
Takashi Nishimura - The University of Tokyo

123

A Patient-Specific Pediatric Mock Circulatory System: Investigating the Circulation Following the Norwood Operation
Giovanni Biglino, PhD - UCL Inst of CV Sciences

124

Validation of a New Ultrasonic Flow Probe with Ultrafit Liner for Continuous Cardiac Output Measurements
Santos Cabrera, MBA - Columbia University

125

Prognostic Factors in Patients Receiving Left Ventricular Assist Device (LVAD)
Shahzad Shah, MD
- Penn State Milton S Hershey Med Ctr

126

Quantitative Estimation of Left Ventricular Function during LVAD Support
Marcel Rutten, PhD - Eindhoven Univ of Technology

127

Pulsatile Cardiopulmonary Bypass Increases Surplus Hemodynamic Energy in the Aorta
Erik Sylvain, MD - Montefiore-Einstein Heart Ctr

128

Determination of the Optimal LVAD Pump Speed Range in Bridge to Recovery Treatment
George Faragallah, MSEE - Univ of Central Florida

129

Does Mitral Valve Repair Benefit Patients with Severe Mitral Regurgitation Who Undergo Left Ventricular Assist Device Implantation?
Mehmet Akay - Texas Heart Inst - CANCELLED

- 130 Cardiac Systolic Function Recovery after Hemorrhage Determines Survivability during Shock
Pedro Cabrales, PhD - University of California - CANCELLED
- 131 Implementation of Cerebral Autoregulation into Computational Fluid Dynamics
Tim Kaufmann - RWTH Aachen University
- 132 Development of a Numerical Model Using Fluid-Structure Interaction for the Connection of Outflow Cannula of LVAD to the Aorta
Jean Bonnemain - CMCS
- 133 Test and Simulation of a Mock Circulatory System with Starling Response for Evaluation of Ventricular Assist Devices
Andrew Hunsberger, MS - Mohawk Innovative Tech Inc
- 134 Very Late Thrombosis and Fracture of Cypher Stent with Acute Coronary Syndrome Three Years after PCI
*Shigeki Ito, MD, PhD
- Nishitokyo Central General Hospital - CANCELLED*
- 135 Assessment of the Aortic Valve Opening during Rotary Blood Pump Support
Marcus Granegger, MSc - Medical University of Vienna
- 136 Evaluation of a New Control Device for Stabilizing Venous Reservoir Level
Asako Tokumine, PhD - Kindai University
- 137 Flow Rate Monitoring for a Pneumatic VAD Using the Driveline Air Mass Flow
Kentaro Ohnuma, PhD - Natl Cerebral & CV Ctr
- 138 Validation of Para-Aortic Blood Pump Efficacy Using Acute Porcine Heart Failure Model
Pong-Jeu Lu, PhD - National Cheng Kung Univ
- 139 Assessment of Counterpulsation Support on Human Arterial Circulation: A Thorough Analysis Using Distributed Arterial Tree Model
Chun-Hao Hung - National Cheng Kung University
- 140 Echocardiography and Myocardial Doppler Indices in the Anaesthetized Calf - A Closed and Open Chest Study
Laila Hubbert, MD, PhD - Linkoping Heart Center
- 141 Durability and Hemocompatibility of MERA Monopivot Centrifugal Pump
*Takashi Yamane, PhD
- Natl Inst of Adv Industrial Sci & Tech*
- 142 Analysis of Gyro Pump as Long-Term Use of PCPS
*Takamitsu Terasaki, MD
- Shinshu Univ School of Medicine*
- 143 Flow Estimation Based on Static LVAD Characteristics Alone Is Not Accurate in Patients
Marcel Rutten, PhD - Eindhoven Univ of Technology
- 144 Failure Analysis and Fault Tolerance of a Mag-Lev Blood Pump
Steven Day, PhD - Rochester Institute of Technology
- 145 Pre-Clinical GLP Study of Impella 2.5 (Abiomed, Danvers, MA) for 5-Days Left Ventricular (LV) Support
Mark Slaughter, MD - University of Louisville
- 146 A Mock Circulatory System To Assess the Performance of Continuous Flow Left-Ventricular Assist Devices: Does Axial Flow Unload Better Than Centrifugal LVAD?
Jean Christian Roussel, MD, PhD - Thorax Inst
- 147 Comparison of the Potential for Thrombus Formation between a Blunt Tipped Cannula and a Novel Cannula Design
Samuel Hund, PhD - Carnegie Mellon University
- 148 Fluidic Performance Via Intrinsic Parameters of a Magnetically Levitated Axial Flow VAD
Steven Day, PhD - Rochester Institute of Technology
- 149 Computer Simulation and Mock Circulation Models of Fontan Circulation for Testing Ventricular and Cavopulmonary Assist Devices
Guruprasad Giridharan, PhD - University of Louisville
- 150 Implantable Heart Compression/Assist Devices and Systems - A Review
Mohsen Shahinpoor, PhD - University of Maine
- 151 Development and Evaluation of a Novel Endurance Test Circuit for Ventricular Assist Devices
*Hirohito Sumikura, PhD
- Natl Cerebral & Cardiovascular Ctr*
- 152 Atrial Kick for the Herical Flow Rotary Blood Pump Total Artificialheart Circulation
Tomoyuki Yambe, MD, PhD - Tohoku University
- 153 Non Working Beating Heart - A Novel Method of Myocardial Protection during Heart Transplantation
*Jarbas Dinkhuysen, MD, PhD
- Inst Dante Pazzanese de Cardiologia*
- 154 Rapid Prototyping Process of an Implantable Centrifugal Blood Pump for In Vitro Tests
*Beatriz Uebelhart
- Institute Dante Pazzanese of Cardiology*
- 155 Mock Loop Evaluation of Posture Effect on Para-Aortic Counterpulsation
Pong-Jeu Lu, PhD - National Cheng Kung Univ
- 156 Rotary Blood Pump Use in Heart Failure Patients with Normal Ejection Fraction: A Computer Simulation Study
Francesco Moscato, PhD - Medical University of Vienna
- 157 In Vivo Experiments Report from Auxiliary Total Artificial Heart (ATAH) Configured as Left Ventricle Assist Device
Aron Andrade, PhD - Inst Dante Pazzanese of Cardiology
- 158 Durability Test with a Mock Circulation for a Non-Pulsatile Ventricular Assist Device under Pulsatile Flow Condition
*Masahiro Nishida, PhD
- Natl Inst of Adv Ind Sci & Tech (AIST)*

10:00am – 12:00pm

BIOENGINEERING 5 - Fluid Dynamics and Shear Effects

Room: Columbia Hall 11 & 12 - Terrace

Moderators: James Antaki, PhD & Keefe Manning, PhD

- 10:00AM VWF Multimer Distributions and Platelet Activation in VAD and TAH Recipients
Trevor Snyder, PhD - INTEGRIS Baptist Medical Center
- 10:15AM Laser Doppler Velocimetry Study of the Flow through the PSU-ABI Tesla Pump
Joshua Taylor, BS - The Pennsylvania State University
- 10:30AM Reduced Order Modeling for Rapid Simulation without Significant Loss of Fidelity
Samuel Hund, PhD - Carnegie Mellon University
- 10:45AM Interlaboratory Study of Flow-Induced Hemolysis Using the FDA Benchmark Nozzle Model
Luke Herbertson, PhD - FDA
- 11:00AM Larger Shear Stresses in Axial VADs Account for Their Increased Hemolysis Risk Compared with Centrifugal VADs
Katharine Fraser, PhD - University of Maryland
- 11:15AM Modeling of Microparticle Trajectories in Recirculation Zones
Connie Hall, PhD - The College of New Jersey
- 11:30AM Red Blood Cell Mechanical Fragility in the Prediction of Blood Trauma in Blood-Contacting Devices
Amanda Daly, BS - University of Pittsburgh
- 11:45AM Uniquely Shaped Cardiovascular Stents Enhance Pressure Generation of Minimally-Invasive Intravascular Blood Pumps
Amy Throckmorton, PhD - VA Commonwealth Univ



Art, age 75
HeartMate II® recipient
Baseline: NYHA Class IV
24 Months post-implant: NYHA Class I

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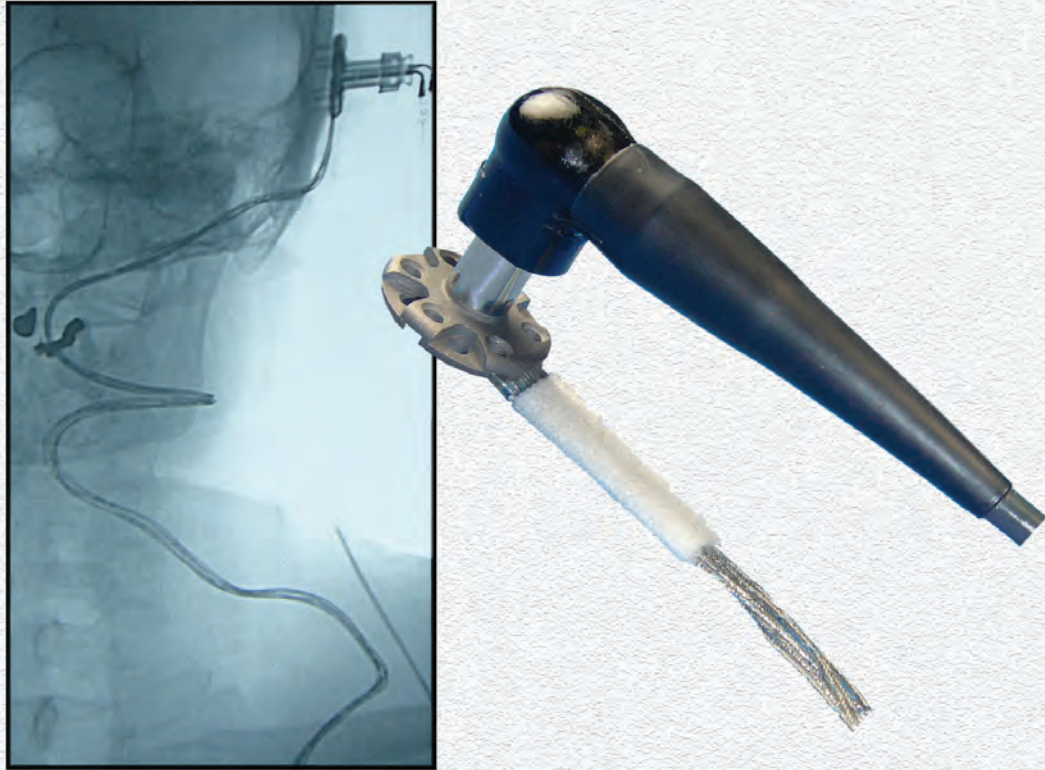
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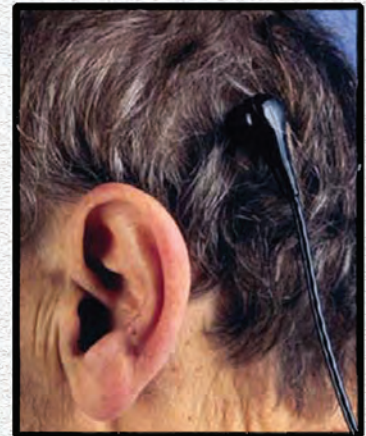


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