OS12: Complex Thermofluid System

November 18, 2024
EX-3-B

OS12-1
13:10-13:45
Cleanroom Airflow Visualization by Large Scale Particle Image Velocimetry (LPIV): Focusing on the Semiconductor Wafer Box and the Hospital Operation Room *(Invited)*
Shih-Cheng Hu, Anthony Xavier Andrade (National Taipei University of Technology, Taiwan), Omid Ali Zargar (National Chin-Yi University of Technology, Taiwan), Tee Lin (National Taipei University of Technology, Taiwan)

OS12-2
13:45-14:00
Experimental Study on the Influence of Mesh Size for Microbubble Generation in Water
Hsiang-Yi Wang, Kim Boon Lua, Jong-Shinn Wu, Chia-Hung Dylan Tsai (National Yang Ming Chiao Tung University, Taiwan)

OS12-3
14:00-14:15
Effects of the Phase Lag of Magnetic Particle Chain in a Dynamical Field
Yu-Te Tu, Ching-Yao Chen (National Yang Ming Chiao Tung University, Taiwan)

OS12-4
14:15-14:30
The Influence of Electrolytic Bubbles from Magnetohydrodynamic Jet
Yi-Hsuan Chen, Ming-Han Lu, Ching-Yao Chen (National Yang Ming Chiao Tung University, Taiwan)

OS12-5
14:50-15:10
Numerical Computations of Complex Phenomena for Practical Industrial Applications by HPC
Wei-Hsiang Wang, Hua-Ching Chang, Meng-Zhe Li (National Chung Hsing University, Taiwan)

OS12-6
15:10-15:25
Investigation of Shark Nasal Cavity Flow in Motion with Computational Fluid Dynamics
Yun-Hsin Lin, Wei-Hsiang Wang (National Chung-Hsing University, Taiwan)

OS12-7
15:25-15:40
High-Fidelity CFD Simulation of Flow Induced 6 DOF Motion by Immersed Boundary Method
Che-Wei Tsao, Wei-Hsiang Wang (National Chung Hsing University, Taiwan)

OS12-8
15:40-15:55
CFD Analysis of Convective Heat Transfer from a Heated Horizontal Cylinder Rotating in The Air: From Laminar to Turbulent Flow
Nguyen Thi Nhu Quynh, Han-Hsiang Kuo, Kuang C. Lin (National Tsing Hua University, Taiwan)

OS12-9
15:55-16:10
Study of Multiple Injection Ports of Single Expansion Ramp Nozzle
Hao-Ran Hu, Ming-Chung Lo (Feng Chia University, Taiwan)

OS12-10
16:30-16:50
Measurement of Mechatronic Characteristics and Numerical Calculation of Hydrodynamic Parameters for Water-Wave Energy Harvesters
Yu-Chun Su, Zhe Wang, Kuo-Shen Chen, Tian-Shiang Yang (National Cheng Kung University, Taiwan)

OS12-11 16:50-17:10	**A Study of the Thermoacoustic Phenomenon in the Traditional Piston Stirling Engines**
	Hang-Suin Yang, Muhammad Aon Ali (National Chung-Cheng University, Taiwan)

OS12-12 17:10-17:30	**Convective Heat Transfer in Plate Fin Heat Sink with Dimples**
	Anil Kumar Patil, Manoj Kumar (DIT University, India)

OS12-13 17:30-17:45	**Effects of Ceramic Coating on Additively Manufactured Porous Structures**
	Yong-Huang Lin, Zun-Kuang Tong, Pei-Wen Zhou, Yao-Hsien Liu (National Yang Ming Chiao Tung University, Taiwan)

OS12-14 17:45-18:00	**OH Concentration Measurement with UV-LED Absorption Spectroscopy**
	Chiang Fu, Ying-Hao Liao (National Yang Ming Chiao Tung University, Taiwan)

November 19, 2024
EX-3-B

OS12-15 9:00-9:15	**Evaluating the Efficiency of PINNs in Simulating NACA 4 Series Airfoils**
	Mei-Yu Chang, Hua-Ching Chang, Wei-Hsiang Wang (National Chung Hsing University, Taiwan)

OS12-16 9:15-9:30	**Physic-Informed Neural Networks (PINNs) for Steady State Laminar Flow over a Chip**
	Edward Oliver Teng, Chung-Gang Li (National Cheng Kung University, Taiwan), Heng-Chuan Kan (National Applied Research Laboratories, Taiwan)

OS12-17 9:30-9:45	**Comparison of Implicit Large Eddy Simulation with and without Wall Model at Low Reynolds Number**
	Pin-Kuan Lin, Chung-Gung Li (National Cheng Kung University, Taiwan)

OS12-18 9:45-10:00	**Vortex Induced Vibration of Tandem Cylinders in Turbulent Flow**
	Ming-Jyh Chern, Jing-Yuan Fan (National Taiwan University of Science Technology, Taiwan), Yousa Heru Irawan (Institut Teknologi Nasional Yogyakarta, Indonesia), Syed Ahmad Raza (NED University of Engineering & Technology, Pakistan)

OS12-19 10:00-10:15	**Study of Irrigation Behavior in Root Canal Therapy Using Computational Fluid Dynamics**
	Yu-Shiuan Huang, Chung-Gung Li (National Cheng Kung University, Taiwan)

OS12-20 10:15-10:30	**Using CFD Technology in Torque Analysis and Noise Performance Optimization of Dental High-Speed Air Turbine Handpieces**
	Ya-Yun Liang, Chung-Gang Li (National Cheng Kung University, Taiwan)

OS12-21 10:40-11:00	**Phase Separation and Pattern Formation in Partially Miscible Fluids**
	Lopamudra Palodhi, Manoranjan Mishra (Indian Institute of Technology Ropar, India)

OS12-22 11:00-11:15	**Pattern Formation of Viscous Fingering Coupled with Phase Separation**
	Chieh-Yen Liao, Ching-Yao Chen (National Yang Ming Chiao Tung University, Taiwan)

OS12-23 11:15-11:30	**Viscous Fingering In Fluid Layers Of Non-monotonic Viscosity** Shih-Wei Hung, <u>Yu-An Chen</u>, Ching-Yao Chen (National Yang Ming Chiao Tung University, Taiwan)
OS12-24 11:30-11:45	**Fluid Displacement in a Partially Miscible System with a 2-D Micromodel** <u>Shunta Kiuchi</u>, Ryuta X. Suzuki (Tokyo University of Agriculture and Technology, Japan), Manoranjan Mishra (Indian Institute of Technology Ropar, India), Takahiko Ban (Osaka University, Japan), Anindityo Patmonoaji, Yuichiro Nagatsu (Tokyo University of Agriculture and Technology, Japan)
OS12-25 11:45-12:00	**Experimental Study on Effect of Chemical Concentration on Confined Chemical Garden Patterns Using Interfacial Rheological Measurement** <u>Fumiya J. Kobayashi</u>, Ryuta X. Suzuki (Tokyo University of Agriculture and Technology, Japan), Masayoshi Takano (TA Instruments Japan Inc., Japan), Yuichiro Nagatsu (Tokyo University of Agriculture and Technology, Japan)
OS12-26 13:10-13:30	**Numerical Modeling of OH Radicals Generated in Atmospheric-pressure Air Dielectric Barrier Discharges** <u>Kun-Mo Lin</u>, Tzu-Yi Liao, Guan-Jung Lin, Yi-Chi Chen (National Chung Cheng University, Taiwan)
OS12-27 13:30-13:45	**Experimental Investigation and Numerical Modeling of Plasma Bullet Dynamics in an Atmospheric Pressure Plasma Jet** <u>Ireneo L. de la Cruz Jr.</u>, Hao-Ping Yang, Kun-Mo Lin (National Chung Cheng University, Taiwan)
OS12-28 13:45-14:00	**One-dimensional Discharge Simulation of Argon Excited Species Produced in Atmospheric-pressure Ar/O$_2$ Dielectric Barrier Discharges** <u>Wei Hong Lai</u>, Jie Wei Liu, Kun Mo Lin (National Chung Cheng University, Taiwan)
OS12-29 14:00-14:15	**Numerical Study of Wet Cleaning Process for Wafer Surfaces with Trenches on a Rotating Disk** Je-Wei Yeh, <u>Yuan-Chun Tseng</u>, Yao-Hsien Liu (National Yang Ming Chiao Tung University, Taiwan)
OS12-30 14:15-14:30	**Application of DSMC to Simulate Interior Outgassing Phenomena in Satellites.** <u>Hsin-Hui Hsu</u>, Ming-Chung Lo (Feng Chia University, Taiwan)
OS12-31 14:50-15:05	**Rapid Thermal-Electrical Co-Simulation for Power Electronics System** Chih Chun Hsu, <u>Hsiao Chi Tang</u>, Feng Ming Tu, Hua Yi Hsu (National Taipei University of Technology, Taiwan)
OS12-32 15:05-15:20	**Numerical Simulation Analysis of the Heat Transfer Performance of Screw Pipe of the Water-Cooled Divertor in a Nuclear Fusion Reactor** <u>Mohammadjavad Faridafshin</u>, Noritaka Yusa, Saijiro Yoshioka (Tohoku University, Japan)
OS12-33 15:20-15:35	**Numerical Investigation on R134a Flash Evaporation under Reduced Pressure** <u>Kai-Chieh Chang</u>, Yu-Chen Lin (National Chung Cheng University, Taiwan)

OS12-34
15:35-15:50

A Numerical Investigation of Conjugate Heat Transfer Phenomena within Annular Finned Tube Heat Exchangers
Fu-Huang Tseng, Han-Taw Chen, Chung-Gang Li (National Cheng Kung University, Taiwan)

OS12-35
15:50-16:05

Numerical Study of Flow and Heat Transfer in Heat Sink Arrays with Varied Fin Geometries
Zheng-Lin Lin, Chung-Gung Li (National Cheng Kung University, Taiwan)

OS12-36
16:05-16:20

A Numerical Study of Geometry Effect on Pressure Drop Instability Using VOF Method
Chia Wei Lin, Kuo Hao Sun, Sheng Syuan Lo, Hua Yi Hsu (National Taipei University of Technology, Taiwan)