19th Congress of the International Society for Rotary Blood Pumps

September 8th – 10th, 2011

Scientific Committee

Dr. Yoshiyuki Taenaka
Prof. Setsuo Takatani
Dr. Kenji Yamazaki

Dr. Jan Gummert
Dr. Roland Hetzer
Prof. Jaap R. Lahpor
Dr. Heinrich Schima
Thorsten Siess
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Dr. Steven Koenig
Dr. Matthias Loebe
Dr. James Long
Dr. Edward McGee
Dr. Anna Meyer
Dr. Tadashi Motomura
Dr. Mark S. Slaughter
Dr. Matthew Williams
Thursday, September 8th

8:00 - 11:00 Board Meeting and Registration

12:30 **WELCOME**
Program Chair and ISRBP President

**HELMUT REUL YOUNG INVESTIGATORS AWARD**
Moderators: Bart Meyns, MD, PhD & Mark Slaughter, MD

12:45 Properties of the arterial blood pressure waveform during a pump speed change procedure in rotary blood pump recipients. (Jerson Martina, BS)

1:00 Continuous flow left ventricular assist devices induce left ventricular reverse remodeling (Steven Jacobs, MD)

1:15 Endothelialization of sintered inflow cannulas of the LVAD for improved hemocompatibility (Bettina Wiegmann, MD)

1:30 Alternative dressing technique with Gloycocell in patients with Ventricular Assist Device (Jan Schmitto, MD, PhD)

1:45 Cerebral and Femoral Near-Infrared Spectroscopy (NIRS) in Adults on Extracorporeal Membrane Oxygenation (ECMO) (Joshua Wong, BS)

2:00 **PRESIDENT’S ADDRESS:** Professor Bart Meyns, MD, PhD

2:30 BREAK – Visit poster/exhibits

**Scientific Session I: Clinical Outcomes**
Moderators: Jaap Lahpor, MD, PhD & Howard Frazier, MD

3:00 Impact of Infection on Stroke and Pump Thrombosis in LVAD patients (Kartik Sundareswaran, PhD)

3:15 Aortic Valve Regurgitation during continuous flow left ventricular assist device (cv-LVAD) support: A combined clinical and model study (Jerson Martina, BS)

3:30 Right ventricle failure after LVAD implantation: short-term support is sufficient (Matteo Pettinari, MD)

3:45 Log file Analysis in the HeartWare Controller as an Adjunct Clinical Diagnostic Tool (Michael Brown, BS)

4:00 First Report on the ISRBP-sponsored Multicenter Study on VAD-Usability (VADUSE) (Heinrich Schima, MD)

4:15 **Panel Discussion: Bi-ventricular Failure: With new continuous flow pumps is there a need for TAH?**
Moderator: Leonard Golding, MD
Discussants: Howard Frazier, MD, Laman Gray, MD, Marvin Slepian, MD, Francisco Arabia, MD, Aly ElBanayosy, MD
End Scientific Session I

6:00 Soccer Tournament and Reception at Cardiovascular Innovation Institute

Friday, September 9th

7:00 Breakfast

Scientific Session II(a): Pediatrics and Partial Support
Moderators: Tim Baldwin, PhD & Erle Austin, MD
8:00 Evaluation of Conformal Inflow Cannula for the PediaFlow Continuous Flow VAD (James Antaki, PhD)
8:15 Development and Performance evaluations of adult and pediatric scale viscous impeller pumps for Fontan cavopulmonary assist (Mark Rodefeld, MD)
8:30 Selection of a Novel Cannula and delivery instrument for use in mechanical circulatory support in children (Arielle Drummond, PhD)
8:45 Preclinical GLP Testing of the HeartWare MVAD Pump in the Pericardial Position (Edwin McGee, MD)

Scientific Session II(b): Future Pumps and Design
Moderators: Matthias Loebe, MD, PhD & Kurt Dasse, PhD
9:00 HeartAssist 5 VAD 60-day GLP test results showed reduced device thrombogenesis in the bovine model (Egemen Tuzun, MD)
9:15 Maximising Flow Amplitude through a RBP (Nicholas Gaddum, PhD)
9:30 Passive Control of a Biventricular Assist Devise with Compliant Cannula (Shaun Gregory, BS)
9:45 Evaluation of magnetically suspended impeller stability in a continuous flow pump (Joseph Nanna, MD)

10:00 BREAK – Visit poster/exhibits

Scientific Session III: Controllers, Recovery and Usability
Moderators: Thorsten Siess, PhD & Setsuo Takatani, PhD
10:30 Physiological Control of Rotary VAS: Lessons Learned and Future Challenges (Heinrich Schima, MD)
10:45 Ideal controlling mode (Off Test Mode) for evaluating the native heart function in time of weaning the LVAD : Controlling the power of continuous-flow LVAD to decrease the reversal pump flow in diastolic phase (Akihide Umeki, PhD)
11:00 Impella LP 2.5 for left ventricular unloading during VA-ECMO support (Michael Koeckert, BS)
11:15 Evaluation of HVAD Pump Performance During Exercise (Katherine Chorpenning, BS)
11:30 MedTech Dispo, A Disposable Mag-lev Centrifugal Blood Pump for ECMO or RVAD (Tatsuki Fujiwara, MD)

11:45 Evaluation of VAD Usability through Qualitative Assessment of Patients, Nurses and Caregivers (Joseph Frassetto, MD)

12:00 Rapid Fire Session I
Moderators: Ulrich Steinseifer, PhD & Cumara Sivathasan, MD

Successful management of a Pseudomonas driveline infection by exchange of Heartmate II to HeartWare HVAD (Edwin McGee, MD)

Preliminary Observations of Self Regulating Behavior with the HeartWare HVAD Pump (Neil Voskoboynikov, BS)

The establishment of the quantitative evaluation standard for the anatomical adaptability of the ventricular assist device (Mitsuo Mita, BS)

LVAD therapy becomes less expensive than transplantation after 29 months (Steven Jacobs, MD)

Human Factors Engineering of Pediatric VAD Peripherals (James Antaki, PhD)

12:30 Lunch
*Young Investigators Lunch: Tim Kaufmann

1:30 Keynote Address: Past, Present and Future Power Sources for Ventricular Assist Devices (Victor Poirier, PhD)

Scientific Session IV: Risk Evaluation and Implant Strategies
Moderators: Asghar Khaghani, MD & Walter Dembitski, MD

2:00 Low Incidence of Bleeding Related Morbidity with Left Ventricular Assist Device Implantation in the Current Era (Kewal Krishan, MD)

2:15 Can Pre-Implant Risk Factors be Identified in Continuous Flow Assist Device Patients with Gastrointestinal Bleeding? (Antone Tatooles, MD)

2:30 Outcomes for rotary continuous-flow left ventricular assist device patients stratified by severity of clinical status (Sven Lehmann, MD)

2:45 Medical evacuation on Mini-ECMO a new bridge to recovery in cardiopulmonary failure and blast injury (Michael Hilker, MD)

3:00 BREAK – Visit poster/exhibits

Scientific Session V: Design and Development
Moderators: Yoshiyuki Taenaka, MD, PhD & Daniel Timms, MD, PhD

3:30 Recent Progress in the development of axial flow pump implantable VAD system - in vivo performance testing (Tomonori Tsukiya, PhD)
3:45 Progress on the Design and Development of the Continuous-flow Total Artificial Heart (Mariko Kobayashi, MD)

4:00 Less invasive extracorporeal VAD system with MedTech Dispo: a feasibility study in animal (Eiki Nagaoka, MD)

4:15 The helical flow pump for the total artificial heart (Yusuke Abe, MD)

4:30 Rapid Fire Session II
Moderators: James Antaki, PhD & Edwin McGee, MD

The forgotten side of the Heart: A new concept to overcome Right Ventricle Afterload and to assist the failing right ventricle - an experimental study (Marcus Haushofer, MD)

Extracorporeal life support in cardiopulmonary resuscitation. A single center experience in 103 adult patients (Simon Schopka, MD)

Replicating Daily Activities with a VAD - A repeatable in-vitro test bed for the evaluation of RBP physiological control systems (Michael Stevens, BS)

Simulation of the hemodynamic effects of impaired aortic valve function during rotary blood pump support in rest and exercise. (Francesco Moscato, MD)

VADoscopy: A Novel Intra-operative Technique to Evaluate Heart Mate II Inflow Obstruction (Allen Cheng, MD)

Mechanical circulatory assist for right heart failure (Simon Schopka, MD)

5:00 End of Scientific Sessions

6:00 Bourbon Tasting

7:00 Gala Dinner and Awards

Saturday, September 10th

7:00 Breakfast

Scientific Session VI: ECMO and Mini VADS
Moderators: Kenji Yamazaki, MD, PhD & Aly ElBanayosy, MD

8:00 End Organ Recovery and Survival with the QuadroxD Oxygenator in Adults on ECMO (Joshua Wong, BS)

8:15 Development of a hydrodynamically levitated centrifugal blood pump for a prolonged ECMO use (Tomonori Tsukiya, PhD)

8:30 Calon MiniVAD Pump Development: Design and Testing of a Miniature Centrifugal Destination VAD (Graham Foster, MD)
9:00 A new model of centrifugal blood pump: design improvement, hemolysis tests and in vivo experiments (Juliana Leme, BS)

9:15 The role of venoarterial extracorporeal membrane oxygenation (VA-ECMO) in the ventricular assist device era (Michael Koeckert, BS)

9:30 BREAK – Visit poster/exhibits

Scientific Session VII: Engineering Solutions For Rotary Flow Pumps
Moderators: Tadashi Motomura, MD, PhD & Heinrich Schima, PhD

10:00 Special Presentation: Rotary blood pump at the time of the Sendai quake (Tomoyuki Yambe, MD)

10:15 Promise of unrestricted mobility and freedom with wireless powering of a Ventricular Assist Device (Pramod Bonde, MD)

10:30 Analytical Optimization of an Active Magnetic Levitation System for a Rotary Total Artificial Heart (Nicholas Greatrex, BA)

10:45 Which RBP physiological controller is most physiologic? Comparing control systems in repeatable autoregulatory testing scenarios (Michael Stevens, BS)

11:00 Arrhythmia control device with the implantation of the rotary blood pump (Tomoyuki Yambe, MD)

11:15 A pump flow estimator with high bandwidth for enhanced monitoring of the cardiovascular function (Marcus Granegger, MSc)

11:30 Lunch

Scientific Session VIII: Improving Outcomes with Long Term Support
Moderators: James Long, MD, PhD & Bart Meyns, MD, PhD

12:30 Left ventricular assist device implantation via mini-sternotomy in a case of peripartum cardiomyopathy (Dorothee Zingel, MD)

12:45 The influence of long-term continuous flow circulatory support by centrifugal pump LVAD on aortic valve (Takuma Miyamoto, BS)

1:00 Development and in vivo evaluation of the novel infection-resistant skin-button for an implantable axial flow VAD system (Toshihide Minzuno, MD)

1:15 A novel Ultrasound Flowprobe for use with VAD’s (Geoff Van Fleet, MD)

1:30 Increased vasopressor requirement for heart transplant patients previously supported with left ventricular assist devices (Katarzyna Hryniewicz, MD)

1:45 BREAK
**Scientific Session IX: Blood Trauma and Anticoagulation**

**Moderators:** George Wieselthaler, MD & Vincent Turitto, PhD

2:00  Investigation of the Effect of Bearing Gap Design Parameters on Mechanical Blood Damage Using Different Numerical Approaches (Roland Graefe, BS)

2:15  Platelet activation and leukocyte damage as indicated by haemolysis measured by the Harboe essay during in-vitro blood pump testing (Chris Chan, PhD)

2:30  Bovine von Willebrand factor is resistant to degradation in response to elevated shear stresses compared to human von Willebrand factor (Daniel Crandall, BS)

2:45  Bivalirudin is a safe alternative anticoagulation in LVAD patients (Laura Richardson, PhD)

3:00  **Panel Discussion:** “Has The FUTURE Arrived?”: VADs for recovery and less sick patients  
Moderator: Emma Birks, MD, PhD  
Discussants: David Farrar, PhD Stephan Schueler, MD, PhD  
James Long, MD, PhD

3:30  **Closing Remarks**