

Program of The 7th Japan-China-Korea Joint Workshop on Fluid Power 2025

(Presentation for 15 mins, and Q&A for 10 mins.)

13:00-13:10	Opening Remarks, Prof. Kazuhisa Ito (Shibaura Institute of Technology)
Session 1	AI & Learning for Fluid Power
Chair	Prof. Kazuhisa Ito (Shibaura Institute of Technology)
13:10-13:35	Artificial Intelligence in Hydraulic Component Manufacturing—Anomaly Detection of Piston Pump Assembly Based on Transfer Learning with Small Samples Jianfeng Tao, Haoyang Tan (Shanghai Jiaotong University)
13:35-14:00	Implementing LSTM-GRU-PID Hybrid Neural Networks for Enhanced Control and Energy Efficiency of Excavator Cylinder Van Hien Nguyen, Kyung Shin Kwak, Jee Hwan Ahn, Soon Yong Yang, Kyoung Kwan Ahn (University of Ulsan)
14:00-14:25	Design and Performance Evaluation of a Pneumatic Gripper with Magnetorheological Elastomers for Adaptive and Energy-Efficient Gripping Chenxiao Li, Minwu Seo, Chul-Hee Lee (Inha University)
Session 2	Simulation & Control
Chair	Prof. Tetsuya Akagi (Okayama University of Science)
14:40-15:05	Analyzing Pressure Drop Characteristics of Multi-inlet Gas-liquid Cyclone Separator by Using LES Model Jin Zhang, Jihui Wang, Dongjing Chen, Zhiyuan Wang, Ying Li, Jing Yao (Yanshan University)
15:05-15:30	Analysis of Flow Ripple Characteristics in Axial Piston Pumps and Pulsation Reduction Design for Even-Piston Pump Saeryung Choi, Myengcheol Kang, Hoyeon Lee, Seokseung Kim, Hyukjin Kwon, Sangwon Ji (Korea Construction Equipment Technology Institute)
15:30-15:55	Ultra Precise Positioning Control on Standard Type Pneumatic Actuator Masahiro Takaiwa, Lim Wen Chiang (Tokushima University)
Session 3	Energy Saving & Sustainability
Chair	Prof. Joon-Wan Kim (Institute of Science Tokyo)
16:10-16:35	Design Methodology of Additive Manufacturing-Enabled Lightweight Hydraulic Channel Network Yi Zhu, Yi Zeng, Yuying Gu, Cong Zhao (Zhejiang University)
16:35-17:00	Basic Research on Multi-stage Amplifier Type Compact Compressors Takumi Kobayashi (Akita Prefectural University), Yu Miyake, Tetsuya Akagi, Shujiro Dohta, Feifei Cho, Masashi Yokota, Takashi Shinohara, Naoki Saito (Okayama University of Science)
17:00-17:25	Initiatives for Environmental Friendliness of Fluid Power Systems in Japan (A Short Review) Toshiharu Kazama (Muroran Institute of Technology)
17:20-17:30	Closing Remarks, Prof. Yutaka Tanaka (Hosei Univeristy)