Day 1, November 19 (Wednesday)

Room 2 (Grand Ballroom B)

[JSAO-IFAO Symposium] 17:30 - 19:00

Chairs: Tomohiro Nishinaka (Department of Artificial Organs, National Cerebral and Cardiovascular Center, Japan)
Akira Shiose (Department of Cardiovascular Surgery, Kyushu University, Japan)

IFAO-JSY-1 Continuous-flow left ventricular assist device treatment in Japan
Minoru Ono (Department of Cardiovascular Surgery, The University of Tokyo, Japan)

IFAO-JSY-2 Regulatory requirements for clinical trials in Europe- A short overview
Heinrich Schima (Med. Univ. of Vienna, Austria & Austrian Society for Biomedical Engineering, Austria)

IFAO-JSY-3 ASAIO 2025 Conference Summary and 2026 Conference Prospects
Kiyotaka Fukamachi (Department of Cardiovascular Surgery, Kyushu University Graduate School of Medicine, Japan)

Day 2, November 20 (Thursday)

Room 2 (Grand Ballroom B)

[Symposium 1] 9:00 - 10:20

Regenerative medicine

Chairs: Cécile Legallais (Laboratory of Biomechanics and Bioengineering, CNRS, University of Technology of Compiegne, France)
Tetsuji Yamaoka (Department of Clinical Engineering, Komatsu University, Japan)

IFAO-SY1-1 in vitro and in silico liver models
Cécile Legallais (Laboratory of Biomechanics and Bioengineering, CNRS, University of Technology of Compiegne, France)

IFAO-SY1-2 Regenerative medicine - the past, present and future
Bindu Akkanti (McGovern Medical School, the University of Texas, Health Science Center, USA)

IFAO-SY1-3 Cellular Aggregation Induced by Biophysical or Biochemical Cues During Cardiomyocyte Differentiation from Human iPS Cells Exhibits Subtype Deviation
Zhonggang Feng (Graduate School of Science and Engineering, Yamagata University, Japan)

IFAO-SY1-4 Development of a Hybrid Artificial Chorda with Enhanced Mechanical Properties and Biocompatibility
Riku Yoshinari (Graduate School of Science and Engineering, Yamagata University, Japan)

[Oral 1] 10:30 - 11:25

Emerging ECMO Technology

Chairs: Masaki Anraku (Department of Thoracic Surgery, Tokyo Metropolitan Institute for Geriatrics and Gerontology / Department of Thoracic Surgery, The University of Tokyo Graduate School of Medicine, Japan)
Shingo Ichiba (Department of Anesthesiology and Intensive Care Unit, Nihon University Itabashi Hospital, Japan)

IFAO-O1-1 Preclinical models for central ECMO configuration using silicone-based artificial lungs for long-term respiratory support
Masaki Anraku (Department of Thoracic Surgery, Tokyo Metropolitan Institute for Geriatrics and Gerontology / Department of Thoracic Surgery, The University of Tokyo Graduate School of Medicine, Japan)

IFAO-O1-2 New Technique of Indocyanine Green Fluorescence Imaging in Mechanical Circulatory Support
Tatsuki Fujiwara (Department of Cardiovascular Surgery, Institute of Science Tokyo, Japan)

IFAO-O1-3 The Current State of ECMO in Vietnam
Anh Tu Nguyen (Center for Critical Care Medicine, Bach Mai Hospital, Hanoi, Vietnam / Hanoi Medical University, Vietnam)

IFAO-O1-4 Current Status and Future Direction of ECCO2R
Shingo Ichiba (Department of Anesthesiology and Intensive Care Unit, Nihon University Itabashi Hospital, Japan)

[Oral 2] 13:20 - 14:00

Tackle with Right Heart

Chairs: Akira Shiose (Department of Cardiovascular Surgery, Kyushu University, Japan)
Satsuki Fukushima (Department of Cardiovascualr Surgery, National Cerebral and Cardiovascular Center, Japan)

IFAO-O2-1 Feasibility of Mini-RVAD for severe right heart failure after LVAD implantation - verification in a swine model

Hidetomi Takahashi (Department of Cardiovascular Surgery, The University of Tokyo Hospital, Japan)

IFAO-O2-2 Compact magnetically levitated centrifugal blood pump development for implantable right ventricular assist device

Mikiya Kawamura (Graduate school of Science and Engineering, Ibaraki University)

IFAO-O2-3 Prediction of Right Heart Failure After LVAD Implantation: Risk Stratification Using the PAPi and Pulmonary Arterial Compliance

Toshihide Izumida (Department of Cardiovascular Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan. / Second Department of Internal Medicine, University of Toyama, Japan.)

[Oral 3] 14:10 - 14:50

New Device for Pediatric

Chairs: Yoshiaki Takewa (Advanced Medical Engineering Research Center, Asahikawa Medical University, Japan)
Takeshi Shinkawa (Department of Cardiovascular Surgery, Tokyo Women's Medical University, Japan)

IFAO-O3-1 Development of autologous heart valves for related diseases of tetralogy of Fallot

Yoshiaki Takewa (Advanced Medical Engineering Research Center, Asahikawa Medical University, Japan)

IFAO-O3-2 Outcomes and Challenges of Transitioning from ECMO to Paracorporeal VAD in Pediatric Severe Heart Failure

Miyu Tsuruoka (Department of Cardiovascular surgery, The University of Tokyo Hospital, Japan)

IFAO-O3-3 Numerical Investigation of Controlled Fracture Strategies for Pediatric Pulmonary Artery Stents

Xiaoxi Hou (Insititute of Development, Aging and Cancer, Tohoku University, Japan)

[Symposium 2] 15:00 - 16:40

Basic Research

Chairs: Keshava Rajagopal (Department of Cardiac Surgery at Sidney Kimmel Medical College / Thomas Jefferson University, USA)
Akio Kishida (Institute of Integrated Research, Institute of Science Tokyo, Japan)

IFAO-SY2-1 Developments and Advances in Mathematical Modeling in the Cardiovascular System

Keshava Rajagopal (Department of Cardiac Surgery at Sidney Kimmel Medical College/ Thomas Jefferson University, USA)

IFAO-SY2-2 Investigation of cell culture compatibility of a rapidly gelling hydrogel

Masaharu Abe (Graduate School of Science and Engineering, Yamagata University, Japan)

IFAO-SY2-3 Development of urethane-lilke titanium surface modification method for enhanced cell adhesion and antibacterial properties

Kazumitsu Sekine (Graduate school of Biomedical Sciences, Tokushima University, Tokushima, Japan)

IFAO-SY2-4 Physical and functional evaluation of sterilizable xenogeneic decellularized graft

Yuji Yasui (National Cerebral and Cardiovascular Center Research Institute / Graduate school of Science and Engineering, Kansai University, Japan)

IFAO-SY2-5 Evaluation of immune response using THP-1 cells in various decellularized tissues

Mika Suzuki (Faculty of Life Science, Toyo University, Japan)

Day 3, November 21 (Friday)

Room 2 (Grand Ballroom B)

[Symposium 3] 9:00 - 10:40

Novel cf-LVADs

Chairs: Kiyotaka Fukamachi (Department of Cardiovascular Surgery, Kyushu University Graduate School of Medicine, Japan)
Minoru Ono (Department of Cardiovascular Surgery, The University of Tokyo, Japan)

IFAO-SY3-1 A Clinical Update: The Fully Magnetically Levitated CH-VAD/BrioVAD Pump
Karl Nelson (Senior Vice President, Clinical Operations, BrioHealth Technologies, China)

IFAO-SY3-2 Rapid VADs Development in China
Liu Xiaocheng (TEDA International Cardiovascular Hospital, China)

IFAO-SY3-3 EVAHEART3: Re-departure of the EVAHEART Project
Tadashi Motomura (President & CEO, Evaheart, Inc., USA)

IFAO-SY3-4 Development of the novel J-MACS score for the risk stratification of DT candidates
Teruhiko Imamura (Associate Professor, the Second Department of Internal Medicine, University of Chicago Medical Center, United States)

IFAO-SY3-5 Novel Continuous-Flow Left Ventricular Assist Devices
Kiyotaka Fukamachi (Department of Cardiovascular Surgery, Kyushu University Graduate School of Medicine, Japan)

[Oral 4] 10:50 - 11:45

Emerging VAD Technology

Chairs: Masahiko Ando (Department of cardiovascular surgery, The University of Tokyo Hospital, Japan)
Tomoyuki Fujita (Department of Cardiovascular Surgery, Institute of Science Tokyo, Japan)

IFAO-O4-1 Non-invasive estimation of left ventricular end diastolic pressure through a mechanical seal system for a rotary blood pump.
Daisuke Ogawa (Sun Medical Technology Research Corp., Japan)

IFAO-O4-2 Determinants of Cardiac Output after LVAD Implantation: A Hemodynamic Classification Study
Takuya Goto (Department of Cardiovascular Surgery, The University of Tokyo Hospital, Japan)

IFAO-O4-3 The impact of right ventricular stroke work index at heart transplant registration on survival outcome in the Japanese population
Masahiko Ando (The University of Tokyo Hospital, Department of Cardiovascular Surgery, Japan)

IFAO-O4-4 A Numerical Study on Circulatory Assistance by a Direct Left Ventricular Apex Puncture Cannulation Pump during Cardiac Arrest.
Francis Chikweto (Institute of Development, Aging and Cancer, Tohoku University, Japan)

[IFAO Grant Session] 13:15 - 13:35

Chairs: Minoru Ono (Department of Cardiovascular Surgery, The University of Tokyo, Japan)

IFAO-GS-1 Growth as a feature: Proof of concept in-vivo study of a volume adjustable oxygenator

Felix Hund (Cardiovascular Engineering, RWTH Aachen University, Germany)

IFAO-GS-2 In vitro investigation of the hemodynamics of patients with Impella

Fanette Chassagne (Mines Saint-Etienne, France)

[Oral 5] 13:40 - 14:35

Machine Perfusion

Chairs: Naoto Matsuno (Department of Organ Transplantation, National Center for Child Health and Development / Medical Organ Engineering, Tokyo Metropolitan University, Japan)
Yasuhiro Kotani (Cardiovascular Surgery, Okayama University, Japan)

IFAO-O5-1 Quantification of Renal Oxygen Consumption During Hypothermic Oxygenated Perfusion (HOPE)

Tomoki Abe (Tokyo Metropolitan University, Japan)

IFAO-O5-2 Integrated assessment method of ischemic reperfusion injury during machine perfusion for DCD donor transplantation

Hiromichi Obara (Tokyo Metropolitan University, Japan)

IFAO-O5-3 Small intestinal metabolism maintenance using subnormothermic machine perfusion for transplantation

Satoshi Muto (Department of Mechanical Systems Engineering, Tokyo Metropolitan University, Japan)

IFAO-O5-4 Evaluation of an Optimal Colloid Solution for Normothermic Machine Perfusion of Porcine Kidneys Combined with Hemodialysis

Akihiro Saitou (Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Japan)

[Symposium 4] 14:50 - 16:30

Emerging MCS technologies

Chairs: Heinrich Schima (Med. Univ. of Vienna,Austria & Austrian Society for Biomedical Engineering, Austria)
Toru Masuzawa (Ibaraki University, Japan)

IFAO-SY4-1 Emerging MCS technologies

Pramod Bonde (Yale School of Medicine, USA)

IFAO-SY4-2 Fluid Dynamic Design of the Next-Generation BrioVAD Pump

Chen Chen (Founder of BrioHealth Technologies, China and BrioHealth Solutions, United States)

IFAO-SY4-3 Designing Innovative Short-Term Mechanical Circulatory Support Systems

Chia-Hao Hsu (Senior Director of Scientific & Innovation, magAssist Inc., Suzhou, China)

IFAO-SY4-4 What we need for the Future of MCS

Georg M. Wieselthaler (University of California San Francisco, USA / GAD Heart & Lung Institute, KSA)

IFAO-SY4-5 Developing MCS devices in Japan

Toru Masuzawa (Ibaraki University, Japan)

[Oral 6] 16:40 - 17:35

Safe and Effective LVAD

Chairs: Masato Mutsuga (Department of Cardiac Surgery, Nagoya University Graduate School of Medicine, Japan)
Hitoshi Inafuku (Department of Thoracic and Cardiovascular Surgery, University of the Ryukyus, Japan)

IFAO-O6-1 Current Status of Perioperative Inhaled Nitric Oxide Therapy after LVAD

Yugo Kunibe (Department of Cardiac Surgery, The University of Tokyo Hospital, Japan)

IFAO-O6-2 Changes in Skeletal Muscle Mass and Sarcopenia Status After LVAD Support

Shuhei Fujita (Department of Cardiovascular Medicine, National Cerebral and Cardiovascular Center Hospital, Suita, Japan)

IFAO-O6-3 Feasibility of blood pressure measurement using photoplethysmography in patients with left ventricular assist devices

Yusuke Tsutsumi (Department of Cardiovascular Medicine, Graduate School of Medical Sciences, Kyushu University / Department of Clinical Engineering, Kyushu University Hospital, Japan)

IFAO-O6-4 Von Willebrand factor-related values could predict bleeding events in patients with left ventricular assist devices.

Ryuichi Taketomi (Department of Cardiovascular Surgery, Iwate Prefectural Central Hospital / Division of Cardiovascular Surgery, Tohoku University Graduate School of Medicine, Sendai, Japan)