30th Congress of the International Society for Mechanical Circulatory Support

ISMCS

Reunion for clinicians and engineers

Joint International Congress 2024 in Utsunomiya

13th November – 15th November, 2024

LIGHT CUBE UTSUNOMIYA in Utsunomiya, Tochigi, Japan.

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ISMCS 2024

On behalf of the local organizing committee, I am delighted to invite you to the 30th Annual Meeting and Scientific Sessions of the International Society for Mechanical Circulatory Support (ISMCS). The conference will take place from November 13th to November 15th at LIGHT CUBE UTSUNOMIYA in Utsunomiya, Tochigi, Japan. The *ISMCS2024* will be held in person, and we are trying three new things in the program. The first is that we have two sessions for cardiologists including session with the Japanese Heart Failure Society (Topics 5) and session for AMI SHOCK (ECLS trial/ DanGer trial) (Topics 8). The second is a joint session with the VAD coordinators (Topics 4). We will discuss self-management of VADs that will reduce the burden on caregivers. The third is regarding the rapid spread of VAD treatment in Asian countries. In particular, in China, four VADs made in China are used. We will also organize an exhibition and a wet lab for devices where you can meet the distinguished experts and new devices. Moreover, we will discuss intra-atrial VAD for HFpEF (Topics 2) and First-in-Human experience of BiVACOR TAH (Topics 3).

Utsunomiya is located at north of Tokyo and it takes 50 min by bullet train (Shinkansen) from Tokyo and famous for its beautiful scenery in autumn especially in Nikko area such as Toshogu shrine (magnificent memorial for Tokugawa-shogunate, UNESCO World Heritage) (please see the beautiful Nikko: Movies | Visit Tochigi (visit-tochigi.com)). The venue will also offer local foods such as gyoza (pan fried dumplings), ramen, and strawberry. Please visit our website for registration and submission of your abstract (https://kinki-convention.jp/ismcs30/index.html).

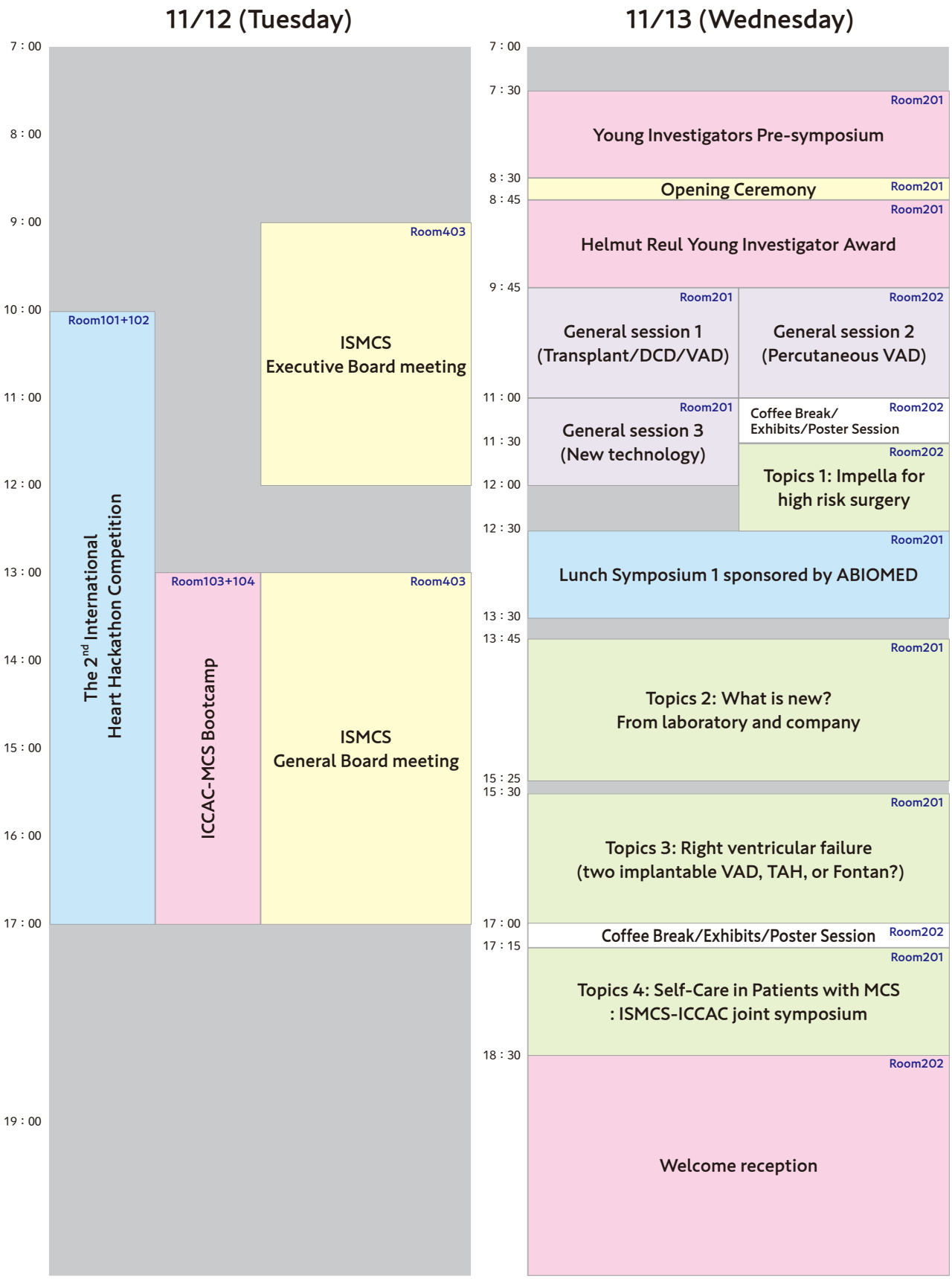
I look forward to meeting you in Utsunomiya, Japan.

Sincerely,

Koichi Toda, MD., PhD.
Congress chair
30th Annual Meeting of the ISMCS 2024
@Intl_ISMCS on X
ISMCS 2024 E-mail: ismcs2024@totalriver.co.jp

Professor and Chairman
Department of Cardiovascular Surgery
Dokkyo Medical University Saitama Medical Center

PRELIMINARY PROGRAM GRID



ISMCS 2024


11/14 (Thursday)
7 : 00
7 : 30
Room201
General session 4
(TAH)
Room202
General session 5
(Management of MCS)
8 : 45
Room201
Topics 5: ISMCS - Japanese Heart Failure Society (JHFS) joint symposium
9 : 15
10 : 15
Room201
Topics 6: Towards forgettable device: Battery/Driveline/Remote monitoring/Artificial Intelligence
11 : 25
11 : 30
Room202
Coffee Break/Exhibits/Poster Session
11 : 45
Room201
Lunch Symposium 2
sponsored by BrioHealth technology
(CH-VAD/BRIOVAD)
12 : 45
13 : 00
Room201
Topics 7: Booming VAD therapy in Asian countries
14 : 15
Room201
General session 6
(VAD in Asia)
Room202
General session 7
(ECMO)
15 : 25
15 : 30
Room202
Coffee Break/Exhibits/Poster Session
16 : 00
Room201
Topics 8: Management of AMI shock in 2024: Role of temporary MCS
(ECLS shock trial and DanGer shock trial)
17 : 00
17 : 15
Room201
General Assembly
18 : 15
19 : 00
Gala dinner
(at Utsunomiya Tobu-Hotel)
20 : 00
21 : 00
Room202
Meet the experts and new pumps in Wet Lab
(parallel session)
11/15 (Friday)
7 : 00
7 : 30
Room201
Topics 9: ISMCS-JSAO joint symposium
: How to design new pumps
(digital twins, virtual fitting, In silico testing...)
9 : 00
Room201
Topics 10: Cardiac recovery after MCS
(medication, biological therapies, etc)
10 : 15
Room202
Coffee Break/Exhibits/Poster Session
10 : 45
Room201
Topics 11: Simulation and Modelling
11 : 45
Room202
Coffee Break/Exhibits/Poster Session
12 : 15
Room201
Lunch Symposium 3
sponsored by Abbott and NIPRO
13 : 15
13 : 30
Room201
Topics 12: Complicated VAD surgery
(pump exchange, valve surgery/TAVI, etc)
14 : 50
Room202
Coffee Break/Exhibits/Poster Session
15 : 15
Room201
General session 8
(Pediatric MCS)
Room202
General session 9
(New pump and monitor)
16 : 15
Room201
Topics 13: VAD for small patients/small heart/ congenital disease
17 : 35
Closing Ceremony
Room201
17 : 40

ISMCS 2024

ISMCS 2024

International Society for Mechanical Circulatory Support
Scientific Congress

Utsunomiya, Japan
November 13 – 15, 2024

Reunion for clinicians and engineers

Tuesday November 12, 2024 (Day 0)

10:00 – 17:00 (Room 101+102)

The 2nd International Heart Hackathon Competition

Heart Hackathon is the world's first total artificial heart design competition by students, aiming to nurture and inspire the next generation in cardiovascular innovation. (Please visit: HeartHackathon)

13:00 – 17:00 (Room 103+104)

ICCAC-MCS Bootcamp

ICCAC (International Consortium of Circulatory Assist Clinicians) includes networking events, MCS (VAD) Coordinator-Specific sessions and MCS Bootcamp. This ICCAC-MCS Bootcamp will be the first ICCAC-MCS Bootcamp in Asia. (Please visit: Home | ICCAC)

9:00 – 12:00 (Room 403)

ISMCS Executive Board Meeting

13:00 – 17:00 (Room 403)

ISMCS General Board Meeting

Wednesday November 13, 2024 (Day 1)

7:30 – 8:30 (Room 201)

Young Investigators Pre-symposium

8:30 – 8:45 (Room 201)

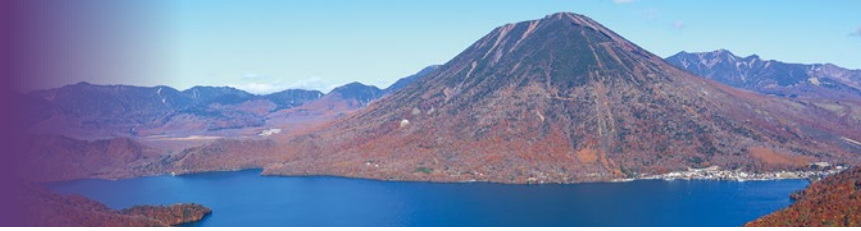
Opening Ceremony

Koichi Toda (Congress chair of the ISMCS 2024, Japan)
Antonio Loforte (President of ISMCS, Italy)

8:45 – 9:45 (Room 201)

Helmut Reul Young Investigator Award

Moderators: Ulrich Steinseifer (Germany), Steven Jacobs (Belgium), Aly Banayosy (USA)



From the ICU to the Step-Down Unit: Financial Opportunities for Patients Awaiting Heart Transplant While on Temporary Ventricular Assist Device Support
Andrew Acker (USA)

Comparison of neonatal blood with porcine blood in standardized in-vitro hemolysis testing of blood pumps
Jan Heyer (Germany)

Pulsatile Total Artificial Heart Realheart TAH Preserves von Willebrand Factor In Vitro
Shaikh Faisal Zaman (Sweden)

Comparison of a miniaturized implantable two-stage ventricular assist device to equivalent single-stage concepts
Sarah Linnemeier (Austria)

ASIC1a inhibition prolongs DCD donor heart tolerance to asystolic warm ischemia
Yashutosh Joshi (Australia)

9:45 – 11:00 (Room 201)

General session 1 (Abstract presentation)

Transplantation/DCD/VAD

Moderator: Antonio Loforte (President of ISMCS, Italy)

O-1-01 ASIC1a Inhibition prolongs DCD donor heart tolerance to asystolic warm ischemia
Yashutosh Joshi (St Vincent's Hospital, Australia)

O-1-02 Machine Perfusion Strategies in Heart Transplantation
Yashutosh Joshi (St Vincent's Hospital, Australia)

O-1-03 Advancements and Future Directions in EVHP for DCD Heart Transplantation….
Eiki Nagaoka (Tokyo Medical and Dental University, Japan)

O-1-04 A Decade of DCD Heart Transplantation in Australia
Claudio Soto (St Vincent's Hospital, Australia)

O-1-05 Heart Transplantation Performance in China: Five-Year Experience after Transplantation…
Shanshan Zheng (Fuwai Hospital, China)

O-1-06 Impact of 2018 donor heart allocation policy change on outcomes for patients on biventricular…
Daler Rahimov (Thomas Jefferson University)

O-1-07 Psychological adjustment following VAD insertion: Using behaviourially-focused therapies to…
Rosalind Case (Alfred Hospital, Australia)

O-1-08 Late on set right heart failure with left ventricular assist device: single-institution experience
Koichi Inoue (Osaka University, Japan)

O-1-09 Orthostatic Pump Flow Responses in LVAD Patients: Insights Gained from Non-invasive…
Thomas Schloeglhofer (Medical University of Vienna, Austria)

O-1-10 Managing Outflow Graft Obstruction in HeartMate 3 LVAD and a Proposed Preventive Measure
Cumaraswamy Sivathasan (National Heart Centre, Singapore)

9:45 – 11:00 (Room 202)

General session 2 (Abstract presentation)

Percutaneous VAD/ iNO

Moderator: Masahiro Ono (USA)

O-2-01 Characterization of Thrombotic Complications Associated with Extended Use of Second-….
Andrew Acker (University of Pennsylvania)

O-2-02 A New Emergency Transcutaneous VAD with Direct Cannulation by Left Ventricular Apex…
Francis Chikweto (Tohoku University, Japan)

O-2-03 Institutional experience of inhaled nitric oxide therapy in patients with mechanical circulatory..
Fumiya Chubachi (The Sakakibara Heart Institute of Okayama, Japan)

O-2-04 Utilization of RP Flex for RV Recovery in Cardiogenic Shock
Ioana Dumitru (Tampa General Hospital)

O-2-05 Outcomes of Bridging Cardiogenic Shock Patients from Impella 5.5 to LVADs and Heart Transplant.
Ahmed El Banayosy (INTEGRIS Health Inc)

O-2-06 Closing the Clinical Feedback Loop: Iterative Development of the Impella ECP through an Early..
Rahul Gandhi (Abiomed Heart and Lung institute)

O-2-07 Impella 5.5 Strategies for High-Risk Cardiac Surgery…
Yuichi Matsuzaki (Methodist Healthcare San Antonio)

O-2-08 Sealing performance of magnetic fluid shaft seal in percutaneous miniature left ventricular assist..
Eiji Okamoto (Tokai University, Japan)

O-2-09 Stabilization of Patients with Refractory Heart Failure with Impella 5.5 Support to Successfully…
Aditya Parikh (Hospital of the University of Pennsylvania)

O-2-10 Novel Design Foldable Catheter-Based Ventricular Assist Device:Initial Outcomes with NyokAssist
Tingting Wu (magAssist)

11:00 – 12:00 (Room 201)

General session 3 (Abstract presentation)

New technologies and techniques

Moderator: Vakhtang Tchantchaleishvili (Chief editor of Artificial Organs, USA)

O-3-01 Pneumatically Driven Diaphragm Pump in a Mock Circulation Loop that Simulates Hemodynamic..
Alaa Elfiky (The American University in Cairo, Egypt)

O-3-02 The Role of Extracorporeal VADs for the Treatment of Acute Heart Failure in the Era of IMPELLA
Tatsuki Fujiwara (Institute of Science Tokyo, Japan)

O-3-03 Improvement of a Magnetic-Electric Hybrid Wireless Left Ventricular Assist Device
Hideyuki Horie (Tohoku University, Japan)

O-3-04 Performance and Efficiency Analysis of a TET System for Powering Partial VAD and TAH Devices
Vlad Onceanu (Grigore T. Popa University of Medicine and Pharmacy Iasi, ROMANIA)

O-3-05 Hemodynamic Performance Evaluation of the Implantable VIGOR Circulatory Assist System in…
Steven Tsui (Royal Papworth Hospital NHS Foundation Trust, Cambridge, UK)

O-3-06 MoyoAssist Continuous-Flow External Ventricular Assist Device: Lessons Learned from the First..
Tingting Wu (magAssist)

O-3-07 Establishing the clinical training program for the BiVACOR TAH Early Feasibility Study
Nicole Bartnikowski (BiVACOR)

O-3-08 Operation of the BiVACOR TAH during weaning from Cardiopulmonary Bypass
Wilson Xie (BiVACOR)

11:00 – 11:30 (Room 202)

Coffee Break/Exhibits/Poster Session

11:30 – 12:30 (Room 202)

Topics 1: Impella for high risk surgery

Moderators: Alexander Bernhardt (Germany), Carlo Renato G Bartoli (USA), Satsuki Fukushima (Japan)

Prevention of postcardiotomy syndrome using Impella devices
Alexander Bernhardt (Germany)

High-risk CABG with direct-aortic Impella 5.5 postoperative support
Kenji Minakata (USA)

Impella-supported off-pump CABG (ImCAB) for severe ischemic cardiomyopathy
Hiroshi Niinami (Japan)

We will discuss preoperative, intraoperative (Impella supported CABG), and postoperative use of Impella for high risk patients.

12:30 – 13:30 (Room 201)

Lunch Symposium 1 sponsored by ABIOMED

Moderator: Yoshikatsu Saiki (Japan)
Evgenij Potapov (Germany), Masahiro Ono (USA), Senri Miwa (Japan)

13:45 – 15:25 (Room 201)

Topics 2: What is new? From laboratory and company

Moderators: Vakhtang Tchantchaleishvili (Chief editor of Artificial Organs, USA), Chiahao Hsu(China), Bart Meyns (Belgium)

Speakers: Vakhtang Tchantchaleishvili (USA), Johannes Muller (Berlin Heals, USA), Andrew Malone (Pumpinheart, Ireland), Ina Laura Perkins (Realheart TAH, Sweden), Po-Lin Hsu (magAssist, China), Chris Cotter (Abbott, USA), Seth Bilazarian (Abiomed, USA), KR Balakrishnan(Cardiobionic, Australia), Pascal Leprince (Corewave, France)

We will discuss microcurrent devices that propagate cardiac reverse remodeling and new pumps including intra-atrial VAD for HFpEF, Chinese percutaneous VAD, and more.

15:30 – 17:00 (Room 201)

Topics 3: Right ventricular failure (two implantable VAD, TAH, or Fontan?)

Moderators: Evgenij Potapov (Germany), Tomonori Tukiya (Japan), Antonio Loforte (Italy)

Contemporary experience with the Aeson TAH
Pascal Leprince (France)

The Right Ventricle Conundrum - Heartmate 3 biventricular support can be a good option
David McGiffin (Australia)

LVAD with right heart bypass (Fontan) for the patients with severe biventricular failure
Hiromichi Sonoda (Japan)

First in Human implantation of the BiVACOR TAH
Daniel Timms (Australia)

We will discuss clinical outcomes of Carmat TAH, HeartMate 3 x 2 as TAH, implantable Bi-VAD, Fontan type operation, and First-in-Human experience of BiVACOR TAH for right ventricular failure.

17:00 – 17:15 (Room 202)

Coffee Break/Exhibits/Poster Session

17:15 – 18:30 (Room 201)

Topics 4: Self-Care in Patients with MCS : ISMCS-ICCAC joint symposium

Moderators: Thomas Schlöglhofer (Austria), Shunsuke Saito (Japan), Christopher Hayward(Australia)

Reevaluating the Necessity of Continuous Caregiver Support for LVAD Patients in Home Care: Incidence of Pump Stoppage and Caregiver Burden
Shunsuke Saito (Japan)

Empowering the Patient to Be Self-Sufficient: Is the Caregiver Necessary?
Janelle McLean (Australia)

Combining Patient Self-Care with Remote Monitoring: Easing Clinicians' Concerns for Patients without Caregivers
Janet Wu (USA)

Competent and Confident: Facilitating Education for Self-Maintenance
Desiree Robson (Australia)

18:30 – (Room 202)

Welcome reception with Gyoza (pan fried dumplings)

Thursday November 14, 2024 (Day 2)

7:30 – 8:45 (Room 201)

General session 4 (Abstract presentation with breakfast)

Total artificial heart

Moderator: Nina Langer (Australia)

O-4-01 Low-Power Pulsatile Volumetric Displacement Pump utilizing IPMC Soft Actuators for Total…
Khaled El-Toukhy (The American University in Cairo, Egypt)

O-4-02 Frank starling like Control System using Reinforcement Learning
Tony Gerges (The American University in Cairo, Egypt)

O-4-03 Physiological Response Assessment of Total Artificial Hearts Using a Hybrid Mock Loop
Emanuele Perra (KTH Royal Institute of Technology, Sweden)

O-4-04 Evaluating the Performance of Artificial Ventricles: Comparing Wall Shear Stress, and Ejection…
Abdelrahman Sultan (The American University in Cairo, Egypt)

O-4-05 Geometries Development of an Electronically Controlled Hybrid Mock Circulation Loop for…
Massa Tolba (The American University in Cairo, Egypt)

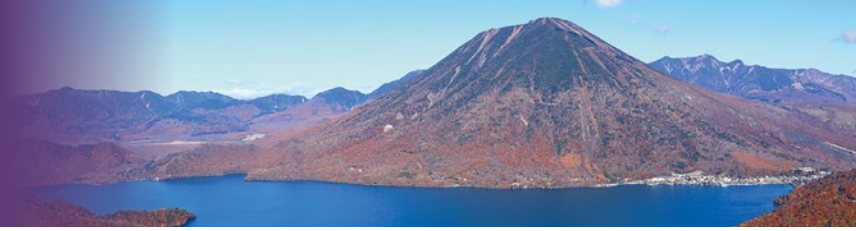
O-4-06 Novel closed-loop control system of dual rotary blood pumps in total artificial heart based on the…
Kazunori Uemura (National Cerebral and Cardiovascular Center Research Institute, Osaka, Japan)

O-4-07 Advancing Total Artificial Heart Peripherals Usability: Insights from an Eye Tracking Supported..
Thomas Schloeglhofer (Medical University of Vienna, Austria)

O-4-08 Pulsatile Total Artificial Heart Realheart TAH Preserves von Willebrand Factor In Vitro
Shaikh Faisal Zaman (Scandinavian Real Heart)

O-4-09 Transcutaneous Energy Transfer System for Efficient Wireless Operation of an IPMC-based Total…
Omar Zeinelabideen (The American University in Cairo, Egypt)

O-4-10 Clinical trial design experience for the BiVACOR Total Artificial Heart Early Feasibility Study
Louise See Hoe (BiVACOR)



7:30 – 8:45 (Room 202)

General session 5 (Abstract presentation with breakfast)

Medical and surgical management of MCS

Moderator: Cumaraswamy Sivathasan (National Heart Centre, Singapore)

O-5-01 LVAD Explantation In Patients With Myocardial Recovery：A single-center experience in China
Ping Qing (Fuwai Hospital, China)

O-5-02 Volume-outcome relationships for intra-aortic balloon pump in acute myocardial infarction
Yuichi Saito (Chiba University Hospital, Japan)

O-5-03 International Access to Mechanical Circulatory Support: Where Are We & Where Do We Go From..
Hiba Ghandour (Duke University Hospital)

O-5-04 A new technique for LVAD inflow canula implantation
Steven Jacobs (University Hospitals Leuven, Belgium)

O-5-05 A successful case of an implantable right ventricular assist device for end-stage right heart failure..
Toru Miyoshi (Ehime University Graduate School of Medicine, Japan)

O-5-06 Park Stitch for aortic regurgitation in LVAD patients. A viable option?
Cumaraswamy Sivathasan (National Heart Centre, Singapore)

O-5-07 Prognostic Impact of Right Ventricular Function in Patients Awaiting Heart Transplantation
Kohei Tonai (National Cerebral and Cardiovascular Center, Osaka, Japan)

O-5-08 Bridging therapy and risk of major bleeding and thrombosis in continuous-flow left…
Laurens Tops (Leiden University Medical Center, Netherlands)

O-5-09 Apixaban plasma levels in patients with HeartMate 3 support
Katrien Vandersmissen (University Hospitals Leuven, Belgium)

8:45 – 10:15 (Room 201)

Topics 5: ISMCS - Japanese Heart Failure Society (JHFS) joint symposium

Moderators: Koichiro Kinugawa (President of JHFS, Japan), Antonio Loforte (President of ISMCS, Italy), Ina Laura Perkins (Sweden)

The Ebb and Flow of the Tide in Durable Mechanical Circulatory Support
Mandeep Mehra (USA)

What is needed to make MCS commonplace?
Christopher Hayward (Australia)

Impella 5.5: A Tool that can Multitask
Joyce Wald (USA)

Current indication and clinical practice of Impella 5.5 in Japan
Makiko Nakamura (Japan)

Current status and future perspective of durable LVAD therapy in Japan
Masaru Hatano (Japan)

We will discuss how we can break the stagnation in the MCS area. What can we as the ISMCS do to ensure that more patients can be saved with the help of MCS?

10:15 – 11:25 (Room 201)

Topics 6: Towards forgettable device: Battery/Driveline/Remote monitoring/Artificial Intelligence

Moderators: Jamshid Karimov (USA)

The Emerging Role of Artificial Intelligence in Medicine and MCS
Marvin Slepian (USA)

Towards powering a forgettable device: Greater energy independence is paramount
Vakhtang Tchantchaleishvili (USA)

Integrated Telerehabilitation Platform for Home-based Cardiac Rehabilitation
Tatsunori Taniguchi (Japan)

Designing Innovative Short-Term Mechanical Circulatory Support Systems
Chiahao Hsu (China)

9:15 – 11:15 (Room 202)

Meet the experts and new pumps in Wet Lab (parallel session)

Alexander Bernhardt (Germany), Evgenij Potapov (Germany), Antonio Loforte (Italy), Ivan Netuka (Czech), Bart Meyns (Belgium), Steven Jacobs (Belgium), Christopher Salerno (USA), Akinobu Itoh (USA), Iki Adachi (USA), Vakhtang Tchantchaleishvili (USA), Tadashi Motomura (USA), Carlo Renato G Bartoli (USA), Georg Wieselthaler (USA), Kenji Minakata (USA), Masahiro Ono (USA), Pascal Leprince (France), Daniel Zimpfer (Austria), David McGiffin (Australia), Xianqiang Wang (China), Xiang Wei (China), Ming Gong (China), Cumaraswamy Sivathasan (Singapore), KR Balakrishnan (India), Nai Hsin Chi (Taiwan), Yang Hyun Cho (Korea), Minoru Ono (Japan), Goro Matsumiya (Japan), Yoshikatsu Saiki (Japan), Akira Shiose (Japan), Satsuki Fukushima (Japan), Shunsuke Saito (Japan)

11:15 – 11:45 (Room 202)

Coffee Break/Exhibits/Poster Session

11:45 – 12:45 (Room 201)

Lunch Symposium 2 sponsored by BrioHealth Technology CH-VAD/BRIOVAD

Moderator: Koichi Toda (Japan), Daniel Zimpfer (Austria), Christopher Salerno (USA)
Speakers: Chen Chen (China), Xianqiang Wang (China), Ming Gong (China)

13:00 – 14:15 (Room 201)

Topics 7: Booming VAD therapy in Asian countries

Moderators: Yoshiki Sawa (Japan), Cumaraswamy Sivathasan (Singapore)

Speakers: Minoru Ono (Japan), Xianqiang Wang (China), KR Balakrishnan (India), Nai Hsin Chi (Taiwan), Yang Hyun Cho (Korea)

14:15 – 15:25 (Room 201)

General session 6 (Abstract presentation)

Asian experiences of VAD therapy

Moderator: Minoru Ono (Japan)

O-6-01 A Novel Magnetically-Levitated Left Ventricular Assist System, Corheart 6 in Advanced Heart…
Haibo Chen (Fuwai Hospital, China)

O-6-02 Single Center Novel Experience with 3 Types of Made-in-China LAVDs
Zhaoyun Cheng (Fuwai Central China Cardiovascular Hospital, China)

O-6-03 Simplified LVAD Implantation Technique for Patients with Previous Sternotomy: A Modified…
Yong Cui (Zhejiang Provincial People's Hospital, China)

O-6-04 Booming LVAD Therapy in China: Four New Devices, Hundreds of Centers, and Thousands of…
Ming Gong (Beijing Anzhen Hospital, China)

O-6-05 A Novel Miniaturized VAD: Corheart 6
Junlong Hu (Fuwai Central China Cardiovascular Hospital, China)

O-6-06 Three-Year Outcomes in Patients With Fully Magnetically Levitated vs Axial-Flow Left Ventricular..
Takura Taguchi (Osaka University, Graduate School of Medicine, Japan)

O-6-07 Comparative analysis of perioperative renal function in patients undergoing heart transplantation..
Shuanglei Zhao (Beijing Anzhen Hospital, China)

14:15 – 15:25 (Room 202)

General session 7 (Abstract presentation)

New perspectives on ECMO

Moderator: Alexander Bernhardt (Germany)

O-7-01 Reducing Pump Load with Novel 3D-Oxygenator-Membranes in ECLS Circuits: a Combined in..
Kai Barbian (RWTH Aachen University, Germany)

O-7-02 New perspectives on hemolysis modeling: insights from in-silico and in-vivo data of V-V ECMO..
Christopher Blum (RWTH Aachen University, Germany)

O-7-03 Surrogate Laboratory Markers for Survival in Extra-Corporeal Membrane Oxygenation Following..
Joon Young Kim (Asan Medical Center, Korea)

O-7-04 ECMO-generated pulsatile flow increases microcirculatory perfusion and mitigates septic…
Guanhua Li (Shenshan Medical Center, China)

O-7-05 Roles of centrifugal extra-corporeal biventricular assist with an oxygenator (Oxy-BiVAD) in the…
Yoshiyuki Takami (Fujita Health University School of Medicine, Japan)

O-7-06 Direct thrombin inhibitors vs heparin to prevent clots in static blood conditions: initial in-vitro study
Jun Teruya (Baylor College of Medicine, Texas Children's Hospital)

O-7-07 Comparison between different ECMO implementation polices for ARDS
Hsiao-En Tsai (National Taiwan University Hospital, Hsinchu Branch)

O-7-08 Real-Time Implementation of the SCAI Classification Algorithm for Optimizing MCS Intervention
Charlotte Van Edom (University Hospitals Leuven, Leuven, Belgium)

15:30 – 16:00 (Room 202)

Coffee Break/Exhibits/Poster Session

16:00 – 17:00 (Room 201)

Topics 8: Management of AMI shock in 2024: Role of temporary MCS (ECLS shock trial and DanGer shock trial)

Moderators: Aly Banayosy (USA), Seth Bilazarian (USA), Naoki Sato (Japan)

Contemporary MCS therapy in AMI-CS: Role of IABP and ECMO
Manreet Kanwar (USA)

Risks and Benefits of the DanGer Shock trial for Cardiogenic Shock Put Into Perspective
Jacob Eifer Møller (Denmark)

Use of Impella in AMI Cardiogenic shock patients -Data from J-P VAD registry-
Junya Ako (Japan)

We will discuss the role of MCS including ECLS (ECLS shock trial) and percutaneous left ventricular unloading (Impella: DanGer shock trial) in the management of AMI-Cardiogenic Shock.

17:15 – 18:15 (Room 201)

General Assembly

19:00 –

Gala dinner (at Utsunomiya Tobu-Hotel)

(Gala requires registration on our website and we have shuttle buses from the venue)

Friday November 15, 2024 (Day 3)

7:30 – 9:00 (Room 201)

Topics 9: ISMCS-JSAO joint symposium with breakfast : How to design new pumps (digital twins, virtual fitting, In silico testing...)

Moderators: Christoph Nix (Germany), Toru Masuzawa (Japan), Iki Adachi (USA)

Development of blood pumps for pediatric patients and HFpEF patients
Kiyotaka Fukamachi (USA)

Experimental and numerical investigation of a scaling law for haemolysis in rotary blood pumps
Lee Nissim (ISMCS Young Researcher Scholarship winner, United Kingdom)

Development of an hydrodynamic bearing system for an extracorporeal centrifugal pump and application to mechanical circulatory support systems
Tomonori Tukiya (Japan)

The pulsatile performance of a fully magnetically suspended blood pump
Chen Chen (China)

The Artificial Heart Frontiers Program
Shaun Gregory (Australia)

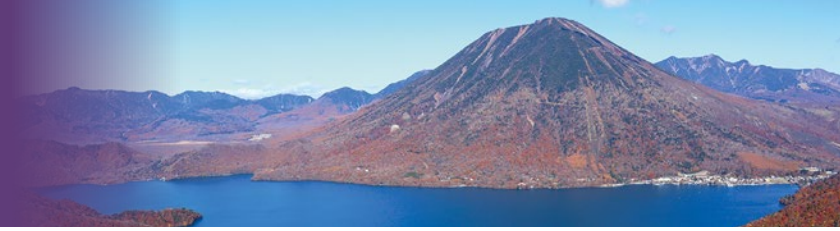
We will discuss how engineers can design the better pump based on clinical needs.

9:00 – 10:15 (Room 201)

Topics 10: Cardiac recovery after MCS (medication, biological therapies, etc)

Moderators: Stavros Drakos (USA), Yasushi Sakata (Japan)

Cardiac recovery incidence, durability, predictors and how to overcome underutilization
Stavros Drakos (USA)



Myocardial Recovery in End-Stage Mechanically Assisted Heart Failure : The PUMP + The MEDS to WEAN TO SUCCESS
Eduardo Rame (USA)

Treatment Of End-Stage Ischemic Heart Failure By iPS Cell Derived Myocardial Cell Sheet
Shigeru Miyagawa (Japan)

We will discuss how we can facilitate cardiac recovery during MCS. By medication, cardiac rehabilitation, biological therapies including iPS cell technology, or microcurrent device?

10:15 – 10:45 (Room 202)

Coffee Break/Exhibits/Poster Session

10:45 – 11:45 (Room 201)

Topics 11: Simulation and Modelling

Moderators: Jamshid Karimov (USA), Geoff Tansley (Australia)

Computational Modeling of Mechanical Circulatory Support Devices and Device-Induced Platelet Defects
Zhongjun Jon Wu (USA)

Assessing Left Atrial Hemodynamics in HFpEF with MCS: Development and Validation of a CFD Model
Nina Langer (ISMCS Young Researcher Scholarship winner, Australia)

Advancing pre-clinical hemocompatibility evaluation of blood pumps
Marcus Granegger (Austria)

11:45 – 12:15 (Room 202)

Coffee Break/Exhibits/Poster Session

12:15 – 13:15 (Room 201)

Lunch Symposium 3 sponsored by Abbott and NIPRO

Moderator: Koichi Toda (Japan)
Ivan Netuka (Czech)

13:30 – 14:50 (Room 201)

Topics 12: Complicated VAD surgery (pump exchange, valve surgery/TAVI, etc)

Moderators: Ivan Netuka (Czech), Antonio Loforte (Italy), David McGiffin (Australia)

LVAD Exchange in the Modern Era – Indications, Approaches and Pitfalls
Christopher Salerno (USA)

TAVI for AI in LVAD patients
Evgenij Potapov (Germany)

Cold sweat and big relief - Difficult LVAD cases in my carrier
Akinobu Itoh (USA)

First Clinical Use of the CH-VAD with Temporary RVAD in Cardiogenic Shock from Fulminant Giant Cell Myocarditis
Zhengdong Hua (China)

Experts will tell you how you can change the pump, fix the leaky valve, and save nightmare cases.

14:50 – 15:15 (Room 202)

Coffee Break/Exhibits/Poster Session

15:15 – 16:15 (Room 201)

General session 8 (Abstract presentation)

Pediatric MCS

Moderator: Iki Adachi (USA)

O-8-01 Comparison of neonatal blood with porcine blood in standardized in-vitro hemolysis testing of…
Jan Heyer (RWTH Aachen University, Germany)

O-8-02 A computational fluid dynamics and blade design workflow using NACA blade profiles for..
Nathaniel S. Kelly (University of Bath, UK)

O-8-03 Bridging Treatment to Berlin Heart Excor Implantation:First 10-year Experience in Two Tertiary..
Takashi Kido (Osaka University, Graduate School of Medicine, Japan)

O-8-04 Development and Initial Evaluation of the NeoVAD a Miniaturized MagLev LVAD for Pediatric...
Nobuyuki Kurita (Baylor College of Medicine)

O-8-05 Comparison of a miniaturized implantable two-stage ventricular assist device to equivalent single-..
Sarah Linnemeier (Medical University of Vienna, Austria)

O-8-06 A Magnetically Levitated Centrifugal Blood Pump with Improved Maglev Motor Geometries for..
Masahiro Osa (Ibaraki University, Japan)

O-8-07 Single-Center Results of the Application of the Fully Magnetic Levitation Left Ventricular Assist..
XINGTONG ZHOU (Fuwai Hospital, Beijing, China)

15:15 – 16:15 (Room 202)

General session 9 (Abstract presentation)

New pumps and monitoring systems

Moderator: Thomas Schloeglhofer (Medical University of Vienna, Austria)

O-9-01 Clinical diagnostic potential of HeartMate 3 pump parameters and accuracy of flow estimation
Theodor Abart (Medical University of Vienna, Austria)

O-9-02 Non-invasive prediction of preload and afterload in Heart Mate 3 outflow graft waveforms using..
Ricardo Deveza (St Vincent's Hospital, Australia)

O-9-03 Flexible Rotor Blades in LVADs: Influence on Hydrodynamic Performance and Hemocompatibility
Shweta Karnik (Georgia Institute of Technology and Emory University)

O-9-04 Intraventricular flow dynamics with left ventricle assist device: the role of left ventricle shape and..
Mehrdad Khamooshi (Queensland University of Technology, Australia)

O-9-05 Optimization of Hemodynamic Performance in LVAD through CFD in Indonesia
PRIHANTINI PRIHANTINI (Bandung Institute of Technology, Indonesia)

O-9-06 Rotary Blood Pump System for Supporting Heart Failure with Preserved Ejection Fraction
Ryan Stanfield (University of Utah)

O-9-07 Stability Assessment for a Magnetic Levitated Drive System in a Hemocompatibility Assessment..
Yaxin Wang (Texas Heart Institute)

O-9-08 Improving fidelity of preclinical models: Experience with hemodynamically relevant, isolated…
Christopher Zarins (Abiomed)

16:15 – 17:35 (Room 201)

Topics 13: VAD for small patients/small ventricle/congenital disease

Moderators: Yoshikatsu Saiki (Japan), Stavros Drakos (USA), Motoki Komori (Japan)

Surgical considerations for small ventricles and congenital malformations
Iki Adachi (USA)

VAD for failed Fontan
Daniel Zimpfer (Austria)

How small is too small? -HeartMate 3 Implant to left atrium for adult patients with small left ventricle-
Akinobu Itoh (USA)

Pedipella : the new pediatric Impella
Bart Meyns (Belgium)

We will discuss how we can implant pumps in congenital cases and pts with small ventricle.

17:40 – (Room 201)

Closing Ceremony

Koichi Toda (Congress chair of the ISMCS 2024, Japan)
Daniel Zimpfer (Congress chair of the ISMCS 2025 in Austria)

Poster presentation

Posters need to be displayed according to the map in the venue in the morning of November 13, though no presentation or discussion are planned.

P-1 A systematic review of risk prediction models in shock patients receiving temporary …
Lok Ranjan Rajmohan (ACS Medical College & Hospital, India)

P-2 Percutaneous Mechanical Circulatory Support for High-Risk Percutaneous Coronary …
Lok Ranjan Rajmohan (ACS Medical College & Hospital, India)

P-3 Outcomes of Impella-Supported Coronary Artery Bypass Grafting for Acute Coronary Syndrome..
Kazuyosh Takagi (Kurume University)

P-4 Single Center Experience of Intraoperative Impella 5.5 Supported Elective High-Risk Cardiac..
Zi Yae Kang (University of Texas at Austin Dell Medical School)

P-5 Bleeding management strategies in patients on mechanical circulatory support: Efficacy of …
Lok Ranjan Rajmohan (ACS Medical College & Hospital, India)

P-6 Outcomes and Transfusion Requirement of Aortic Arch Repair Using a Minimized Perfusion Circuit..
Nobu Yokoyama (Saitama Medical Center, Jichi Medical University)

P-7 In-Vivo Testing and Results of a Blood Oxygenator for Portable Extracorporeal Life Support Devices.
Soon-Yong Park(INSUNG MEDICAL CO., LTD.)

P-8 From the ICU to the Step-Down Unit: Financial Opportunities for Patients Awaiting Heart …
Andrew Acker(Department of Cardiovascular Surgery, Hospital of the University of Pennsylvania)

P-9 Bridge to Heart Transplant with Axillary Ecpella 5.5 : To improve functional status
Yuichi Matsuzaki (Yuichi Matsuzaki , Methodist San Antonio)

P-10 CLINICALLY RELEVANT IN VITRO MODEL OF HEMOLYSIS FROM …
Damian Mason(Department of Research, Geisinger Medical Center, Danville, PA)

P-11 Advanced Monitoring Techniques in Patients with Temporary Mechanical Circulatory …
Lok Ranjan Rajmohan(Department of General Medicine, ACS Medical College & Hospital , India)

P-12 A Comparative Analysis of Hemolysis in Venopulmonary Arterial versus Traditional Venovenous Extracorporeal Membrane Oxygenation
Adhitya Ramamurthi(Department of Cardiothoracic Surgery, Medical College of Wisconsin)

P-13 Development of non-invasive circuit pressure estimation device for extracorporeal circulation circuit
Hirohito Sumikura(School of Science and Engineering, Tokyo Denki University)

P-14 Japanese clinical results of patients with left ventricular assist device for destination therapy
Koichi Inoue(Department of cardiovascular surgery, Osaka University Medical Hospital)

P-15 Preliminary evaluation of left ventricular assist device implantation concurrent with coronary artery…
Qianxian Li(Heart and lung transplantation center)

P-16 A Review of HeartMate 3 Outcomes in Diverse Patient Populations: Comparing Regional …
Lok Ranjan Rajmohan(Department of General Medicine, India)

P-17 Intelligent Control Architecture for Ventricular Assist Devices Applying Distributed HealthIIoT …
Andre Cavalheiro(Universidade Estadual de Campinas)

P-18 Predicting Cerebrovascular Accident in Patients with Implantable Ventricular Assist Device Using …
Yusuke Misumi(Department of cardiovascular surgery)

P-19 Biological therapies to enhance cardiac recovery post-mechanical circulatory support: A …
Lok Ranjan Rajmohan(Department of General Medicine, India)

P-20 The PediMag Centrifugal Blood Pump as a Benchmark for In Vitro Testing of Hemocompatibility …
Chris Hoi Houng Chan(Innovative Device & Engineering Applications Lab, USA)

P-21 Univentricular conversion and left ventricular assist device implantation for a child with …
Yuji Tominaga(Department of Pediatric Cardiac Surgery)

P-22 Utilizing Ventricular Assist Devices in Pediatric Patients with Congenital Heart Disease: A …
Lok Ranjan Rajmohan(Department of General Medicine, India)

P-23 Bioinspired Electrically Actuated Shape Memory Polymer for use in a Ventricular Assist Device
Hanaa Shaaban (The Mechanical Engineering Department at The American University of Cairo)

P-24 Exploring the impact of Ventricular Assist Devices (VAD): A Lifeline for Paediatric Patients …
Imaan Suriya(Department of Medicine)

P-25 Deciding between two Ventricular Assistive Devices or a Total Artificial Heart: Which provides…
Brian Occhipinti(Faculty of Mechanical Engineering)

P-26 Test bench for implanted blood oxygen saturation sensor
Melusine Pigeon(Department of Electronic and Electrical Engineering)

P-27 Comparing SAVR and TAVR in VAD Patients: A Systematic Review of Long-Term Efficacy …
Lok Ranjan Rajmohan(Department of General Medicine, India)

P-28 Transcatheter Aortic Valve Replacement for Aortic Valve Regurgitation After Left Ventricular …
dan zhu(department of cardiacvascular surgery)

P-29 Design, Fabrication, and Testing of a High-Efficiency Left Atrium Unloading Device
Ali Azadani(Department of Mechanical and Materials Engineering, USA)

P-30 Comparison of pulmonary and systemic circulations in a cost efficient mock circulatory loop
Lucy Bilsborrow(Department of Electrical Engineering)

P-31 Novel Motor Design for TAH Applications: Fruitful or Futile?
Riona Elsous(Monash Student Team Initiative)

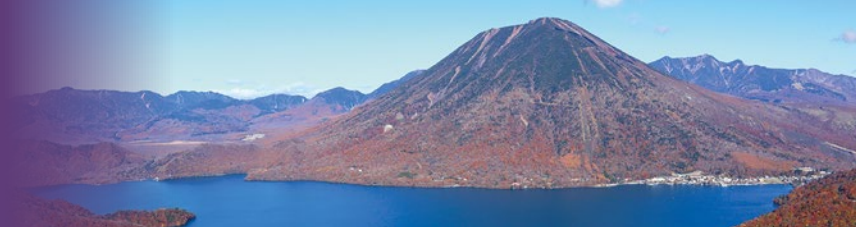
P-32 Performance Evaluation of Sealed Magnetorheological Transmission for Flow Balance Regulation …
Fumiya Kitayama(Graduate school of Science and Engineering)

P-33 The Heart Hackathon: Nurturing The Next Generation in Cardiovascular Innovation.
Nina Langer(Cardio-Respiratory Engineering and Technology Laboratory (CREATElab), Australia)

P-34 Reducing the Number of Wires in a Magnetically Levitated Pediatric Ventricular Assist Device …
Yuki Nagasawa(Graduate school of Science and Engineering)

P-35 Manufacturing and testing of polyurethane artificial ventricles using gravity casting with a …
Giorgio Pascucci(Department of Mechanical Engineering)

P-36 Performance evaluation of a 3-pole magnetic bearing for implantable pediatric ventricular …
Ryoichiro Sato(Graduate school of Science and Engineering)



P-37 A Systematic Review of the Cost-Effectiveness of Durable Mechanical Circulatory …
Lok Ranjan Rajmohan(Department of General Medicine, India)

P-38 Mathematical Modelling and Simulation of LVAD Flow Parameters to Enhance Cardiac Output and…
Prihantini Prihantini(Machine Learning for medicine Laboratory, Indonesia)

P-39 Case Report: When Less is More, Management of LVAD Patient with RV Failure
Jonathan DeWolf(Alabama College of Osteopathic Medicine)

P-40 Parametric Design of Heart Valve Leaflets for Personalized Bioprosthetic Valve
Abdallah Alkhaiyat(Department of Mechanical Engineering)

P-41 Predictive Modelling of Chronic CVD-comorbid Diseases based on OMICS Data: A Machine…
Rana Salah(Department of Biology)

P-42 A Framework for Designing Patient-Specific Parametric Artificial Ventricles for Total Artificial …
Mrwan Thabet(Department of Mechanical Engineering)

P-43 Enhancing Engineering Education with Competition Teams
Mansi Ahuja(Department of Electrical & Electronic Engineering)

P-44 CENTRIFUGAL BLOOD PUMP STUDY WITH MAGNETIC LEVITATION DRIVING UNIT …
Phuttinan Chantapram(Department of Biomedical Engineering,)

P-45 Prolonged Pre-LVAD Tp-e interval can Predict Ventricular Arrhythmias after LVAD Implantation
chen chen(Department of Cardiovascular Surgery)

P-46 Development and Preliminary Validation of a Mock Circulatory Loop for Assessing Total Artificial…
Jessica Gordon(California Baptist University Gordon and Jill Bourns College of Engineering …

P-47 Design and Optimization of a Rotary Total Artificial Heart with Adjustable Output and Enhanced…
Jayden Hunt-Hoskin(Department of Biomedical Engineering)

P-48 Development of a Mechanical Fatigue Tester for Assessing Longevity of Tubing Materials for…
Joshua Lute(California Baptist University Gordon and Jill Bourns College of Engineering Department …

P-49 Total Artificial Heart: Computational Fluid Dynamics Approach for Optimized Pressure Generation…
Pat Ngamdachakij(Department of Biomedical Engineering, Thailand)

P-50 Changes in the Red Blood Cell Fragility Circulating in an Extracorporeal Circulation Device
Tetsuya Yano(Graduate School of Science and Technology)

P-51 Extracorporeal membrane oxygenation used in acute myocardial infarction with ventricular septal…
zheng zhang(Department of cardiovascular surgey,sir run run shaw hospital zhejiang University)

P-52 Development of Endotracheal Liquid Perfusion Therapy with ECMO to Treat Multiple Patients …
Yoshiaki Takewa(Advanced Medical Engineering Research Center)

P-53 Computational modeling of blood clotting for predictions of post-surgical hemorrhagic …
Katharine Fraser(Department of Mechanical Engineering)

P-54 On the development of a benchmark maglev blood pump and influence of manufacturing tolerance…
Peng Wu(Department of Medical Equipment)

P-55 Replicating the clinical environment: Experience with patient-specific anatomic models derived…
Christopher Zarins(Abiomed, Inc.)

P-56 Long-Term Durability Assessment of the VIGOR Blood Pump Sac
Pong-Jeu Lu(3R Life Sciences Ltd., Kaohsiung, Taiwan)

P-57 Development of a Virtual Fitting Software to Facilitate Simulated Implantation of the VIGOR …
Pong-Jeu Lu(3R Life Sciences Ltd., Kaohsiung, Taiwan)

P-58 Infrequent Need for Temporary Mechanical Circulatory Support After Mitral Valve Surgery
Tomoki Sakata(Division of Cardiac Surgery)

P-59 Impella Support : A Review of Patients Successfully Supported with Impella 5.5 Device During …
Joyce Wald(Department of Medicine)

P-60 Early Outcomes of Impella 5.5 Insertion via the Brachiocephalic Artery
Satoshi Kainuma(Department of Cardiac Surgery)

P-61 Early Initiation of Venoarterial Extracorporeal Membrane Oxygenation-Supported High-Risk…
Tien Ping Tsao(Division of Cardiology)

P-62 Institutional strategy of management of mechanical circulatory support after cardiovascular surgery
Yuki Yoshioka(Department of Cardiovascular Surgery)

P-63 Combined Perctaneous Peripheral Venopulmonary-Arterial ECMO and IMPELLA 5.5 for…
Yuichiro Kishimoto(Department of Cardiovascular Surgery)

P-64 The Impact of Renal Protection: Veno-Arterial Extracorporeal Membrane Oxygenation Combined…
Yukiya Konno(Department of Clinical Engineering)

P-65 Circulatory support with Impella utilizing direct aorta approach for postcardiotomy cardiogenic shock
Keitaro Domae(Division of Thoracic and Cardiovascular Sugery, Niigata University Graduate School of Medical and Dental Sciences)

P-66 Temporary MCS Support In Heart Failure Patients Undergoing Non-Cardiac Surgery
Ioana Dumitru(Tampa General Hospital)

P-67 Single Center Experience of IMPELLA as Bridge-to-Surgery for Cardiogenic Shock
Masashi Kawamura(Department of Cardiovascular surgey)

P-68 An Australian Single Centre Experience With Impella Devices: Indications, Roles & Outcomes
Yashutosh Joshi(Heart Transplant Unit)

P-69 Three cases using a BIOFLOAT-NCVC, novel miniaturized centrifugal pump levitated…
Masayuki Doi(Department of Cardiovascular Surgery)

P-70 Novel Real-time Continuous pH/Lactate Detection for Extra-corporeal Circulation
Hsiao-En Tsai(Department of Cardiovascular Surgery)

P-71 Novel Real-time Continuous Intra-muscular Lactate Detection: A Rat Ischemic Limb Model
Hsiao-En Tsai(Department of Cardiovascular Surgery)

P-72 Successful orthotopic heart transplantation after prolonged support with Excor pediatric left…
Takaya Hoashi(Department of pediatric cardiac surgery)

P-73 Flow rate estimation method of a maglev centrifugal blood pump using magnetic suspending currents
Yuuho Goto(Graduate school of Science and Engineering)

P-74 Active impeller excitation for preventing pump thrombus using magnetic bearing
Wataru Hijikata(Department of Mechanical Engineering)

P-75 The design of ECMO device in Japan.
Shotaro Kobayashi(Products Planning & Marketing)

P-76 A Durable Mechanical Circulatory Support Device Transformed for Transcatheter Deployment to…
Ryan Stanfield(University of Utah)

P-77 Research on the influence of microstructured surface characterization parameters on blood damage
Liudi Zhang(Artificial Organ Laboratory)

P-78 Design, Development and Testing of a Wireless Transcutaneous Communications System
Benjamin Green(Department of Electrical and Electronic Engineering, University of Bath)

P-79 Is Pulse necessary in ECMO? Verification of the effect of pulsatile flow from a blood pump in…
Tatsuki Fujiwara(Department of Cardiovascular Surgery)

P-80 Current Status and Challenges of Home Visits for VAD Patients at Our Hospital
Ryohei Matsuura(Ryo Heart Clinic)

P-81 A case of successful percutaneous closure of patent foramen ovale causing a right-left shunt after…
Shunsuke Saito(Department of Cardiovascular Medicine)

P-82 Round-robin study on in vitro testing of mechanical circulatory support systems
Libera Fresiello(Cardiovascular and Respiratory Physiology)

P-83 Clinical Outcomes of Left Ventricular Assist Device Bleeding Complication
Shusuke Imaoka(Departments of Cardiovascular Surgery)

P-84 Primary animal study of the pneumatically driven ECMO device
chengbin zhou(Department of Cardiovascular Surgery, China)

P-85 Heart Transplantation and Ventricular Assist Device Surgery in Patients with Heart Failure: …
Young Su Kim( )

P-86 Preoperative higher right ventricular stroke work index increases the risk of de novo aortic…
Shusaku Maeda( )

P-87 Assessment of the association between albumin levels and prognosis before initiation of IMPELLA…
Toru Miyoshi( )

P-88 Motor Design and Performance of the MoyoAssist Continuous-Flow Pump for Advanced Acute…
Chiahao Hsu( )

P-89 Extracorporeal Membrane Oxygenation with BreathMo Novel Mechanical Circulatory Support…
Tingting Wu ( )

P-90 Evaluating Fault Tolerance of the BiVACOR TAH
Anna Davis( )