

MISW 2018 Program and Contents

7th August (Tue.)

8:30-9:00	Registration @Registration desk, West 9 Building
9:00-9:10	Opening Remark @Digital Multi-purpose Hall, West 9 Building by Prof. Kazuya Masu, President of Tokyo Institute of Technology
9:10-9:25	Photo Session @Digital Multi-purpose Hall
9:25-9:30	Short Break
9:30-10:10	Short Presentation @Digital Multi-purpose Hall Introduction of Overseas Universities (4 min for each) <ol style="list-style-type: none">1. Nanyang Technological University, Singapore2. University of Moratuwa3. National Taiwan University4. Bandung Institute of Technology5. Chulalongkorn University6. The Hong Kong University of Science and Technology7. Indian Institute of Technology Madras8. Tsinghua University9. University of Malaya
10:10-11:10	Poster Presentation @Collaboration Room, West 9 Building

- P-1 **Preparation of LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ Cathode Materials for Li-ion Batteries by Spray Pyrolysis**
Liu Xuesong, and Izumi Taniguchi
Department of Chemical Science and Engineering
- P-2 **Future Prediction of Seasonal Water Resources in Bhutan**
Atsushi Fujioka, Orié Sasaki, Naota Hanasaki, and Shinjiro Kanae
Department of Civil and Environmental Engineering
- P-3 **Study on CaO/H₂O/Ca(OH)₂ Chemical Heat Pump for Sustainable Engineering Development**
Guo Rui, and Yukitaka Kato
Department of Materials Science and Engineering

- P-4 **Surface Modification of Ti-alloy with AgSiN Coating for Antibacterial Applications**
U.Z.M.Zaidi, A.R.Bushroa, and Reza.Mahmoodian
Department of Materials Science and Engineering
- P-5 **Photothermal Materials in Membrane Distillation**
Yong Zen Tan, Hou Wang, Hiroaki Agawa, Sachiko Matsushita, and Jia Wei Chew
Department of Materials Science and Engineering
- P-6 **Techno-economic Assessment on Hydrothermal Treatment in the South-east Asian Countries, Contributing to Agricultural Waste Reductions and Global Warming Mitigation**
Michino Hashizume, and Koji Tokimatsu
Department of Transdisciplinary Science and Engineering
- P-7 **Atmospheric Characteristics Causing Long-lived Typhoons over the Indochinese Peninsula**
Natsumi Orimo, Megumi Watanabe, and Shinjiro Kanae
Department of Civil and Environmental Engineering
- P-8 **Mid-Infrared Mach-Zehnder Silicon Modulator at 2 μm Based on Interleaved PN Junction**
Jia Xu Brian Sia, Wan Jun Wang, Tomohiro Amemiya, Nobuhiko Nishiyama, Shigehisa Arai, Graham T. Reed, Hong Wang
Department of Innovation Science
- P-9 **Study the Influence of CFD Techniques Used to Predict the Flow Field of a Naturally Ventilated Building**
P.H.V. Nimarshana, R.A. Attalage, Tetsuro Tamura and Hidenori Kawai
Department of Architecture and Building Engineering
- P-10 **Preparation and Dynamic Hydrophobicity of the Surface Coated with Phenylethyltrimethoxysilane**
Ting-Ju Kung, and Akira Nakajima
Department of Materials Science and Engineering
- P-11 **Evaluation of Fuel Electrode of Proton Conductive SOFC Considering Ion Transport Number**
K. Kameda, K. Hasegawa, and M. Ihara
Department of Chemical Science and Engineering
- P-12 **Performance of Pulse Jet Solid Oxide Fuel Cells Using Liquid Fuel at Steep Output Variation**
Yuta Iida, Kei Hasegawa, and Manabu Ihara
Department of Chemical Science and Engineering

- P-13 **Effect of Acid-assisted Hydrothermal Carbonization (HTC) Process on Tree Branches Using Nitric Acid on Cadmium Adsorption**
Rico Lejiu, Reza Khoshbouy, Fumitake Takahashi, and Kunio Yoshikawa
Department of Transdisciplinary Science and Engineering
- P-14 **Environmental and Cost Evaluation of Ground Source Heat Pump in Bangkok, Thailand**
Yutaro Shimada, and Koji Tokimatsu
Department of Transdisciplinary Science and Engineering
- P-15 **Visualization of Indoor Radio Wave Propagation by Using Augmented Reality Technology**
Jiayue Cheng, Kentaro Saito, and Jun-ich Takada
Department of Transdisciplinary Science and Engineering
- P-16 **Risk Analysis for Importing Natural Gas to Japan Regarding to Energy Security**
Kengo Takeda, Koji Tokimatsu, and Masako Ikegami
Department of Transdisciplinary Science and Engineering
- P-17 **Phase and Gain Calibration Circuit for 5G Phased-Array Transceiver**
Ashbir Aviat Fadila, Dongwon You, and Kenichi Okada
Department of Electrical and Electronic Engineering
- P-18 **Madelung energy of ionic liquids probed by ultraviolet photoelectron spectroscopy**
Shiori Nomoto, Ryo Suho, Takashi Iwahashi, Kaname Kanai, and Yukio Ouchi
Department of Materials Science and Engineering
- P-19 **Techno-economic Analysis on Renewable Energy via Hydrogen, Views from Macro and Micro Scopes**
Meng Chen, Koji Tokimatsu, and Takuya Oda
Department of Transdisciplinary Science and Engineering
- P-20 **Diffuse Scattering Prediction for High Frequency Band**
Dan Qiao, Kentaro Saito, and Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- P-21 **Alternative Treatment of Municipal Solid Waste Incineration Fly Ash by Geocasting**
Giun Jo, Yu Tian, Patcharanat Kaewmee, Mengzhu Song, Astryd Viandila Dahlan, Fumitake Takahashi
Department of Transdisciplinary Science and Engineering

- P-22 **Preference Structure Analysis for Trash Bin Colors of Combustible Wastes**
 Dilixiati Dilinazi, Qiuhui Jiang, Nattapon Leeabai, Shinya Suzuki, and
 Fumitake Takahashi
Department of Transdisciplinary Science and Engineering
- P-23 **Effect of Frequency Variation Implemented on FPGA Using Ring Oscillator**
 Gan Chiao Sing
Department of Transdisciplinary Science and Engineering

- 11:10-11:20 Short Break
- 11:20-12:20 **Plenary Lecture by Dr. Yuya Nakamura** @Digital Multi-purpose Hall
 Microsatellites: the infrastructure of a new era
- 12:20-13:30 Lunch Break
- 13:30-14:30 **Oral Presentation Session A1** @Room W934, West 9 Building
 Electrical and Electronic Engineering
 Presentation 11 min / Q&A 3 min for each

- A1-1 **Study on exciton and carrier dynamics at organic donor-acceptor interface by using time-resolved second harmonic generation technique**
 Kaito Matsuo, Keito Shimosawa, Dai Taguchi, and Takaaki Manaka
Department of Electrical and Electronic Engineering
- A1-2 **Investigation on Carrier Transport in PCPDTBT: PC71BM Bulk Heterojunction Organic Solar Cell by EFISHG**
 Ibrahim Alrougy, Dai Taguchi, and Takaaki Manaka
Department of Electrical and Electronic Engineering
- A1-3 **300GHz On-Chip Vivaldi Antenna**
 Tsuyoshi Miura, Takuya Fujimura, Ibrahim Abdo, and Kenichi Okada
Department of Electrical and Electronic Engineering
- A1-4 **Visualizing and Analyzing Carrier Transport in F8BT Organic Light Emitting Transistors by using Two-Photon Excited Photoluminescence Decay Imaging**
 Kenichiro Koga, Dai Taguchi, and Takaaki Manaka
Department of Electrical and Electronic Engineering

13:30-14:30 | **Oral Presentation Session B1** @Room W935, West 9 Building
Chemical Science and Engineering
Presentation 11 min / Q&A 3 min for each

- B1-1 **Photocrosslinkable UCST Zwitterionic polymeric Hydrogel**
Yu-Chih Kao, Hsieh-Chih Tsai
Department of Chemical Science and Engineering
- B1-2 **Feasible distributed energy system using solar cells and hydrogen energy storage technologies**
Tatsuya Okubo, Shimizu Teruyuki, Li Hyojea, Kei Hasegawa, Manabu Ihara
Department of Chemical Science and Engineering
- B1-3 **Silica/Carbon Nanofibers as a High Capacity Anode for Li-ion Batteries**
A. Belgibayeva, I. Taniguchi
Department of Chemical Science and Engineering
- B1-4 **Understanding the effect of carbonyl functional groups on carbon nanotube towards oxygen reduction reaction by selective oxidation process**
Cong Li, Jiuting Chen, Ti Chen, Keiko Waki
Department of Chemical Science and Engineering

14:30-14:45 | Short Break

14:45-16:15 | **Oral Presentation Session A2** @Room W934
Transdisciplinary Science and Engineering
Presentation 11 min / Q&A 3 min for each

- A2-1 **Treatment of Thai oil mill wastewater using palm kernel shell based activated carbon**
W. Boontham, H. Habaki, R. Egashira
Department of Transdisciplinary Science and Engineering
- A2-2 **On the Factors Influencing Storm Surges in the Semi-enclosed Tokyo Bay**
Md. Rezuhanul Islam, Hiroshi Takagi
Department of Transdisciplinary Science and Engineering
- A2-3 **The Importance of Transdisciplinary Research for Potential Universal Design of Bins**
Jun Hahn
Department of Transdisciplinary Science and Engineering

A2-4 **Dynamic Channel Modeling in Millimeter Wave for Next Generation Wireless System**

Ahmad Salaam Mirfananda, Takada Jun-ichi, Kentaro Saito

Department of Transdisciplinary Science and Engineering

A2-5 **Study on estimating oil palm trees age using time-series data**

Anggoro Cahyo Fitrianto, Koji Tokimatsu

Department of Transdisciplinary Science and Engineering

A2-6 **Removal of Heavy Metals from Mine Drainage Waste Water using Pine Sawdust Activated Carbon in Zambia**

A. Shambweka, H. Habaki, R. Egashira

Department of Transdisciplinary Science and Engineering

14:45-16:00 | **Oral Presentation Session B2** @Room W935

Mechanical Engineering

Presentation 11 min / Q&A 3 min for each

B2-1 **Innovative mechanisms for space debris removal**

Noé Achache, Hiroki Nakanishi

Department of Mechanical Engineering

B2-2 **Short Pulsed laser machining characteristics of transparent materials.**

Yuta Nakamura, Shunya Kiyokawa, Fushinobu Kazuyoshi

Department of Mechanical Engineering

B2-3 **Fluid Dynamics Analysis of Contra-Rotating Bioreactor by Simulation**

Guang Yang, Moran Wang

Department of Mechanical Engineering

B2-4 **Enhancement of Efficiency in Transcutaneous Energy Transmission system for Artificial Heart**

Yuying Shao, W. Hijikata

Department of Mechanical Engineering

B2-5 **Analysis of Mass Transport Properties in PEFC with Multilayered Cathode Catalyst Layer**

Shunsuke Kawasaki, Rinako Nakano, Kazuyoshi Fushinobu

Department of Mechanical Engineering

8th August (Wed.)

9:00-10:15 | **Oral Presentation Session C1** @Room W934
Materials Science and Engineering
Presentation 11 min / Q&A 3 min for each

- C1-1 **Heat capacity measurement of iron oxide scale**
Y. Hayashi, R. Endo, M. Hayashi, M. Susa
Department of Materials Science and Engineering
- C1-2 **Structure of Crystalline Structure of Metal Oxy-hydrides**
Anurag Ahgarwala, Yuya Komatsu, Ryota Shimizu, Taro Hitosugi
Department of Materials Science and Engineering
- C1-3 **A Polymeric n-Type Dopant Based on 1,3-Dimethyl-2-phenyl-2,3-dihydro-1H-benzimidazole for Thermoelectric Applications**
Kuan-Heng Tu, Wang Yang, Tsuyoshi Michinobu
Department of Materials Science and Engineering
- C1-4 **Crystallisation behavior of Gehlenite-Cuspidine system mold flux**
H. Yoshida, M. Susa, M. Hayashi, T. Watanabe, R. Endo
Department of Materials Science and Engineering
- C1-5 **Direct observation of steam film formed between water droplet and oxidized steel**
Ryosuke Mutsuoka, Mitsutoshi Ueda, Riw Endo, Masahiro Susa
Department of Materials Science and Engineering

9:00-10:15 | **Oral Presentation Session D1** @Room W935
Civil and Environmental Engineering
Presentation 11 min / Q&A 3 min for each

- D1-1 **Reduction of Higher Mode Effects in Post-Tensioned Hybrid Precast Concrete Walls using an Intermediate Rocking Section**
Binod K. Shrestha, Anil C. Wijeyewickrema
Department of Civil and Environmental Engineering
- D1-2 **Multihazard Loading Interaction in a Diagrid Frame System**
Nicolas F. Ortiz, Anil C. Wijeyekrema
Department of Civil and Environmental Engineering
- D1-3 **Free Vibration Analysis of Microbeams Using Finite Element Method**
P. Sam, A.C. Wijeyewickrema
Department of Civil and Environmental Engineering

- D1-4 **Reinforcing Effects of Stirrups on Concrete Contribution in Shear Resistance**
 Devin Gunawan, Takuro Nakamura, Kazumasa Okubo, Junichiro Niwa
Department of Civil and Environmental Engineering
- D1-5 **Effect of Non-Uniform Steel Bar Corrosion on The Seismic Performance of RC Buildings**
 Rajib Kumar Biswas, Mitsuyasu Iwanami
Department of Civil and Environmental Engineering

10:15-10:30 | Short Break

10:30-12:00 | **Oral Presentation Session C2** @Room W934
 Transdisciplinary Science and Engineering
 Presentation 11 min / Q&A 3 min for each

- C2-1 **Analysing variation of energy consumption based on fuel types and weather conditions**
 Amin M. Nazarahari, Reza Nadimi, Koji Tokimatsu
Department of Transdisciplinary Science and Engineering
- C2-2 **Rain Attenuation for Millimeter Wave Fixed Wireless Access System**
 Tan Yong Hong, Kentaro Saito, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- C2-3 **NiaFeb ($2 \leq a+b \leq 6$) Catalyst Clusters for Pyrolysis**
 Li Siyi and Jeffrey S. Cross
Department of Transdisciplinary Science and Engineering
- C2-4 **SLAM-based Indoor 3D Environment Modeling for Electromagnetic Simulation**
 Zhihang Chen, Kentaro Saito, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- C2-5 **Calibration of Wi-Fi Phase Channel State Information for Dynamic Motion Analysis**
 Nopphon Keerativoranan, Kentaro Saito, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- C2-6 **Load Levelling Analysis on Vehicle to Grid Implementation in Indonesia Power System**
 Muhammad Huda, Koji Tokimatsu
Department of Transdisciplinary Science and Engineering

10:30-12:00 | **Oral Presentation Session D2** @Room W935
Civil and Environmental Engineering
Presentation 11 min / Q&A 3 min for each

- D2-1 **A Cellular Automata Model to Investigate Altruistic Behavior in Emergency Evacuation**
Zhou Zixuan, Anil C. Wijeyewickrema
Department of Civil and Environmental Engineering
- D2-2 **Seismic Collapse Assessment of RC Buildings Retrofitted with Viscous Dampers**
Gobirahavan Rajeswaran and Anil C. Wijeyekrema
Department of Civil and Environmental Engineering
- D2-3 **Impacts of Locational Factors on Condominium Prices in Bangkok Metropolitan Region, Thailand**
Chuejedton Nitikorn
Department of Civil and Environmental Engineering
- D2-4 **Transportation Demand Forecasting Based on Discrete Choice Analysis as Introduction of Busway at Trans Metro Bandung Cibereum-Cicaheum**
Hanang Pandu Himawan
Department of Civil and Environmental Engineering
- D2-5 **Performance of RC Buildings with Masonry Infill Walls during the 2015 Gorkha, Nepal Earthquake**
Naresh Subedi, Anil C. Wijeyewickrema
Department of Civil and Environmental Engineering
- D2-6 **Displacement Based Design of Coupled Walls with Replaceable Coupling Beam Fuses**
N. Malla and A.C. Wijeyewickrema
Department of Civil and Environmental Engineering

12:00-13:10 | Lunch Break

13:10-14:40 | **Oral Presentation Session E1** @Room W934
Transdisciplinary Science and Engineering
Presentation 11 min / Q&A 3 min for each

- E1-1 **Improvement of Position Logging Accuracy for UAV-based Radio Measurement System**
Katsumi Seki, Kentaro Saito and Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- E1-2 **Development of Measurement based Radio Environment Map for Dynamic Spectrum Access**
Deepak Gautam, Jun-ichi Takada and Kentaro Saito
Department of Transdisciplinary Science and Engineering
- E1-3 **Current Status of Pyrolysis in Finland and Japan**
Teija Honkanen, Dr. Jeffrey Cross
Department of Transdisciplinary Science and Engineering
- E1-4 **Effects of the Study Abroad Program in ASEAN on Thai Students: ASEAN Awareness**
Traitip Siriruang, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- E1-5 **Performance Analysis of Channel Sounding System Based on Radio-on-Fiber Technology**
Kosuke Murakami, Kentaro Saito, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- E1-6 **Sizing and utilization of Electric vehicle secondary batteries**
Nassar Eslam, Muhammad Aziz, Tokimatsu Koji
Department of Transdisciplinary Science and Engineering

13:10-14:40 | **Oral Presentation Session F1** @Room W935
Chemical Science and Engineering
Presentation 11 min / Q&A 3 min for each

- F1-1 **Development of Novel Structured Packed Bed Reactor for Coupled Highly Endo- and Exothermic Reactions Application**
Anthony Basuni Hamzan, Shinichi Ookawara, Shiro Yoshikawa
Department of Chemical Science and Engineering
- F1-2 **Rapid Crystallization of Organic-inorganic Hybrid Perovskite Thin Film by Microwave Pulse Irradiation**
Tomoki Furuhashi, Shuntaro Tsubaki, Yuji Wada
Department of Chemical Science and Engineering

- F1-3 **Fine tuning of photo-luminescence colors by copolymerization of polyimides based on Förster resonance energy transfer (FRET)**
 Mayuko Nara, Ryoji Orita, Ryohei Ishige, Shinji Ando
Department of Chemical Science and Engineering
- F1-4 **Evaluation of mechanical and chemical degradation on PVC insulater for industrial wire by new method**
 Yasutomoto Koga, Y. Arao and M. Kubouchi
Department of Chemical Science and Engineering
- F1-5 **Relations between In-plane thermo-optic coefficients and anisotropy in thermal expansion of polyimide films**
 Megumi Fujita, Mari Harada, Ryohei Ishige, and Shinji Ando
Department of Chemical Science and Engineering
- F1-6 **Microwave heating effect on Methane utilization**
 Anyue Liu, Shunichiro Tsubaki , Eiichi Suzuki, Yuji Wada
Department of Chemical Science and Engineering

14:40-14:55 | Short Break

14:55-16:30 | **Oral Presentation Session E2** @Room W934
 Transdisciplinary Science and Engineering / Electrical and Electronic Engineering / Information and Communications Engineering
 Presentation 11 min / Q&A 3 min for each

- E2-1 **Gesture Recognition with Wireless Devices**
 Haitao Pang, Jun-ichi Takada
Department of Transdisciplinary Science and Engineering
- E2-2 **Visual Inspection Of Scattering Objects for 11 GHz Urban Microcell Channel**
 Djiby Marema Diallo, Jun-ichi Takada, Kentaro Saito
Department of Transdisciplinary Science and Engineering
- E2-3 **Loss and Isolation of RF Switch in 5G Phased-Array Transceiver**
 Xi Fu, Atsushi Shirane and Kenichi Okada
Department of Electrical and Electronic Engineering
- E2-4 **Millimeter-wave CMOS Differential Bi-directional Amplifier for 5G Communication**
 Zheng Li, Jian Pang, Xueting Luo, Atsushi Shirane, Kenichi Okada
Department of Electrical and Electronic Engineering
- E2-5 **A constant amplitude OFDM scheme for wireless communications**
 Yingqing Liu, Kazuhiko Fukawa, Yuyuan Chang
Department of Information and Communications Engineering

E2-6 A Millimeter Wave Bi-Directional Mixer With LO Leakage Suppression

Daiki Matsumoto, Wu Rui, Atsushi Shirane, Kenichi Okada

Department of Electrical and Electronic Engineering

14:55-16:30 | **Oral Presentation Session F2 @Room W935**

Chemical Science and Engineering

Presentation 11 min / Q&A 3 min for each

F2-1 Application of interlayer-expanded MWW with expanded pores filled with carbon to catalysts for reactions using microwave heating

Takahiro Sakatsume, Masaki Okamoto

Department of Chemical Science and Engineering

F2-2 Preparation of solid acid catalysts with uniform acid strength by treatment of zirconia-coated mesoporous silica with sulfuric acid

Masatoshi Miura, Masaki Okamoto

Department of Chemical Science and Engineering

F2-3 Reactions of Protic Pyrazole Ruthenium Complex with Propargylic Alcohols

Naoto Tashima, Shigeki Kuwata

Department of Chemical Science and Engineering

F2-4 Relationship between Surface state of compact TiO₂, the grain size of Perovskite layer and the performance of Perovskite solar cell

M. Nukunodompanich, K. Suzuki, K. Hasegawa and M. Ihara

Department of Chemical Science and Engineering

F2-5 Analysis of Photoluminescence Behaviors of Phosphorescent Polyimide and Imide Compound under Very High Pressure

Yutaro Ando, Eisuke Fujiwara, Ryoji Orita, Ryohei Ishige, Shinji Ando

Department of Chemical Science and Engineering

F2-6 Synthesis of Anisaldehyde in CFI Photocatalytic Reactor and its CFD Simulation

Ong Hui Yang

Department of Chemical Science and Engineering

16:30-17:00 | Short Break (Move to 1st Co-op Cafeteria)

17:00-18:00 | **Group Work @1st Co-op Cafeteria**

18:00-20:00 | **Banquet and Award Ceremony @1st Co-op Cafeteria**