

OS9: Biomedical Flow Dynamics

November 11, 2025

EX-4A

- OS9-1
17:00-17:30 **Four-Dimensional Transcriptomic Profiling of Cerebral Aneurysm Growth and Treatment Effects with Flow Diversion** *(Invited)*
Naoki Kaneko, Milan Samarage, Riki Kawaguchi, Omar Selim, Lea Guo, Juan P Villablanca (University of California Los Angeles, USA), Laurel Marsh, Yutaro Komuro, Juan Cebal (George Mason University, USA), Jason Hinman (University of California Los Angeles, USA)
- OS9-2
17:30-17:45 **Assessment of Porous Medium Coil Packing on Hemodynamics in Large and Small Intracranial Aneurysms**
Nadia Shaira Shafii, Kahar Osman (Universiti Teknologi Malaysia, Malaysia), Ryuhei Yamaguchi, Hitomi Anzai, Makoto Ohta (Tohoku University, Japan)
- OS9-3
17:45-18:00 **Quantitative Geometric Comparison of Real and Virtual Internal Carotid Arteries Based on Three Dimensional Bending Angles and Shape Distance Metrics**
Vedhino Bima Aryaputra Ahnaf, Kazuyoshi Jin, Jing Liao, Makoto Ohta, Hitomi Anzai (Tohoku University, Japan)
- OS9-4
18:00-18:15 **Segmentation of Alveoli Using 3D U-Net in Synchrotron Micro-CT Images**
Haruki Maruyama, Eiichiro Yamamoto, Hisato Kobayashi, Gaku Tanaka (Chiba University, Japan), Toshihiro Sera (Tokyo University of Science, Japan)
- OS9-5
18:15-18:30 **Computational Analysis of Hemodynamics in an Asymmetrically Stenosed Artery Using a Boundary Value Framework**
Shazmani, Anju Saini, Deepika Saini (Graphic Era Deemed to be University, India)

November 12, 2025

EX-4A

- OS9-6
9:00-9:15 **Composite Meshes for Biomedical Applications** *(Invited)*
Sarolta Halmóczy, Veronika Pálos, Constantinos Voniatis (Semmelweis University, Hungary), Hanif Saifurrahman, Makoto Ohta (Tohoku University, Japan), Angela Jedlovszky-Hajdu (Semmelweis University, Hungary)
- OS9-7
9:15-9:30 **Development of Polysuccinimide-Salt Nanofibers for Wound Dressing Applications**
Veronika Pálos, Dorottya Gréta Kis, Sarolta Halmóczy, Constantinos Voniatis (Semmelweis University, Hungary), Hanif Saifurrahman, Makoto Ohta (Tohoku University, Japan), Angela Jedlovszky-Hajdu (Semmelweis University, Hungary)
- OS9-8
9:30-9:45 **Nanostructured Composites in Biomedical Research**
Sarolta Halmóczy, Kitti Osán, Angéla Jedlovszky-Hajdú, Constantinos Voniatis, Veronika Teréz Pálos (Semmelweis University, Hungary), Makoto Ohta, Hanif Saifurrahman (Tohoku University, Japan)

- OS9-9
9:45-10:00 **Catheter Tracking System Using Magnetic Field**
Louis Paquet (ELyTMaX IRL3757, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Japan / CREATIS, Université Lyon1, France / Tohoku University, Japan), Makoto Ohta, Yoichi Haga, Noriko Tsuruoka (Tohoku University, Japan), Aurélie Solignac (Université Paris-Saclay, France), Kevin Tse Ve Koon (CREATIS, Université Lyon1, France), Benjamin Ducharne (ELyTMaX IRL3757, Univ Lyon, INSA Lyon, Centrale Lyon, Université Claude Bernard Lyon 1, Tohoku University, Japan / INSA Lyon, France)
- OS9-10
10:00-10:15 **Study on Effects of Various Parameters on Penetration Accidents during Catheter Introduction**
Hiroto Hidaka, Kazuto Takashima (Kyushu Institute of Technology, Japan), Yoichi Haga, Makoto Ohta (Tohoku University, Japan), Koji Mori (Yamaguchi University, Japan), Naoki Toma (Mie University, Japan), Masaaki Shojima (Teikyo University, Japan)
- OS9-11
10:15-10:30 **Designing In Situ Pressure Measurement System for In Vitro Vascular Model Experiment**
Fara Azzahra Dinata (Institut Teknologi Bandung, Indonesia), Muhammad Salman Al Farisi (Hiroshima City University, Japan), Narendra Kurnia Putra (Institut Teknologi Bandung, Indonesia)
- 10:30-10:45 BREAK
- OS9-12
10:45-11:00 **A Hidden Physics-Informed Multilayer Perceptron Neural Network for Real-Time Prediction of Coronary Hemodynamics**
Jincheng Liu (National Institute of Metrology, China), Suqin Huang (Beijing University of Technology, China), Zheng Hu, Xiang Ding (National Institute of Metrology, China), Youjun Liu (Beijing University of Technology, China)
- OS9-13
11:00-11:15 **Fundamental Study on a Flow Resistance Model of Heart Valves in Blood Flow Analysis**
Kosei Ueda, Suguru Miyauchi (University of Miyazaki, Japan), Kenichi Funamoto (Tohoku University, Japan)
- OS9-14
11:15-11:30 **Fluid-Structure Interaction Analysis of an Internal Carotid Artery Aneurysm**
Kazuyu Yasuda, Kazuya Matsumoto (Chiba University, Japan), Makoto Ohta (Tohoku University, Japan), Gaku Tanaka (Chiba University, Japan)
- OS9-15
11:30-11:45 **Effects of Local Changes in Geometric Characteristics and Mechanical Properties of Blood Vessel Wall on Reflected Pulse Waveform Using Fluid-Structure Interaction Analysis**
Daiki Konosu, Tomohiro Fukui (Kyoto Institute of Technology, Japan)
- OS9-16
11:45-12:00 **Performance Evaluation of a Cavopulmonary Assist Device for Fontan Circulation Central Venous Pressure Reduction**
Ahmad Zahran Md Khudzari, Chin Zi Rui, Muhamad Ikhwan Jamaluddin, Nadia Shaira Shafii, Wan Nor Syuhada Wan Zahari, Syafiqah Saidin (Universiti Teknologi Malaysia, Malaysia), Sivakumar Sivalingam (Institut Jantung Negara, Malaysia)

- OS9-17
12:00-12:15 **Numerical and Experimental Studies of the Influence of Artificial Aortic Valve Configuration and Posture on Flow Patterns**
Enhui Han (Beijing University of Technology, China), Qianwen Hou (Chinese Academy of Medical Sciences, China), Aike Qiao (Beijing University of Technology, China)
- 12:15-13:30 BREAK
- OS9-18
13:30-13:45 **High Intensity Ultrasound Control Using Neural Operators**
Paolo Guida, William L. Roberts (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)
- OS9-19
13:45-14:00 **Understanding the Physical Aspects Behind Bio-fluid Dynamics Through Combination of In Vitro Experiment and In Silico Simulation**
Narendra Kurnia Putra, Petrus Diyos Widhi Prasetya, Fara Azzahra Dinata, Dicky Setianto (Institut Teknologi Bandung, Indonesia)
- OS9-20
14:00-14:15 **Physiological Effects of Microbubble Bathing**
Hiroyuki Katagiri, Hiroto Narita, Hiroaki Hasegawa (Utsunomiya University, Japan), Sachiko Uemura (Akita University, Japan), Yusuke Takei (National Institute of Advanced Industrial Science and Technology, Japan)
- OS9-21
14:15-14:30 **A Numerical Simulation Study of Three Surgical Procedures for Aortic Root Replacement**
Qian Wang (Beijing University of Technology, China), Xinjin Luo, Juntao Qiu, Shengyi Hu (Chinese Academy of Medical Sciences, China), Yanping Zhang, Tianming Du, Aike Qiao (Beijing University of Technology, China)
- OS9-22
14:30-14:45 **Modeling Aqueous Humor Dynamics: Unveiling the Role of Uveoscleral Outflow**
Muhammed Albadawi, Mohamed G. AbdElKader, Yasser Abuouf, Abdulrahman Khaled, Nada Youssef, Nour Mahfouz, Mahmoud Tarek (Alexandria University, Egypt), Ryuhei Yamaguchi, Makoto Ohta (Tohoku University, Japan)
- OS9-23
14:45-15:00 **Combining Control-Based Physiological Modeling with Remote Monitoring for Specific COPD Management**
Anju Saini, Shazmani (Graphic Era Deemed to be University, India)