

Advanced Technical Program

Wednesday, Mar. 8

08:30-9:30

Registration

Venue: IB entrance

09:30-10:00

Opening Ceremony & Group Photo

Venue: IB101

10:00-10:10

Coffee Break

Venue: IB 1F Area B

10:10-10:30

K01: Keynote Speaker

Electric Spring Technology: A Green Technology for Smart Grid Applications to combat Climate Change

Prof. Shu-Yuen Ron Hui (Nanyang Technological University, Singapore/ Imperial College London, United Kingdom)

Room: IB101

Chair:

10:30-10:50

K02: Keynote Speaker

Atomically Dispersed Metal Ions on Carbon Nitride for Hydrogen Peroxide Production System

Prof. Teruhisa Ohno (Kyushu Institute of Technology, Japan)

Room: IB101

Chair:

10:50-11:10

K03: Keynote Speaker

Research on automatic generation of artistic paintings called Escher tiling

Prof. Yuichi Nagata (Tokushima University, Graduate School of Technology, Industrial and Social Sciences, Japan)

Room: IB101

Chair:

11:10-11:20

Coffee Break

Venue: IB 1F Area B

11:20-12:30

T1 Deteriorations and Retrofitting Techniques for Civil Engineering Structures

T2 Advances in Processing and Manufacture of Electronic and Electrical Components

Room: IB101

Chair:

11:20

50052: Performance Analysis of Eccentrically Braced Frames (EBF) Using Metallic Yielding Damper (MYD) with Hysteretic Steel Damper (HSD) Type

Budi Suswanto*, Data Iranata, Heppy Kristijanto, I Gusti Putu Raka, and Pramesta Armanisag Pangestuti (Institut Teknologi Sepuluh Nopember, Indonesia)

11:35

50053: Static Non-Linear Analysis of Post-Earthquake Cold-Formed Steel Housing in Indonesia

Data Iranata*, Djoko Irawan, Budi Suswanto, Triwulan and Rizqi Alghiffary (Institut Teknologi Sepuluh Nopember, Indonesia)

11:50

50058: Resilience-considered Seismic Risk Assessment and Mitigation of a Retrofitting Method for a Bridge under Multiple Seismic Events

Chiu-Chien Kuo, I-Hsiang Liao*, and Santoso Daniel (National Taiwan University of Science and Technology, Taiwan)

Eiki Yamaguchi (Kyushu Institute of Technology, Japan)

12:05

50048: *Research on A Hybrid Phase-Shifted Full-Bridge and Half-Bridge LLC Resonant Converter*

Hong Min-Rui*, Wang Shu-Po and Chuang Ching-Chun (National Formosa University, Taiwan)

11:20-12:30

T3-1 Emerging Fields and New Technologies

Room: IB301

Chair: Takanori Kitamura

11:20

50005: *Dataset Generation and De-raining Algorithms for Video System of Drone*

Tian Song*, Takuya Sawada, Takafumi Katayama, and Takashi Shimamoto (Tokushima University, Japan)

Jenq-Shiou Leu (National Taiwan University of Science and Technology, Taiwan)

11:35

50006: *Active EMI Filter Design and Application for Common Mode Noise reduction*

Andrew C.S. Liao, Bryan M.H. Pong*, and H.J. Chiu (National Taiwan University of Science and Technology, Taiwan)

11:50

50016: *Strengthening of Lap Joints by Combining Resistance Spot Welding and Brazing*

Takanori Kitamura*, Tetsuya Akiyama, Atsuro Uemura, and Chinatsu Mihara (Kyushu Institute of Technology, Japan)

12:05

50029: *INJETBLOCK: an Instantiation of Decentralized Storage Systems in the Edg-nodes Cluster*

Irawan Widi Widayat*, Yudhi Adhitya, Aprinaldi Jasa Mantau, and Mario Koeppen (Kyushu Institute of Technology, Japan)

Jenq-Shiou Leu (National Taiwan University of Science and Technology, Taiwan)

11:20-12:30

T4-1 Nanotechnology and Advanced Materials

Room: IB302

Chair:

11:20

50008: *The Effect Of Fumed Silica And Talc On The Foaming Behavior Of Thermoplastic Polyurethane*

Aashir Azhar, Muluberhan Yelak, Raghavendrakumar Rangappa, Chia-Yun Li, Jun Yi Dai, Yi-Hua He and Shu-Kai Yeh* (National Taiwan University of Science and Technology, Taiwan)

11:35

50011: *Production of Low-Density Nanocellular Foam Based on PMMA/PEBAX blends*

Nigus Maregu Demewoz and Shu-Kai Yeh* (National Taiwan University of Science and Technology, Taiwan)

11:50

50013: *The Effect Of Hydrothermal Temperature On The Capacitive Properties Of N-rGO/CuCr2O4 Composites For Hybrid Supercapacitor Electrode Applications*

Diah Susanti*, Adzon Nugraha Rizky Pratama and Haniffudin Nurdiansah (Institut Teknologi Sepuluh Nopember, Indonesia)

12:05

50020: *Enantio- and Diastereoselective Metathesis Dimerization/Kinetic Resolution of Racemic Planar-Chiral Vinylphosphaferrocenes*

Masamichi Ogasawara*, Haruka Taue, and Kakeru Masaoka (Tokushima University, Japan)

Masayuki Wakioka and Yasuhiro Ohki (Kyoto University, Japan)

12:20

50025: *Thermodynamic Analysis of Phase Equilibria in the Ge–Sn Binary System*

Considering Particle Size

Robin Yoneda, Asuka Tsuru, and Tatsuya Tokunaga* (Kyushu Institute of Technology, Japan)

12:30-13:30

Lunch (ticket required)

Venue: IB 1F Area B

12:30-13:30

Poster Session

Venue: IB 1F Area A

Chairs:

50001: Effect Of Various Flux On Structure And Luminescence Of SrAl₂O₄:Eu²⁺ Phosphor

Yi-Ju Hsieh, Kei-ichiro Murai, and Toshihiro Moriga (Tokushima University, Japan)
Shao-Ju Shih (National Taiwan University of Science and Technology, Taiwan)

50004: Phosphorus Recovery From Sewage Sludge Molten Slag

Li-Hao Hsiao, Shigeru Sugiyama, Taizo Tokunaga, Masaki Habara, and Naohiro Shimoda (Tokushima University, Japan)
Jhy-Chern Liu (National Taiwan University of Science and Technology, Taiwan)
Seiichi Abe (Kitsuki Professional Engineer Office, Japan)
Takaiku Yamamoto (Kyoto University, Japan)

50010: Blue Edge Enhancement In Photocatalytic Hydrogen Production Using Taon Photonic Crystals

Taiki Maekawa, Yi-Syun Huang, Naoki Tateishi, Kei-ichiro Murai, and Toshihiro Moriga (Tokushima University, Japan)
Geoffrey I.N. Waterhouse (The University of Auckland, New Zealand)

50014: Prelithiated Rigid Polymer with High Ionic Conductivity as Siliconbased Anode Binder for Lithium-ion Battery

Jiaying Zhang and Tingli Ma (Kyushu Institute of Technology, Japan)
Weinien Su (National Taiwan University of Science and Technology, Taiwan)

50015: A Pressure-Driving Dispensing System For High-Volume Droplet Vitrification On A Cryogenic Solid Surface

Jose Horacio Lizama, Noel Sanchez, Yong-Ming Ye, and Hsiu-Yang Tseng (National Taiwan University of Science and Technology, Taiwan)

50017: Brillouin Optical Time Domain Analysis (BOTDA) for Temperature and Stress Sensing Simultaneously

Yan-Ching Lee, Zi Wang, Jiun-Yu Sung, and Shien-Kuei Liaw (National Taiwan University of Science and Technology, Taiwan)

Hiroki Kishikawa (Tokushima University, Japan)

Jingo Chen (National Center for Research on Earthquake Engineering, Taiwan)
(National Taiwan University of Science and Technology, Taiwan)

50021: Enantioselective Metathesis Dimerization/Desymmetrization of Cs-Symmetric Divinylferrocenes

Kakeru Masaoka, Haruka Taue, and Masamichi Ogasawara (Tokushima University, Japan)
Tatsuya Higaki and Yasuhiro Ohki (Kyoto University, Japan)

50022: Palladium-Catalyzed Synthesis of Alkoxyallenes and Application in Addition Reactions

Yuuki Mori, Tsukasa Hitomi, and Masamichi Ogasawara (Tokushima University, Japan)

50033: Isolation of Cellulose Nanofibers from Soybean Waste

Hitoshi Takagi, Antonio N. Nakagaito, Nozomi Kawakami, Akira Takahashi, and Takeshi Nikawa (Tokushima University, Japan)

50035: Performance of Orthogonal Frequency-Division Multiplexing (OFDM) Visible Light Communication (VLC) at Different Light Emitting Diode (LED) Operating Points

Sung-Ju Wu, Wen-Kai Zhong, Jiun-Yu Sung, Shien-Kuei Liaw (National Taiwan University of Science and Technology, Taiwan)

Hiroki Kishikawa (Tokushima University, Japan)

50044: A High Availability Inter- and Intra- Cluster Mobility Load Balancing for Self-Organizing Network

Yi-Wei Ma, Chun-Yao Chang, Yi-Hao Tu (National Taiwan University of Science and Technology, Taiwan)

Kazuya Tsukamoto (Kyushu Institute of Technology, Japan)

13:30-14:30

T5 Optical Engineering and Imaging Sensing Techniques

Room: IB101

Chair:

13:30

50023: Investigation of Water Impact Issues in Underwater Wireless Optical Communication

Shofuro Afifah, Amirullah Wijayanto, Ya-ling Liu, and Shien-Kuei Liaw* (National Taiwan University of Science and Technology, Taiwan)

Ochi Hiroshi (Kyushu Institute of Technology, Japan)

13:45

50041: Orbital Angular Momentum Mode Recognition Based on Sparse Coding for Beams Affected by Atmospheric Turbulence

Hiroki Kishikawa (Tokushima University, Japan)

Shien-Kuei Liaw and Jiun-Yu Sung (National Taiwan University of Science and Technology, Taiwan)

14:00

50043: Optical Coherence Tomography Phase Study

Shih-Hsiang Hsu* (National Taiwan University of Science and Technology, Taiwan)

Masanori Takabayashi(Kyushu Institute of Technology, Japan)

13:30-14:30

T3-2 Emerging Fields and New Technologies

Room: IB301

Chair:

13:30

50032: Artificial Intelligence Modeling for Cybersecurity in Internet of Things

Jiann-Liang CHEN, Candra Ahmadi*, and Bagus Tri Atmaja(National Taiwan University of

Science and Technology, Taiwan)

13:45

50034: *Experimental Evaluation of CNN-based Packet Detection to ensure 5G and Wi-Fi Networks Coexistence*

Muhammad Harry Bintang Pratama*, Dody Ichwana Putra, Muhammad Taqiyuddin, Masayuki Kurosaki, and Hiroshi Ochi (Kyushu Institute of Technology, Japan)

14:00

50050: *What if Disaster Strikes in Metaverse?*

Hiroyuki Mitsuhashi*, Kaito Oe, Itsuki Tanioka, Ryoichi Yamanaka, Maya Matsushige, and Yasunori Kozuki (Tokushima University, Japan)

13:30-14:30

T4-2 Nanotechnology and Advanced Materials

Room: IB302

Chair: Yoshito Andou

13:30

50028: *Modification Of Track-Etched Membrane Electrodes With Non-Enzymatic Catalysts For Flow-Based Biosensors*

Hitoshi Mizuguchi*, Soma Fujiki, Sayaka Tani, Masatsugu Oishi, and Toshio Takayanagi (Tokushima University, Japan)

Masamitsu Iiyama (Nomura Micro Science Co., Ltd., Japan)

Yu-Chi Lin, and Min-Hsin Yeh (National Taiwan University of Science and Technology, Taiwan)

13:45

50030: *Synthesis and Mechanical Performance of Thermoformable Cellulose Esters through Mechanochemical Method*

Yoshito Andou*, Jacqueline Lease, and Tessei Kawano (Kyushu Institute of Technology, Japan)

14:00

50031: Preparation And Electrocatalytic Properties Of Pt/Au Bimetallic Nanoparticles Modified Copper Hydroxide Nanosheet Electrode

Meng-Yi Bai*(National Taiwan University of Science and Technology, Taiwan)

Masashi Kurashina and Mikito Yasuzawa (Tokushima University, Japan)

14:15

50037: Boron-Doped Graphene Quantum Dots Anchored to Carbon Nanotubes as Noble Metal-Free Electrocatalysts of Uric Acid for a Wearable Sweat Sensor

Yu-Xuan Wang, Mia Rinawati, Jun-De Zhan, Kuan-Yu Lin, Chen-Jui Huang, Jyh-Chiang Jiang, Bing-Joe Hwang, and Min-Hsin Yeh* (National Taiwan University of Science and Technology, Taiwan)

Kuan-Jung Chen (Mighty Electronic Co, Ltd., Taiwan)

Hitoshi Mizuguchi(Tokushima University, Japan)

13:30-14:30

T6-1 Industrial Management and Design

Room: RB402

Chair:

13:30

50018: Effects of Landmark Locations in Virtual Maps on Wayfinding: Using Touchscreen Electronic Guides

Weimin Zhai* and Chien-Hsiung Chen (National Taiwan University of Science and Technology, Taiwan)

13:45

50019: Discussion on the OMO Integration of Blended Learning in Craft Design Education from the Perspective of the Needs of the Pre- Seniors

Chao-Hua Wang* and Chien-Hsiung Chen (National Taiwan University of Science and Technology, Taiwan)

14:00

50024: Usability Study on the User Interface Design of Game Platform

Yi-Hung Hsu* and Chien-Hsiung Chen (National Taiwan University of Science and Technology, Taiwan)

14:30-14:40

Coffee Break

Venue: IB 1F Area B & 3F

14:40-16:10

The 4th Japan-Taiwan International Engineering Forum

Room: IB101

14:40

I01: Invited Speaker

Design Of Lightweight Timber Structures

Masaaki Iwamoto (Department of Environmental Design, Faculty of Design, Kyushu University, Japan)

15:00

I02: Invited Speaker

Technical Trend of Power Electronics Systems for Automotive Applications and Parallel Connected Method for GaN/SiC Power Module

Masayoshi Yamamoto (Institute of Materials and Systems for Sustainability, Nagoya University, Japan)

I03: Invited Speaker

15:20

Human Factors and Ergonomics in the Workplace: Emerging Fields and Technologies from a Human Physiological Response Perspective

Ping Yeap, Loh (Department of Human Life Design and Science, Faculty of Design, Kyushu University, Japan)

15:40

I04: Invited Speaker

Recent Research For Constructing Middle-Rise Wooden Building- Joint Development Using GIR Technology And Related Basic Research –

Toshiaki Sato (Department of Architecture and Urban Design, Faculty of Human-Environment Studies, Kyushu University, Japan)

14:40-16:10

T4-3 Nanotechnology and Advanced Materials

Room: IB302

Chair:

14:40

50040: *Evaluation Of Photoluminescence Property Of Nano Silica Mixed YAG: Ce Phosphors*

Masatsugu Oishi*, Tatsuki Sogabe, and Toshihiro Moriga (Tokushima University, Japan)
Shao-Ju Shih (National Taiwan University of Science and Technology, Taiwan)

14:55

50042: *Studies Of The Structure Of Spray Dried Pure And Zinc-Containing Bioactive Glasses Using Electron Diffraction And DFT Simulations*

Chao-Li Lee, Huan-Jia Zhang, and Shao-Ju Shih* (National Taiwan University of Science and Technology, Taiwan)
Masatsugu Oishi (Tokushima University, Japan)

15:10

50045: *Fabrication Of All-Cellulose Nanofiber Composite Plates By Filtration And Drying*

Antonio N. Nakagaito*, Takumi Watanabe, and Hitoshi Takagi (Tokushima University, Japan)
Shu-Kai Yeh (National Taiwan University of Science and Technology, Taiwan)

15:25

50046: *Preparation Of Butenafine-Loaded Antifungal Chitosan*

Shota Oyama, Yuki Shirosaki*, Tatsuo Okauchi, and Toshinari Maeda (Kyushu Institute of Technology, Japan)

15:40

50047: *Synthesis Of Chitosan-Based Conductive Films For Peripheral Nerve Regeneration*

Quentin Sins and Yuki Shirosaki* (Kyushu Institute of Technology, Japan)

15:55

50049: *Au@Pt@Cu Nanoparticles Photo-Thermal Therapy And Glucose Oxidation Produce Biofuel*

Qiu Wei*

14:40-16:10

T6-2 Industrial Management and Design

Room: RB402

Chair:

14:40

50027: *A Study on the User Experience of Design Prototyping Programs*

Che, Liang Yuan* and Chen, Chien Hsiung (National Taiwan University of Science and Technology, Taiwan)

14:55

50051: *How to Meet Product Design for Target User Aesthetic Need*

Iou-Ren Lin*, Wen-Chih Chang, and Chien-Hsiung Chen (National Taiwan University of Science and Technology, Taiwan)

15:10

50054: *The European Union Agency for Cybersecurity (ENISA) Data Protection Engineering Implementation in Telemedicine*

Candra Ahmadi*, Jiann-Liang CHEN, and Bagus Tri Atmaja (National Taiwan University of Science and Technology, Taiwan)

16:10-16:20

Coffee Break

Venue: IB 1F Area B & 3F

16:20-17:00

T4-4 Nanotechnology and Advanced Materials

Room: IB302

Chair:

16:20

50057: *Improving Corrosion Resistance of Plasma Electrolytic Oxide Coating on Magnesium AZ31 by Post Alkali Treatment*

Sri Rahmadani and Anawati Anawati* (University of Indonesia, Indonesia)

16:35

50059: *Strategies To Realize Anode-Free Aqueous Zinc Dual-Ion Batteries*

Wei-Nien Su* and Teshome Assefa Nigatu (National Taiwan University of Science and Technology, Taiwan)

Tingli Ma (Kyushu Institute of Technology, Japan)

16:50

50056: *Characteristics of Plasma Electrolytic Oxide Coatings grown on Magnesium-Hydroxyapatite (Mg-HA) Composite*

Nadira Ghina, Destri Wirani, and Anawati Anawati* (University of Indonesia, Indonesia)

17:00-17:30

Closing Ceremony

Room: IB101

18:00-20:30

Banquet

Venue: No. 85, Sec. 4, Roosevelt Rd., Da'an Dist., Taipei City (Tai Da Table Restaurant)

Shuttle Buses leaving in front of IB Building at 17:45

