DAY 1 - OCTOBER 2, 2025 - EVENT HALL 01

Turbo and Hydraulic Pumps/Motors (Part 1)		
13:30 - 15:00	**Paper ID**	**Chair: Prof. Young-Seok Choi, Korea Institute of Industrial Technology, South Korea**
13:30 - 13:45	**725**	Matching Characteristics of Hydraulic and Booster Systems of an Ultra-High-Pressure Hydraulic-Driven Compressor **Shengli Wang, Minghao Dai, Xiaoming Liu, and Yueping Yu**
13:45 - 14:00	**734**	Numerical Investigations of the Cavitation Performance and Pressure Fluctuations for the Mixed Flow Pump by Blade Modification **Weixiang Ye, Zhiyu Zhang, Xianwu Luo, and Hong Wang**
14:00 - 14:15	**758**	Numerical Study on the Impact of Slit Geometry in a Turbopump Inducer **Hyunsu Jeong, HaRam Oh, and Younjea Kim**
14:15 - 14:30	**773**	Effect of Leading-Edge Cut Width in Non-Axisymmetric Vaned Diffusers on Rotating Stall in a Centrifugal Pump **Mikio Takahashi, Shinichiro Ejiri, and Masahiro Miyabe**
14:30 - 14:45	**780**	Transient Characteristics at Rapid Startup of a Centrifugal Pump **Teiichi Tanaka and Hiroki Hirano**
14:45 - 15:00	**785**	Study of Partial Guide Vanes on Performance Curve Instability in Impeller Pumps **Zhenhua Han, Tim Schwarz, Gang Yang, Ji Pei, and Martin Böhle**
15:00 - 15:30		**Tea-Break**
Cavitation & Multi-Phase Flows (Part 2)		
15:30 - 17:00	**Paper ID**	**Chair: Prof. Ling Zhou, Jiangsu University, China**
15:30 - 15:45	**805**	Experimental Investigation on the Cavitation Characteristics of a Jet Pump Cavitation Reactor at Full Operating Conditions **Tongshan Chai, Jiong Wang, Huaiyu Cheng, Zuti Zhang, and Xinping Long**
15:45 - 16:00	**826**	Numerical Investigation of Impact Forces and Cavitation Dynamics on a Water-Entry Projectile **Seong-Ho Park, Van-Tu Nguyen, Warn-Gyu Park, and Jinyul Hwang**
16:00 - 16:15	**831**	Simulation and Analysis of Damage to Material Surface Impacted by High-Speed Sediment-Laden Water Flow Based on the SPH-FEM Method **Miao Li, Jiayi Hu, Shuaihui Sun, and Pengcheng Guo**
16:15 - 16:30	**864**	A Study on Dissolved Gas Diffusion and Precipitation in Cavitating Flow in a Two-Dimensional Converging-Diverging Nozzle **Masaki Kadota, Tomoki Yumiba, Satoshi Watanabe, Shin-ichi Tsuda, and Hideo Mori**
16:30 - 16:45	**871**	Numerical Investigation of Cloud Cavitation in a High-Pressure Submerged Water Jet **Taihei Onishi, Yusei Omura, and Guoyi Peng**

DAY 1 - OCTOBER 2, 2025 - EVENT HALL 02

Fans, Blowers, and Compressors (Part 1)		
13:30 - 15:00	**Paper ID**	**Chair: Prof. Guoyi Peng, Nihon University, Japan**
13:30 - 13:45	**710**	Study on the Thermal Flow Field of a Turbocharger Centrifugal Compressor **T. Kitamura, M. Harada, M. Osako, Y. Uramachi, and M. Ozaki**
13:45 - 14:00	**743**	Rotordynamic Forces in a Mixed-Flow Pump with a Whirling Eccentric Impeller **Tien-Dung Vuong, Youngkuk Yoon, Daehee Jeong, Taegyu Choi, and Seung Jin Song**
14:00 - 14:15	**784**	Proper Orthogonal Decomposition of Unsteady Circumferential Pressure in a Supercritical Carbon Dioxide Centrifugal Compressor under Inlet Pressure Fluctuation **Zimu Yang, Hongsheng Jiang, Weilin Zhuge, Yuping Qian, and Yangjun Zhang**
14:15 - 14:30	**828**	Impact of Blade Installation Angle on Aerodynamic Performance of Ducted Fans under High-Speed Conditions **Lihui Sun**
14:30 - 14:45	**839**	The Impact of Changing the Position and Width of Casing Treatment Downstream Slit on the Surge Characteristic of Centrifugal Compressors **Tomoki Ikegai**
14:45 - 15:00	**844**	Bio-Inspired Mini Axial Fan for Thermal Management **Dhruv S. Kuvar and Venugopal Arumuru**
15:00 - 15:30		**Tea-Break**
Design, Optimization & Manufacturing (Part 2)		
15:30 - 17:15	**Paper ID**	**Chair: Prof. Yuka Iga, Tohoku University, Japan**
15:30 - 15:45	**726**	Multidisciplinary Design Optimization of Centrifugal Compressors for Enhanced Stability and Isentropic Efficiency **Yu Tian and Guoyuan Ma**
15:45 - 16:00	**757**	Measurement Model and Estimation of Energy Steam Consumption for an Industrial Boiler **Nguyen Tien Quang, Nguyen Duc Quyen, and Nguyen Duc Minh**
16:00 - 16:15	**793**	A Study on Analyzing the Combustion Process in a Direct Injection Methane Engine by Modeling a Single Wiebe Function **Nguyen Hoang Nhan, Nguyen Long Chau, Jeongwoo Lee, and Tran Dang Quoc**
16:15 - 16:30	**809**	Breakup Mechanism and Liquid Fragment Formation in the Atomizing Zone of a Multi-Channel Airblast Atomizer **P.V.T. Nam, N.T. Kien, and P.X. Phuong**
16:30 - 16:45	**823**	Effects of Soil Temperature and Pipe Thickness on Thermal Flow Characteristics in a Hydrogen Transfer Buried Pipe **Cheol-Jung Kang**
16:45 - 17:00	**849**	Rotating Machine Fault Classification Using VAE-Augmented Deep Learning **Thai-Hung Pham, Trong-Du Nguyen, Danh-Thanh-Binh Do, and Phong-Dien Nguyen**
17:00 - 17:15	**1006**	Optimization of Finishing Parameters to Enhance Water Repellency and Durability of Water Resistance in 100% Polyester Fabric **Luu Thi Tho, Nguyen Thi Mai, and Duong Thi Phuong**

DAY 1 - OCTOBER 2, 2025 - ROOM 03

Hydrodynamic Turbines (Part 1)		
13:30 -15:00	**Paper ID**	**Chair: Prof. Jun Yang, University of Shanghai for Science and Technology, China**
13:30 - 13:45	**744**	Effect of Sediment Concentration on Solid-Liquid Two-Phase Flow in a Francis-99 Turbine with Guide Vane **Kang Xu, Yulin Xue, Weihua Zhong, Ziyao Zhou, Jiayang Pang, and Xiaobing Liu**
13:45 - 14:00	**745**	Numerical Simulation of Off-Design Conditions Internal Flow and Pressure Pulsation Characteristics in Pump-Turbine under the Power Generation Case **Hong Yu, Xiaobing Liu, Jiayang Pang, Jitao Liu, Yuanyuan Gang, and Shenhui Li**
14:00 - 14:15	**778**	Unstable Flow and Pressure Fluctuation in a Francis Turbine at Different Part-Load Conditions **B. H. Liu, Q. W. Yan, C. Geng, and X. W. Luo**
14:15 - 14:30	**783**	Energy Dissipation Characteristics of a Reversible Mixed-Flow at Pump and Turbine Modes Based on Entropy Production Theory **Junxia Lin, Ji Pei, Wenjie Wang, and Shouqi Yuan**
14:30 - 14:45	**794**	A Numerical Method to Determine Fluid-Added Parameters in Hydraulic Turbines **Michel J. Cervantes and Mehrdad Raisee**
14:45 - 15:00	**807**	Exploring the Optimal Design of Hydraulic Characteristics for a Pelton Turbine Nozzle **Yunfa Lin, Yongguang Cheng, Quanwei Liang, Haolin Tian, Kaicheng Deng, and Zhaoning Wang**
15:00 - 15:30		**Tea-Break**
Control, Operation, Monitoring & Diagnosis (Part 2)		
15:30 -17:00	**Paper ID**	**Chair: Prof. Martin Böhle, RPTU Kaiserslautern-Landau, Germany**
15:30 - 15:45	**790**	A Modified PID Controller for Aircraft Pitch Motion Control **Le Thanh Tung**
15:45 - 16:00	**797**	Research on Transient Characteristics of a Safety Valve Based on Multi-Physics Field Coupling **Liang Yun, Chen Wenhua, Huang Jun, and Huang Weixi**
16:00 - 16:15	**820**	A Digital Twin-Based Supervisory Control System for a Pneumatically Actuated Cartesian Robot **Giang-Nam Le, Thi-Tra-Giang Nguyen, Minh-Quoc Nguyen, Hoang-Huy Le, and Trung-Thanh Nguyen**
16:15 - 16:30	**821**	A Real-Time Simulation Method Using MATLAB Simulink and Simscape Library for a Pneumatically Actuated System **Giang-Nam Le, Thi-Tra-Giang Nguyen, Trung-Thanh Nguyen, and Ngoc-Duc Nguyen**
16:30 - 16:45	**829**	Measurement of Unsteady Volume Flow Rate Using a Venturi Flow Meter with Consideration of Unsteady Effects **Takuji Ikeda, Takumi Kimura, Teppei Onuma, Mnotohiko Nohmi, Byungjin An, and Donghyuk Kang**
16:45 - 17:00	**891**	A Simulation Study of a Spherical Air Bearing Used for Vibration Reduction **Truong Minh Duc, Nguyen Quang Lam, Nguyen Thi Linh, Nguyen Huu Nguyen Anh, Ngo Ich Long, and Vu Toan Thang**

DAY 1 - OCTOBER 2, 2025 - ROOM 04

Gas and Steam Turbines (Part 1)		
13:30 - 15:00	**Paper ID**	**Chair: Prof. Shouqi Yuan, Jiangsu University, China**
13:30 - 13:45	**754**	Numerical Investigation on the Effect of Heterogeneous Condensation Induced by Nano-Droplet on Steam Turbine Performance **G. Zhang, Q. Zhang, Q. Yao, Y. Yang, Z. Jin, and S. Dykas**
13:45 - 14:00	**755**	Experimental and Numerical Study of Moist Air Non-Equilibrium Condensation in a Nozzle Based on a Novel Model **Z. Jin, Y. Li, Q. Yao, M. Majkut, K. Smołka, S. Dykas, and G. Zhang**
14:00 - 14:15	**759**	Nozzle Performance Evaluation Considering Non-Equilibrium Condensation under Complex Weather Conditions for Guiding CAES Optimization **Y. Yang, Q. Yao, M. Majkut, K. Smołka, Z. Jin, S. Dykas, and G. Zhang**
14:15 - 14:30	**779**	A Study on Performance Improvement of a Radial Turbine at Partial-Load Conditions **Akihito Sayo, Shingo Shichiri, Yusei Miyamoto, and Toshimasa Miura**
14:30 - 14:45	**818**	A New Surrogate Approach of Machine Learning to Predict Turbo Cascade Flow **Lu Yufeng, Chen Liu, and Dai Ren**
14:45 - 15:00	**825**	Design of an Air-Cooled Thermal Management System for a 100 kW Turbine Generator Utilizing Compressor Mainstream **Kaiwen Jin, Bo Tang, Yuping Qian, Yangjun Zhang, Weilin Zhuge, Zhenyu Cheng, and Zhanming Ding**
15:00 - 15:30		**Tea-Break**
Propulsion (Part 2)		
15:30 - 17:00	**Paper ID**	**Chair: Prof. Seung Jin Song, Seoul National University, South Korea**
15:30 - 15:45	**751**	Hybrid Physics-Data Approach for Transient In-Ground-Effect Thrust Prediction for Ducted Fan eVTOLs **Yuhang He, Yiwei Luo, Yuping Qian, and Yangjun Zhang**
15:45 - 16:00	**791**	Investigations on Aerodynamics of External Store and Safe Separation Trajectories Using the High-fidelity Analysis **Minh Hien Dao, Nhu Van Nguyen, Thien Bach Nguyen, Phi Minh Nguyen**
16:00 - 16:15	**796**	Optimal design of turboelectric propulsion system for B738 class aircraft **Xuankai Qiang**
16:15 - 16:30	**819**	Effects of Boundary Jet Flow on the Pressure Pulsation in a Waterjet Propulsion Device **Chen L, Ma X.Q., Gao M.Z, Dai R.**
16:30 - 16:45	**857**	A simulation study on the impact of portioning fuel ratio in single cylinder spark ignition natural gas engine using double injectors **Nguyen Hoang Nhan, Luong Anh Tuan, Jeongwoo Lee, Tran Dang Quoc**

DAY 1 - OCTOBER 2, 2025 - ROOM 05

Computational Fluid Dynamics (Part 1)		
13:30 - 15:00	**Paper ID**	**Chair: Prof. Kwang-Yong Kim, Inha University, South Korea**
13:30 - 13:45	**813**	Correction of a CFD Erosion Model Based on a Rotating Disk Wear Test **Hongjiang Duan, Long Wang, Dong Liu, Enhao Qi, Duo Ma, and Shuaihui Sun**
13:45 - 14:00	**814**	A Study on the Hydrodynamic Performance of Multiple Autonomous Underwater Vehicles Using CFD **Ngo Van He**
14:00 - 14:15	**827**	A Comparative Study of Hydrogen Flow and Thermal Behavior in Pipelines Using 1D and 3D Numerical Analysis **Ho-Jin Choi**
14:15 - 14:30	**858**	Computational Fluid Dynamic Modeling of a Frozen Beef Transport System **Duy Hung Vu and Thi Thu Hang Tran**
14:30 - 14:45	**900**	Collision of a Vortex Ring with a Wavy Sphere **Van Luc Nguyen, The Hoang Nguyen, Thi Dieu Thuy Phan, and Van Quang Anh Vo**
14:45 - 15:00	**902**	Comparison of Small Deep-Hole Pneumatic Probe Designs by Equivalent Electro-Pneumatic Modeling and CFD Simulation **Ta Thi Thuy Huong, Tran Thi Son Ha, Ha Minh Hien, Dong Thi Bao Ngoc, Le Minh Duc, Dinh Van Oai, and Vu Toan Thang**
15:00 - 15:30		**Tea-Break**
Energy Conversion and Storage Systems (Part 2)		
15:30 - 17:00	**Paper ID**	**Chair: Prof. YounJea Kim, Sungkyunkwan University, South Korea**
15:30 - 15:45	**775**	Design and Simulation of an Integrated Dehumidification and Air-Conditioning System Utilizing Geothermal Energy **Ta Van Chuong, Nguyen Quoc Uy, Pham Quang Vu, and Nguyen Dinh Khuong**
15:45 - 16:00	**816**	Performance Simulation of a Fuel Cell-Turbo Compound Electric Power System **Chuang Xu, Hongsheng Jiang, Weilin Zhuge, Yuping Qian, and Yangjun Zhang**
16:00 - 16:15	**885**	Development of Renewable Energy in Vietnam **Tuan Phan Anh**
16:15 - 16:30	**922**	Investigation of a Fluid Diode for Wave Energy Conversion: Effect of Cross-Sectional Shape of Ring-Shaped Obstacles **Rokuto Mizutaki**
16:30 - 16:45	**942**	A Study of the Thermal Management System for Lithium-Ion Batteries in Fast Charging/Discharging Processes **Vinh Quang Huynh, Ngoc Minh Nguyen, Tien Thua Nguyen, Minh Tien Le, and Thanh-Long Phan**
16:45 - 17:00	**991**	A Review of Turbocharging and Exhaust Gas Recirculation Strategies for Hydrogen-Fueled Internal Combustion Engines **T.A. Trung, N.V. Hoang, and H.X. Nang**
17:00 - 17:15	**1009**	A Review of Mobile Pumping Equipment for Emergency Water Management **Wuchang Wang, Mingyu Fu, and Zhimin Zhang**

DAY 2 - OCTOBER 3, 2025 - EVENT HALL 01

Turbo and Hydraulic Pumps/Motors (Part 3)		
08:30 - 10:00	**Paper ID**	**Chair: Prof. Xianwu Luo, Tsinghua University, China**
08:30 - 08:45	**786**	Experimental Study on Performance Deterioration of a Turbopump with an Inducer Due to Precipitation of Dissolved Gas **Yohei Ueno, Hayato Kitamura, Wataru Ikeda, Satoshi Watanabe, Yohei Tanaka, Akira Sakata, and Yasushi Matsunaga**
08:45 - 09:00	**810**	Transferability Investigation of the Tandem Impeller on the Performance of a Low Specific Speed Centrifugal Pump **Gang Yang, Desheng Zhang, Zhenhua Han, and Martin Böhle**
09:00 - 09:15	**822**	Suppression of Cavitation in an Axial-Flow Pump by Using the Groove Technique on the Impeller Tip **Duc-Anh Nguyen, Deokju Sung, Youn-Sung Kim, and Jin-Hyuk Kim**
09:15 - 09:30	**830**	Analysis of Rub Motion Induced by Aerodynamic Forces within a High-Pressure Turbomachinery Rotor System **Xiao-Ming Liu, Yueping Yu, Sibing Hu, Chao Chang, and Shunzeng Wang**
09:30 - 09:45	**867**	Design and Fabrication of a Hydraulic Butt Welding Equipment System for Dissimilar Plastic Pipes **Nguyen Tien Duong**
09:45 - 10:00	**876**	Theoretical Study on the Efficiency of Axial Flow Submersible Pumps Considering the Influence of Diffuser Cone Angle **Nguyen Minh Tuan and Nguyen Thi Nho**
10:00 - 10:30		**Tea-Break**
Wind and Flow Turbines (Part 4)		
10:30 - 12:15	**Paper ID**	**Chair: Prof. Sung Goon Park, Seoul National University of Science and Technology, South Korea**
10:30 - 10:45	**815**	Impact of a Circular Cylinder Deflector on the Performance of a Bach-Type Savonius Turbine **Minh Banh Duc, Hung Tran The, Truong Dinh Cong, Ba Dang The, Phuong Nguyen Thi Thu, Thuan Truong Van, Minh Do Van, Anh Truong Viet, Duc Dinh Nguyen, Huy Tran Dang, and Anh Le Dinh**
10:45 - 11:00	**833**	An AI-Based Approach for Prognostics and Health Management of Wind Turbines **Do Manh Hung**
11:00 - 11:15	**836**	Robust Control for Maximizing Power Production of Offshore Wind Turbines in Low-Speed Wind Conditions **Hoang Minh Tien, Le Kieu Hiep, Phan Thanh Tung, and Do Manh Hung**
11:15 - 11:30	**837**	Safe and Robust Speed Control for Large-Scale Wind Turbines in High-Speed Wind Regions **Nguyen Huu Thang, Do Cao Trung, Nguyen Duc Duong, and Do Manh Hung**
11:30 - 11:45	**855**	Evolution of Value and Technological Advancement of Wind Resource Assessment Throughout the Lifecycle of a Wind Farm **Zhang Xiaowen**
11:45 - 12:00	**860**	A Blade Torsional Deformation Measurement Method for Large-Scale Wind Turbine Blades by Stereo Digital Image Correlation (Stereo-DIC) **Xiaosen Ye, Renjing Cao, and Longcui Qiu**
12:00 - 12:15	**954**	A Numerical Study of Wake Characteristics of a Floating Offshore Wind Turbine **Van-Hoang Nguyen, Van-Long Cao, Lian Shen, and Sung Goon Park**
12:15 - 13:30		Lunch

DAY 2 - OCTOBER 3, 2025 - EVENT HALL 02

Fans, Blowers, and Compressors (Part 3)		
08:30 - 10:15	**Paper ID**	**Chair: Dr. Van Bo Nguyen, Institute of High-Performance Computing (IHPC), Agency for Science, Technology and Research, Singapore**
08:30 - 08:45	**879**	Research and Evaluation of the Efficiency of the Method of Manufacturing Axial Fans Using Centrifugal Casting Technology **Vu Dinh Dang, Minh Tuan Nguyen, and Van Xo Nguyen**
08:45 - 09:00	**894**	Numerical Study of the Relationship between the Hub-to-Tip Diameter Ratio and the Performance of Steam Centrifugal Compressors in a Two-Stage MVR System **Jun-Beom Kim, Hyeon-Mo Yang, Kyong-Yong Lee, Joon-Yong Yoon, and Young-Seok Choi**
09:00 - 09:15	**950**	Research on the Impact of a Curved Volute Fan on the Performance of an Integrated Air Duct System **Yanpeng Ma, Xiaokang Peng, Jiwu Jiang, Meng Hao, and Xiaomin Liu**
09:15 - 09:30	**952**	Study on the Effects of the Structure of the Mesh Cover on the Aerodynamic Performance of a Fan **Wu Xianpeng, Liu Xiaomin, Wei Lai, Luo Dan, and Kang Ruixiang**
09:30 - 09:45	**988**	Numerical Aeroacoustic Characteristics of an electric Ducted Propulsion Fan with Surface Roughness Numerical Aeroacoustic Characteristics of an Electric Ducted Propulsion Fan with Surface Roughness **G.D. Pham, T.D. Nguyen, H.Q. Chu, B.N. Nguyen, T.S. Vu, V.D. Vu, T.K. Nguyen, D.A. Le, T.H. Tran, X.G. Nghiem, and C.T. Dinh**
09:45 - 10:00	**989**	Advanced Experimental and Computational Investigation of Rotor Dynamics in Axial Compressors: A Comparative Study on Aluminum 7050 and Titanium Ti-6Al-4V **Nhat Minh Hoang, Minh Duc Ha, and Cong Truong Dinh**
10:00 - 10:15	**1000**	CFD-Based Performance Prediction and Blade Count Optimization for a High-Pressure Centrifugal Fan with Perpendicular Blade Geometry **Toan Van Nguyen, Quyen Duc Vu, Huy Chuong Tran, Duc Xuan Vu, Manh Duc Nguyen, Manh Hung Nguyen, and Sang Truong Ha**
10:15 - 10:30		**Tea-Break**
Tribology, Seals and Bearings (Part 4)		
10:30 - 12:15	**Paper ID**	**Chair: Prof. Ich Long NGO, Hanoi University of Science and Technology, Vietnam**
10:30 - 10:45	**795**	Research on Evaluating the Braking Efficiency of 1.25-Ton Trucks on Nonlinear Bumpy Roads **Danh Nguyen Thanh, Phat Khau Tan, and Huu Vo Trong**
10:45 - 11:00	**868**	Design of a Shaft Sealing Test Bench **Qinzhao Zhang and Hong Wang**
11:00 - 11:15	**881**	Dynamic Characteristics of a Thrust Bearing in a 300 MW Suspended Pumped Hydroelectric Generator: A Numerical Investigation of Two Models **Shenming Ren, Yuan Zheng, Kui Tang, and Yuquan Zhang**
11:15 - 11:30	**887**	Deepwater X-Tree Spring Seal Structure Design and Seal Performance Analysis **Zhang Hong, Long Shengjun, Huang Yi, Feng Ding, Lin Yaojun, Wang Gaolei, and Liu Kuo**
11:30 - 11:45	**890**	Reliability and Lifetime Evaluation of Metro Train Wheelsets Due to Wear and Tear in Operation on the Cat Linh - Ha Dong Line **Toan Duc Nguyen and Tuan Duc Do**
11:45 - 12:00	**896**	Reliability Evaluation of the Crankshaft Bearing System in D19E Locomotive Engines Used in Vietnam Railways **Hieu Van Tran, Tuan Duc Do, and Toan Duc Nguyen**
12:00 - 12:15	**932**	Effect of Gas Nitriding on the Surface Properties of Titanium **Trung Trinh Van and Trang Dang Huyen**
12:15 - 13:30		Lunch

DAY 2 - OCTOBER 3, 2025 - ROOM 03

Hydrodynamic Turbines (Part 3)		
08:30 - 10:00	**Paper ID**	**Chair: Prof. Chenhao Li, Xi'an University of Technology, China**
08:30 - 08:45	**812**	Cavitation-Induced Gate Vibration and Elimination in a Sediment Flushing Deep Tunnel of a Dam **Xupeng Chen, Bin Liu, Jianling Lai, Haihong Zhang, Xiaohui Liu, Zhiren Ji, Haolin Tian, Yunfei Chang, and Yongguang Cheng**
08:45 - 09:00	**824**	Optimizing Quick and Safe Start-Up Mode of a Francis Turbine Using Reinforcement Learning **T. Mukai, S. Endo, M. Nakazono, and K. Tezuka**
09:00 - 09:15	**840**	Numerical Simulation Study on Sediment Erosion Characteristics of a Pelton Turbine **Yifang Yuan, Siyu Wang, Yue Fang, Yujie Gao, Alfredo Iranzo, Lei Han, Deyou Li, and Hongjie Wang**
09:15 - 09:30	**842**	Impact of Downstream Deflector Positions on the Performance of a Savonius Hydrokinetic Turbine **Adarsh Parasuram, Paresh Halder, and Abdus Samad**
09:30 - 09:45	**853**	Characterization of Energy Loss in Radial Inflow Turbines via the Enthalpy Gradient Magnitude **Bochen Wan, Wang Zheng, Zhen Zhang, and Qiaorui Si**
09:45 - 10:00	**859**	CFD-Based Parametric Analysis of Slope and Cone Geometry for Micro-Hydro Turbines in the Punjab Canal Irrigation Network **Muhammad Farhan, Adnan Qamar, Waqar Mehmood, and Muhammad Farooq**
10:00 - 10:30		**Tea-Break**
Microfluidics (Part 4)		
10:30 - 12:15	**Paper ID**	**Chair: Prof. Martin Böhle, RPTU Kaiserslautern-Landau, Germany**
10:30 - 10:45	**772**	An Electrothermal-Electrostatic Integrated Microgripper with a Self-Locking Mechanism **Nguyen Ngoc Minh and Pham Hong Phuc**
10:45 - 11:00	**808**	Simulation of Flow Boiling Heat Transfer Performance of Zeotropic Mixtures in Microchannels **Zhou Hang, Cheng Minghao, Zhang Xiaosong, and Liu Jian**
11:00 - 11:15	**872**	A Numerical Study on Optimizing the Electro-Hydraulic Performance of Electro-Conjugate Fluid Micropumps in Series **Do Van Tran, Vu Toan Thang, and Ngo Ich Long**
11:15 - 11:30	**892**	Measurement of Liquid Film Thickness in the Vaporizer of a Microturbine Using Shadowgraph Imaging **Huu Ha Nguyen, Duc Manh Vu, Quoc Quan Nguyen, and Xuan Phuong Pham**
11:30 - 11:45	**921**	Enabling Biomedical and Environmental Applications Through Neutralized Electrohydrodynamics **Van Thanh Dau and Trung Hieu Vu**
11:45 - 12:00	**958**	Particle Deposition in a Continuous Microfluidic Multi-Stage Stirrer via EDEM-FLUENT Coupling **Shaodong Qin**
12:00 - 12:15	**971**	A 3D Numerical Simulation Study of Size-Based Particle Separation in a Deterministic Lateral Displacement Array with Different Inlet Flow Angles **Hue T. Pham and Van-Sang Pham**
12:15 - 13:30		Lunch

DAY 2 - OCTOBER 3, 2025 - ROOM 04

Gas and Steam Turbines (Part 3)		
08:30 - 09:30	**Paper ID**	**Chair: Dr. Cong-Truong DINH, Hanoi University of Science and Technology, Vietnam**
08:30 - 08:45	**838**	Numerical Investigation of Unsteady Flow Characteristics in a Partial Admission Supercritical CO_2 Axial-Flow Turbine **Zhuo Hu, Hongsheng Jiang, Weilin Zhuge, Yuping Qian, and Yangjun Zhang**
08:45 - 09:00	**884**	Effect of Outlet Hole Geometry on Film Cooling Performance of Gas Turbine Blades **Tuong Linh Nha**
09:00 - 09:15	**979**	Aeromechanic Numerical Prediction of a Composite Ducted Fan Blade in eDPF **Thai-Son Vu, Ngoc-Bon Le, Hong-Quan Luu, Gia-Diem Pham, The-Mich Nguyen, Kwang-Yong Kim, and Cong-Truong Dinh**
09:15 - 09:30	**982**	Fatigue Analysis of a PW-E3 Turbine Vane Using a Coupled Thermal-Fluid-Structural Approach **Le Thi Tuyet Nhung, Nguyen Ngoc Hai, Vu Dinh Quy, and Frédéric Plourde**
10:00 - 10:30		**Tea-Break**
Turbo and hydraulic Pumps/Motors (Part 4)		
10:30 - 12:15	**Paper ID**	**Chair: Prof. Ji Pei, Jiangsu University, China**
10:30 - 10:45	**880**	Application of a Rortex-Based Method for Hydraulic Loss Assessment in a Pump-Turbine **Lianchen Xu, Yuquan Zhang, and Yuan Zheng**
10:45 - 11:00	**886**	Multi-Objective Intelligent Optimization of Guide-Vane Closure Scheme for Pump-Turbines During Pump Power Trip **Xiaolong Fu, Yong Chen, Chunjie Li, Deyou Li, Jialiang Yang, and Hongjie Wang**
11:00 - 11:15	**888**	Research on Structural Strength for a High-Temperature Double-Suction Pump Based on Thermal-Flow-Structure Coupling **Min He**
11:15 - 11:30	**893**	Accurate Position Tracking Control for a Hydraulic Cylinder with Electro-Hydraulic On/Off Valves **Ngoc Hai Nguyen, Long Loc Ho, Khanh Duong Tran, Van Thuan Truong, and Xuan Bo Tran**
11:30 - 11:45	**897**	Investigation of Impeller Backflow-Triggered Rotating Stall Mechanisms in a Pump Turbine Guide Vane Cascade **Junzhu Wang, Jun Yang, Xuanying Cheng, Yingying Zheng, Leren Tao, and Xiaohua Liu**
11:45 - 12:00	**903**	Robust Position Control of an Electro-Hydraulic Servo Motor System with Friction Compensation **Pham Phu Phung, Trung Hieu Doan, The Mich Nguyen, and Xuan Bo Tran**
12:00 - 12:15	**1007**	Study on the Energy Conversion Mechanism of Gas–Liquid Two-Phase Flow in Multistage Centrifugal Pumps Based on Entropy Production Theory **Xianglong Wu, Weidong Shi, Yongfei Yang, Linwei Tan, and Yupeng Cao**
12:15 - 13:30		Lunch

DAY 2 - OCTOBER 3, 2025 - ROOM 05

Computational Fluid Dynamics (Part 3)		
08:30 - 10:00	**Paper ID**	**Chair: Dr. Ujjwal Shrestha, Mokpo National University, South Korea**
08:30 - 08:45	**905**	Near-Wall Interactions and Instability Dynamics of a Descending Trailing Vortex Pair **Dinh Thang Nguyen, The Hoang Nguyen, Van Quang Anh Vo, and Van Luc Nguyen**
08:45 - 09:00	**913**	Enhanced Lattice Boltzmann via Vorticity **Hao Liu**
09:00 - 09:15	**930**	Study on the Effect of Fins on the Hydrodynamics of a Swath **Hoang Cong Liem and Ngo Van He**
09:15 - 09:30	**935**	Prediction of Aerodynamic Stability Derivatives Using Unsteady Computational Fluid Dynamics **Trung-Huy Nguyen and Quoc-Huy Vu**
09:30 - 09:45	**936**	Aerodynamic Characteristics Survey of Wind Turbine Blade Airfoils: S826, S825, S830, and S809 **Le Thi Tuyet Nhung, Vu Dinh Quy, Nguyen Lam Tung, and Le Minh Duc**
09:45 - 10:00	**937**	Study on the Effect of Wing Sweep Angle on Missile Aerodynamics at Various Angles of Attack and Velocity Ranges **Le Thi Tuyet Nhung, Vu Dinh Quy, and Nguyen Duc Trung**
10:00 - 10:15	**965**	Numerical Investigation of a Variable Mach Number Supersonic Wind Tunnel Nozzle **Duc-Bao Pham, Hoang-Quan Chu, Quang-Hai Nguyen, Dong Nguyen, Gia-Diem Pham, and Cong-Truong Dinh**
10:15 - 10:30		**Tea-Break**
Hydrodynamic Turbines (Part 4)		
10:30 - 12:15	**Paper ID**	**Chair: Prof. Baoshan Zhu, Tsinghua University, China**
10:30 - 10:45	**908**	Analysis of Cavitation Vortex Dynamics in a Francis Turbine under Variable Operating Conditions **Ujjwal Shrestha, Seung-Jun Kim, Jungwan Park, Kweon-Hoo Ko, and Young-Do Choi**
10:45 - 11:00	**923**	A Numerical Study of Sediment Erosion on Guide Vanes of Francis Turbines **Koichi Yonezawa, Teruto Hirayama, Daisuke Suzuki, and Kazuyasu Sugiyama**
11:00 - 11:15	**925**	Analysis of the Impact of Different Draft Tube Cone Diameters on the Runner Modal Properties of a Francis Turbine **Linwei Li, Xiao Liu, Xuesong Li, Qi Sun, Yantian Wang, and Peijian Zhou**
11:15 - 11:30	**928**	Effects of Swirl Flow and Cavitation Number on Diffuser Effect and Cavitation Surge in a Hydro Turbine Draft Tube **Kazuki Kodama, Mizuki Hamaguchi, Kazuyoshi Miyagawa, Takahiro Nakashima, and Yasuyuki Enomoto**
11:30 - 11:45	**929**	Relation between Cavitation and Strouhal Number in the Draft Tube Vortex of a Francis Turbine **T. Yamanaka and K. Miyagawa**
11:45 - 12:00	**920**	An Improved Mode Selection Criterion for Hankel-DMD and an Application in the Pressure Pulsation Signal of a Water Pump Turbine **Tengjiao Guo, Xu Han, Ran Tao, and Ruofu Xiao**
12:15 - 13:30		Lunch

DAY 2 - OCTOBER 3, 2025 - EVENT HALL 01

Cavitation & Multi-Phase Flows (Part 5)		
13:30 - 14:45	**Paper ID**	**Chair: Prof. Michel Cervantes, Luleå University of Technology, Sweden**
13:30 - 13:45	**895**	Influence of Angle of Attack on the Thermodynamic Suppression Effect of Tip Leakage Vortex Cavitation Arising in a Twisted Hydrofoil **Koki Tamura and Yuka Iga**
13:45 - 14:00	**915**	Transient Oscillatory Characteristics of Cavitation Developed in a Liquid Rocket Inducer **Shoya Ohkura**
14:00 - 14:15	**918**	Experimental Investigation of the Bubble Slippage Mechanism in Gas-Liquid Two-Phase Flow of a Converging-Diverging Nozzle **Hayato Wada, Taiki Takamine, Shin-ichi Tsuda, and Satoshi Watanabe**
14:15 - 14:30	**951**	Energy Loss Characteristics of Flow in the Narrow Gap of a Horizontal Eccentric Annulus Based on Entropy Production Theory **Shi Minghao, Shi Huaizhong, He Wenhao, and Wang Yongqi**
14:30 - 14:45	**1001**	Numerical Simulation of Hydrodynamic and Cavitation Effects for High-Speed Projectiles in Water **Hieu Manh Vu, Chien Van Vu, and Sang Truong Ha**
14:45 - 15:30		**Tea-Break**
Turbo and Hydraulic Pumps/Motors (Part 6)		
15:30 - 17:15	**Paper ID**	**Chair: Prof. Tao Lang, Jiangsu University, China**
15:30 - 15:45	**927**	Analysis of the Effect of the Reflux Hole on Unsteady Flow in a Self-Priming Pump **Shangxian Qiu, Linwei Li, Xuesong Li, Jiansheng Huang, Zhibing Zhang, Hongteng Wang, and Peijian Zhou**
15:45 - 16:00	**938**	Optimization of a Mixed Flow Pump Impeller with a Semi-Open Casing to Improve Hump Characteristics **Ujjwal Shrestha and Young-Do Choi**
16:00 - 16:15	**955**	Research on a Wide-Efficiency Centrifugal Pump Based on the Vane Placement Angle Integral Method **Wang Zhewen, Li Jiejun, Hou Duohua, Wang Xiuli, and Wu Maojing**
16:15 - 16:30	**960**	Performance Enhancement of a Submersible Centrifugal Pump Using Numerical Methods **Arihant Sonawat, Jin-Wook Lee, and Youn-Sung Kim**
16:30 - 16:45	**969**	Numerical Investigation of Adverse Pressure Gradient Propagation Characteristics in a HRCP **Chen Xiaohang**
16:45 - 17:00	**981**	Influence of Geometric Parameters on the Head-Flow Curve of a Pump as Turbine **Junhu Yang, Shicheng Wang, and Xiaolan Huang**
17:00 - 17:15	**993**	A Study on Speed and Position Tracking Control for Hydraulic Linear Actuators Using High-Speed On/Off Valves **Xuan-Dat Ngo and Van-Thuan Truong**

DAY 2 - OCTOBER 3, 2025 - EVENT HALL 02

Design, Optimization & Manufacturing (Part 5)		
13:30 - 15:15	**Paper ID**	**Chair: Prof. Thi Kim Dung Hoang, Hanoi University of Science and Technology, Vietnam**
13:30 - 13:45	**850**	Design of an Automated Wooden Pallet Nailing System for Small and Medium-Sized Workshops **Giang-Nam Le, Minh-Tu Pham, Cong-Minh Le, and Duc-Cuong Tran**
13:45 - 14:00	**863**	Optimization of the Structure of a Flexible Drilling Tool Based on the Response Surface Method **Han Chen, Huaizhong Shi, Ziyan Zhao, Wenhao He, and Chao Xiong**
14:00 - 14:15	**878**	A Review of Blockage and Wall Effects on Flow-Induced Vibrations of Bluff Bodies **Md. Mahbub Alam**
14:15 - 14:30	**882**	Calculation, Design, and Manufacturing Model of Sea Salt Production **Luong Thi Minh Chau and Hoang Duc Lien**
14:30 - 14:45	**883**	Testing and Evaluation of the Productivity of a Sea Salt Production Model Using E3D Technology **Luong Thi Minh Chau and Hoang Duc Lien**
14:45 - 15:00	**917**	Optimization of High-Efficiency Nozzles and Structural Parameters for Hydraulic Sandblasting Perforation in Deep Wells **Ziang Gu, Huaizhong Shi, Wenhao He, Chao Xiong, and Ziyan Zhao**
15:00 - 15:15	**1003**	Design and Testing of Cooling Systems for a Test Chamber for Small UAVs **T. K. D. Hoang, Q. C. Than, and T. H. Dinh**
15:15- 15:30		**Tea-Break**
Hydrodynamic Turbines (Part 6)		
15:30 - 17:15	**Paper ID**	**Chair: Prof. Ling Zhou, Jiangsu University, China**
15:30 - 15:45	**931**	Effect of Upstream Pipe Length on Cavitation Flow Instability in a Hydroturbine Draft Tube **Mizuki Hamaguchi, Kazuki Kodama, Kazuyoshi Miyagawa, Takahiro Nakashima, and Yasuyuki Enomoto**
15:45 - 16:00	**947**	Simulation Study of the Turbine Hydraulic Drive Performance of a Vortex Cuttings Cleaner with Improved Structure **Zhaowen Hu, Yiqun Zhang, Xinyu Wang, Yanjun Liu, Ya Liu, and Wei Wang**
16:00 - 16:15	**957**	Impact of Runner Diameter Variation on Operating Characteristics of Doubly-Fed Variable-Speed Pumped Storage Units **Chunyang Gao, Sijia Sun, Xiangyang Yu, Haipeng Nan, Pengcheng Guo, Weixing Liu, and Shikang Shen**
16:15 - 16:30	**959**	Effect of Slope and Cone Parameters for a Micro-Hydro Turbine in the Punjab Canal System **Muhammad Farhan, Adnan Qamar, Waqar Mehmood, Muhammad Hammad Raza, and Muhammad Farooq**
16:30 - 16:45	**977**	Optimal Flow Control of Rotating Vortex Rope Inside the Draft Tube of a Swirl Generator Based on Vorticity Minimization **Zeinab Seifi, Mehrdad Raisee, and Michel J. Cervantes**

DAY 2 - OCTOBER 3, 2025 - ROOM 03

Control, Operation, Monitoring & Diagnosis (Part 5)		
13:30 - 14:45	**Paper ID**	**Chair: Dr. Duc Phuc TRUONG, Hanoi University of Science and Technology, Vietnam**
13:30 - 13:45	**835**	A Hardware-in-the-Loop Simulation System for Testing Electronic and Fuel Control Units of Gas Turbine Engines **Nguyen Viet Linh**
13:45 - 14:00	**854**	Application of Voice Recognition Technology for Controlling Car Headlights and Windshield Wipers **Le Anh Tuan and Dam Bao Khiem**
14:00 - 14:15	**865**	A Fuzzy Logic Control Approach for Quality Improvement in Sulfuric Acid Systems Using CANopen, IoT, and OPC Network **Duc Duong Nguyen, Manh Hung Do, Ngoc Thanh Pham, and Thanh Tung Phan**
14:15 - 14:30	**870**	An Automatic Railway Bolts and Nuts Tightening Robot Using Image Processing and Deep Learning Algorithm **Bui Cao Son, Nguyen Huy Minh, Hoang Trung Kien, and Truong Duc Phuc**
14:30 - 14:45	**909**	Real-Time Fault Detection in BLDC Motors for Electric Aircraft Using Embedded Machine Learning Techniques **N.Q. Bien, S.T. Tan, Q.S. Dinh, H.Q. Chu, C.T. Dinh, and Q.N. Dinh**
14:45- 15:30		**Tea-Break**
Computational Fluid Dynamics (Part 6)		
15:30 - 17:15	**Paper ID**	**Chair: Prof. Weilin Zhuge, Tsinghua University, China**
15:30 - 15:45	**970**	Numerical Investigation of Added Mass and Damping of a Heaving Hydrofoil Using Force Decomposition **M.A. Bahrami, M. Raisee, and M.J. Cervantes**
15:45 - 16:00	**983**	Ground Effect on Turbulent Flow around a Delta Wing **Ngoc Nhi Nguyen, Viet Dung Duong, and Nguyen Dinh Duc**
16:00 - 16:15	**998**	Hull Form Optimization for Vessels Using Particle Swarm Optimization and Computational Fluid Dynamics **Dao Duc Thu and Nguyen Duc Hai**
16:15 - 16:30	**999**	Numerical Investigation of Patient-Specific Abdominal Aortic Aneurysm Hemodynamics Using CFD **Long Cu Ngo, Quang-Ngoc Dinh, Cong-Truong Dinh, Viet Anh Truong, Son Tran Thanh Bui, Phuong Anh Do, Van-Chien Vu, and Sang Truong Ha**
16:30 - 16:45	**1004**	Design and Testing of Winglets for a Sailplane UAV **T. K. D. Hoang, Q. C. Than, and T. H. Dinh**

DAY 2 - OCTOBER 3, 2025 - ROOM 04

Propulsion (Part 5)		
13:30 - 15:00	**Paper ID**	**Chair: Prof. Martin Böhle, RPTU Kaiserslautern-Landau, Germany**
13:30 - 13:45	**898**	Optimal Design of a Turboelectric Propulsion System for Boeing 737-800 Class Aircraft **Xuankai Qiang**
13:45 - 14:00	**904**	Dynamics of the Hydraulic System Driving the Water Jet Propulsion Pump in Amphibious Vehicles **Duy Dat Nguyen, Tien Vi Nguyen, and Viet Tan Nguyen**
14:00 - 14:15	**933**	Some Research Results on an Air-Assisted Seeding Machine **Ngo Thi Hien, Chosa Tadashi, Tojo Seishu, and Nguyen Thanh Hai**
14:15 - 14:30	**945**	An Investigation on Improving the Ship Propeller Thrust Using an Asymmetrical Stator **Tuan Phan Anh and Long Ngo Ich**
14:30 - 14:45	**948**	Numerical Investigation on the Mechanisms of Wind Field-Induced Thrust Allocation Offset and Flow Field Distortion in Ducted Fans **Bo Tang, Kaiwen Jin, Hongsheng Jiang, Yuping Qian, Weilin Zhuge, and Yangjun Zhang**
14:45 - 15:00	**980**	Numerical Aero-Structural Analysis of an Electric Aerial Evacuation Platform for Urban Multi-Story Buildings **Hoang-Quan Chu, Tien-Dat Nguyen, Quang-Ngoc Dinh, Binh-Nguyen Nguyen, Thai-Son Vu, Trung-Kien Nguyen, Gia-Diem Pham, and Cong-Truong Dinh**

DAY 2 - OCTOBER 3, 2025 - ROOM 05

Energy Conversion and Storage Systems (Part 5)		
13:30 - 15:00	**Paper ID**	**Chair: Dr. Van Bo Nguyen, Institute of High-Performance Computing (IHPC), Agency for Science, Technology and Research, Singapore**
13:30 - 13:45	**949**	Effect of Trailing Edge Plates on the Performance of a Wells Turbine for Wave Energy Conversion **Keiichi Yoshino**
13:45 - 14:00	**962**	Enhancing Ammonia Cracking Efficiency with Model Predictive Control for Hydrogen Production **Van Bo Nguyen, Vinh Do Xuan Nguyen, Boon Siong Neo, Ruiqin Shan, Shengwei Ma, Quang Tuyen Le, Arthur Teck-Bin Lim, and Chang Wei Kang**
14:00 - 14:15	**986**	Simulation Study on the Performance and Emission Characteristics of a Hydrogen-Fueled Port Injection Engine **Pham Van Trong, H. D. Long, and N. D. Vinh**
14:15 - 14:30	**987**	Overview of the Influence of Injection Parameters on Hydrogen Distribution in the Combustion Chamber of Direct Hydrogen Injection Internal Combustion Engines: A Review **T. A. Trung, D. M. Tuan, N. T. Cuong, and H. X. Nang**
14:30 - 14:45	**990**	Investigation of the Performance and Emission Characteristics of a 3TN63L Generator Engine Using AVL Cruise Software **Nguyen Nhu Thanh, Nguyen Tien Tan, Nguyen Duy Vinh, and Khong Vu Quang**