



2026 International Conference on
“Physics and Mechanics of New Materials and Their Applications”
 (PHENMA 2026),
 Busan, South Korea, July 15 – 18, 2026

SCHEDULE

Day 1 (July 15, 2026) - Wednesday		
Time	Activity	Place
13:00-16:00	Conference Pre-Meeting	B2 Building
16:00-18:00	Registration of the PHENMA 2026 participants at Registration desk	B2 Building

Day 2 (July 16, 2026) - Thursday		
Time	Activity	Place
09:00-10:00	Registration of the PHENMA/AMDP 2026 participants at Registration desk	Main Room
10:00-10:03	Chairperson Dr. Se-Yoon Kim	Main Room
10:03-10:12	Opening address(Prof. Kim), Congratulatory address: (Prof. Chang, Prof. Mikito Yasuzawa and Prof. Parinov)	Main Room
10:12-10:30	Group photo	Main Room
10:30-10:40 (10min)	Break	
10:40-11:20 (40min)	Keynote Speech I (Taiwan)	Main Room
11:20-12:00 (40min)	Keynote Speech II (Japan)	Main Room
12:00-13:20 (80min)	Lunch Break	
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
14:25-14:40 (15min)	Tea Break	
14:40-15:45 (65min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5

Day 3 (July 17, 2026) - Friday		
Time	Activity	Place
09:00-10:00	Registration of the PHENMA/AMDP 2026 participants at Registration desk	
10:00-10:40 (40min)	Keynote Speech III (Japan)	Main Room
10:40-11:20 (40min)	Keynote Speech IV (Russia)	Main Room
11:20-11:30 (10min)	Tea Break	
11:30-12:10 (40min)	Keynote Speech V (Korea)	Main Room
12:10-13:30 (80min)	Lunch Break	
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
14:35-14:45 (10min)	Tea Break	
14:45-15:50 (80min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
15:50-16:50 (60min)	Poster Presentation	Room 6, 7
16:50-18:00 (70min)	Move to the Banquet (P. ARK)	Bus
18:00-21:00	Banquet and Closing Ceremony (Chair Dr. Se-Yoon Kim)	

Day 4 (July 18, 2026) - Saturday		
Time	Activity	Place
09:00-16:00	Technical Tour	

Oral Presentation Details for PHENMA/AMDP 2026
Oral details (12min presentation / 3min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
13:20-13:40 (20min)	Invited speaker (17min presentation / 3min Q&A)	
13:40-13:55 (15min)	Oral 1	
13:55-14:10 (15min)	Oral 2	
14:10-14:25 (15min)	Oral 3	
14:25-14:40 (15 min)	Tea Break	
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
14:40-15:00 (20min)	Invited speaker (17min presentation / 3min Q&A)	
15:00-15:15 (15min)	Oral 1	
15:15-15:30 (15min)	Oral 2	
15:30-15:45 (15min)	Oral 3	

Oral Presentation Details for PHENMA/AMDP 2026		
Oral details (12min presentation / 3min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
13:30-13:50 (20min)	Invited speaker (17min presentation / 3min Q&A)	
13:50-14:05 (15min)	Oral 1	
14:05-14:20 (15min)	Oral 2	
14:20-14:35 (15min)	Oral 3	
14:35-14:45 (10min)	Tea Break	
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations)	Room 1~5
14:45-15:05 (20min)	Invited speaker (17min presentation / 3min Q&A)	
15:05-15:20 (15min)	Oral 1	

15:20-15:35 (15min)	Oral 2	
15:35-15:50 (15min)	Oral 3	

PHENMA & AMDP 2026		
Day 2 (July 16, 2026) - Thursday		
Main Hall (Room1)		
10:00-12:00 (120min)	PHENMA / AMDP 2026 Opening	
10:00-10:30 (30min)	Opening ceremony Chair : Prof. Yun-Hae Kim Co-chairs :Prof. Shun Hyung Chang, Prof. Mikito Yasuzawa and Prof. Parinov	
10:30-10:40 (10min)		Tea Break
10:40-11:20 (40min)	The Wave of Silicon: Past, Present, and Future of the Semiconductor Industry. (Prof. Chai-Sheng Wen, National Taiwan Ocean University,Taiwan)	Keynote Speech I
11:20-12:00 (40min)	Effective approaches for enhancing the Photocatalytic activities of Bismuth Halide-Based Nanocomposites (Prof. Pankaj Koinkar, Tokushima University, Japan)	Keynote Speech II

Day 2 (July 16, 2026) - Thursday

Room 1

Oral (12 min presentation / 3 min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Se-Yoon Kim and Dr. Antonio Nakagaito)	Nanoscience
13:20-13:40 (20min)	Molding of all-cellulose plates by filtration of nanofiber aqueous suspension (Antonio Norio Nakagaito, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Spin-state Manipulation of Fe Single Atom Catalysts for Enhanced Bifunctional ORR/OER Performance (Yongfang Zhou, New Zealand)	Oral 1
13:55-14:10 (15min)	Reduction of carbon dioxide using electrodes modified with copper hydroxide nanosheets incorporating fatty acid ions (Masashi Kurashina, Japan)	Oral 2
14:10-14:25 (15min)	Environmentally Safe Hydrogel-hydrochar Composites: from Synthesis to Practical Application (Margarita Getman, Ekaterina Kravchenko, Tatiana Minkina, Dariya Privizentseva, Russia)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Huang-Chang Lee)	Nanoscience
14:40-15:00 (20min)	Metal-Triggered Electrochromic Device with Gel Electrolyte. (Min Yen Yeh, Ming Jia Liu, Yun-Shiuan Yeh, Jin-Hau Yeh, Chi-Da Yang, Yu-Hung Chen, Shun Hsyung Chang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)

15:00-15:15 (15min)	Phase Stability and Domain Dynamics in PNN–PLN–PT Ceramics: Insights from Composition and Hf ⁴⁺ Perturbation (Yubin Li, Zhimin Li, Yangxi Yan, Ri-ichi Murakami, and Dongyan Zhang)	Oral 1
15:15-15:30 (15min)	Synthesis of Porous SiO ₂ Particles using the Bio Template of Escherichia Coli for Radiative Cooling Applications (Uzma Qazi, Dwi Fortuna Anjusa Putra and Shao Ju-Shih*)	Oral 2
15:30-15:45 (15min)	Synergistic Integration of Plasmonic Au and MoS ₂ Co-Catalyst in TiO ₂ for Hydrogen Evolution Under Visible Light (Minhaz Md Hussain, Japan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 2

Oral (12 min presentation / 3 min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Kei-ichiro Murai and Dr. Sung-Won Yoon)	Structure
13:20-13:40 (20min)	Suppression of Hygroscopicity in Y-Substituted In₂Mo₃O₁₂ Negative Thermal Expansion Materials by K⁺ Incorporation (Keiichiro Murai, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Engineering yttrium distribution in spray pyrolyzed yttrium aluminum silicate glass particles with bioactivity and cytotoxicity evaluation in vitro (Yu Jen Chou, Taiwan)	Oral 1

13:55-14:10 (15min)	Morphology-Tuned Fe ₂ O ₃ -Based Heterostructures for Sustainable Photocatalytic Degradation (Niloy Paul, Japan)	Oral 2
14:10-14:25 (15min)	Role of Pt Thickness and Nanoparticles in Liquid-Nitrogen-Enabled Nitrogen Incorporation for p-Type ZnO Thin Films. (Yi-Jing Chen, Han-De Chen, Xu-Yi Jie, Jun-Ting Wu, Lin-Wei Yang, Jian-Fu Tang)	Oral 3
14:25-14:40 (15min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Seong-Yeol Ba and Dr. Chih-Yuan Hsu)	Structure
14:40-15:00 (20min)	Optimization of SAE 8620 Steel 3D Printing Mold Processes and Evaluation of Physical Foaming Formability for Enhanced Elastomeric Performance of Industrial Foams (Jin-Woo Lee, Korea)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Comparison of Joining Characteristics of Aluminum/Thermoplastic Composite Hybrid Joints According to Surface Treatment Methods (Ji-Yeol Kim, Korea)	Oral 1
15:15-15:30 (15min)	Influence of High-Temperature Isothermal Exposure on the Crystallization Behavior and Mechanical Properties of CF/PEKK Composites (Min-Jun Kim, Korea)	Oral 2
15:30-15:45 (15min)	Modified Fields–Backofen Constitutive Modelling of Cold Deformation Behaviour for 10B38 Boron Steel. (Hong-Thao Pham, Thanh-Cong Nguyen, Quang-Cherng Hsu, Taiwan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 3

Oral (12 min presentation / 3 min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Hitoshi Mizuguchi and Dr. Chang-Wook Park)	Analysis
13:20-13:40 (20min)	Chromatographic Signatures of Electrochemical Reversibility in HPLC with Multi-TEME Detection (Hitoshi Mizuguchi, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Effects of Surface-Modified Starting Powders on the Sintering Properties of (Mg _{0.2} Ni _{0.2} Zn _{0.2} Co _{0.2} Mn _{0.2}) ₂ SiO ₄ Ceramics (Shao-Ju Shih, Taiwan)	Oral 1
13:55-14:10 (15min)	Computational Schemes for Determining Parameters of Nonlinear Elastic Materials (S.A. Egorova, M.I. Karyakina, Russia)	Oral 2
14:10-14:25 (15min)	Sensitive Determination of PET and PC in Airborne Particulate Matter by Thermochemolysis-GC/MS (Ogawa Tomoya, Japan)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Sung-Min Yoon and Prof. Shao-Ju Shih)	Analysis
14:40-15:00 (20min)	Magnet Reduction and Efficiency Limit Analysis of a Small External Rotor BLDC Motor for Precision Applications. (Chun-Yu Hsiao, Yu-Pei Cai, Taiwan)	Invited speaker (17min presentation / 3min Q&A)

15:00-15:15 (15min)	Hydrochar as a Waste Product with Added Value (Dariya Privizentseva, Ekaterina Kravchenko, Margarita Getman, Russia)	Oral 1
15:15-15:30 (15min)	Electrostatic Discharge Susceptibility of DDR5 DIMM Analyzed via Electromagnetic Simulation. (Yu-Lin Chiu, Jyh-Liang Wang, Taiwan)	Oral 2
15:30-15:45 (15min)	Effect of bias voltage on X-ray elastic constant and residual stress in titanium nitride films (Kazuya Kusaka, Japan)	Oral 3

Day 2 (July 16, 2026) - Thursday		
Room 4		
Oral (12 min presentation / 3 min Q&A)		
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Weison Li and S.A. Egorova)	Sensing & Architecture
13:20-13:40 (20min)	MXene Based Self-Powered Monitoring of Environmental Pollutants and Biomarkers (Aman Mahajan, India)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Fabrication and Evaluation of a Continuous Glucose Monitoring Sensor Using bacterial cellulose (Makuto Gaki, Japan)	Oral 1
13:55-14:10 (15min)	Fractional Hypersingular Diffusion Layer for Robust Signal Denoising on Metric Graphs (Yu. E. Drobotov, Russia)	Oral 2

14:10-14:25 (15min)	Polycarbonate Transfer Technique for 2D Semiconductor Devices (Meng-Lin Tsai, Taiwan)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chiao-Yun Chang and Dr. Masashi Kurashina)	Sensing & Architecture
14:40-15:00 (20min)	GaN Based UV Photodetector Application as Optical Communication with Biorobot Control (Cheng-Yu Wu, Pei-Yi Liang, Hsin-Ti Chiu, Chia-Kuan Hung, Wen-An Chen, Yu-An Chiu, Yueh-Wei Chen, Chun-Yi Chen, Chih-Min Chuang, Zun-Hao Shih, Dung-Sheng Tsai, Chen-Fang Kang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Architecture-Optimized Ag–CsPbI ₃ Platforms for PIERS Detection. (Chih-Yi Liu, Jhih-Yan Guo, Dian Luo and Shun-Wei Liu, Taiwan)	Oral 1
15:15-15:30 (15min)	A Stable and High-Efficiency Boost Converter LED Driver with PWM Control for High-Voltage Applications. (I-Wen Chang, Yi-Chieh Hsu, Taiwan)	Oral 2
15:30-15:45 (15min)	A Multi-Mode 24 GHz mm Wave Radar Sensing System for Privacy-Preserving Home Security Applications. (Chun-Yu Hsiao, Jao-Yi Lin, Yichao Wang, Taiwan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 5		
Oral (12 min presentation / 3 min Q&A)		
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chun-Yu Hsiao and Chih-Tsung Chang)	AI
13:20-13:40 (20min)	Deep Learning-based Feature Extraction for 40 Hz SSVEP Recognition in Flicker-Free Neuromodulation Systems. (Hong-Ming Lin, Chih-Tsung Chang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Neuromorphic Memristor via Machine Learning. (Yu-Cheng Wang, Ya-Ge Huang, Guan-Lin Li, Yu-Kai Shen, Taiwan)	Oral 1
13:55-14:10 (15min)	Quantum Transport in Simple Structure Based Neuromorphic Memristor via Machine Learning. (Yu-Hao Chen, Ting-Hsuan Tsai, Yu-En Huang, Hsin-Ti Chiu, Cheng-Yu Wu, Chen-Fang Kang, Taiwan)	Oral 2
14:10-14:25 (15min)	Machine Learning Approach for Stationary State Problems of One-dimensional Schrödinger Equation in Self-rectifying Memory Array. (Yu-An Chiu, Yueh-Wei Chen, Ting-Hsuan Tsai, Yu-En Huang, Chen-Fang Kang*, Taiwan)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Yi-Chieh Hsu and Dr. Sung Won Yoon)	Sensing & Architecture
14:40-15:00 (20min)	Influence of ZnO Doping Concentration and Resistive Layer Thickness on Switching Characteristics and Conduction Mechanisms of Flexible RRAM Devices.	Invited speaker (17min presentation / 3min Q&A)

	(Yuan-Nan Tsai*, Chen-Jui Yang, Taiwan)	
15:00-15:15 (15min)	An Enhanced Ripple-Based Regulator with Master-Slave RS Control and Dual-Loop Feedback. (Yi-Chieh Hsu*, Yi-Cheng Lai, Taiwan)	Oral 1
15:15-15:30 (15min)	GaN Based UV Photodetector Application as Optical Communication with Biorobot Control. (Cheng-Yu Wu, Dung-Sheng Tsai*,Taiwan)	Oral 2
15:30-15:45 (15min)	Green Graphene-Based Flexible Sensors for Wireless and Real-Time Pulse Monitoring. (Chiao-Deng Yeoh, Chen-Fang Kang*, Dung-Sheng Tsai**, Taiwan)	Oral 3

Day 3 (July 17, 2026) - Friday

Main Hall (Room 1)

	Chair : Prof. Pankaj Koinkar	
10:00-10:40 (40min)	Distribution of Mode-I Thermal Stress Intensity Factor along a Front of Three-dimensional Surface Crack due to an Instantaneous Internal Point Heat. (Prof. Akihide Saimoto, Nagasaki University, Japan)	Keynote Speech III
10:40-11:20 (40min)	Building an Optimal Radar Sequence of Binary Phase-manipulated Signals as a Discrete Optimization Problem and Various Heuristic Approaches to its Solution. (Prof. Boris Melnikov, Bo Zhang, Elena Melnikova, Russia)	Keynote Speech IV

11:20-11:30 (10min)	Tea Break	
11:30-12:10 (40min)	" Current Status of Domestic and International Standardization of Key Materials in Korean Industry "Dr. Chi-Sung Song, National Standard Coordinator, Korea)	Keynote Speech V

Day 3 (July 17, 2026) - Friday		
Room 1		
Oral (12 min presentation / 3 min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chih-Yi Liu and Dr. Meng-Lin Tsai)	AI
13:30-13:50 (20min)	Automated Optical Inspection Platform for Micro-LED Matrices Integrating Embedded Control and Deep Learning. (Wei Cheng Chen, Tzu Hsun Kao, Min Yen Yeh, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Adaptive Control of a Robotic Manipulator with Nonlinear Dynamics Using Hybrid Neural Network Control Loops N.K. (Litvinov, Yu. E. Drobotov, Russia)	Oral 1
14:05-14:20 (15min)	An Investigation into the Impact of Environmental Factors on the Stability of Remote Monitoring Systems in Animal Shelters Using Open Meteorological Data (Yu-Cheng Wang, Taiwan)	Oral 2

14:20-14:35 (15min)	Numerical Investigation of Placement and Geometry Effects of PZT Patches on MEMS Cantilever Electromechanical Behavior (hubham Kumar Mishra, Abhinav Sharma, Mohd. Zahid Ansari, Afzal Husain, Russia)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Kyo-Moon Lee)	Structure
14:45-15:05 (20min)	Black-box Optimization Techniques for Modelling New Materials (P.A. Oganessian, E.I. Fomenko, S.A. Gorshkov, A.V. Vissarionova, Russia)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Prediction and Validation of Mechanical Properties of Fiber-Reinforced Composites Using Physics-Based Modeling and Machine Learning (Soonmin Hong, Korea)	Oral 1
15:20-15:35 (15min)	A Study on the Properties of Composites Using Vitrimer Resin Based on an Automated Intermediate Material Manufacturing Process (Min-Ji Koo, Korea)	Oral 2
15:35-15:50 (15min)	Microstructure and Electrical Properties of RF Magnetron Sputtered MoC Thin Films for Precision Resistor Applications (Ying-Chieh Lee, Taiwan)	Oral 3
15:50-16:05 (15min)	Synergistic Enhancement Mechanisms and Design Strategies for PHT-Based Piezoelectric Ceramics with High Curie Temperature (Peng Zhang, China)	Oral 4

Day 3 (July 17, 2026) - Friday

Room 2		
Oral (12 min presentation / 3 min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Boris Melnikov, Dr. Jin-Woo Lee)	Structure
13:30-13:50 (20min)	Film Structure and Corrosion Protection Mechanisms of Film-Forming Amines: Role of Surface Oxidation State and Hydrophobicity (Ken Yoshida, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Suppression Strategy for Crack-Tip Stress Concentration in Lip-Type Cracks under Coupled Mechanical and Electrothermal Loading (Wan-Yu Xu, Yi-Lun Liao, Ching-Kong Chao, Yu-Hsi Huang, Taiwan)	Oral 1
14:05-14:20 (15min)	Atomistic Mechanism of Friction-Force Independence on the Normal Load and Other Friction Laws for Dynamic Structural Superlubricity (Nikolay Brilliantov, Russia)	Oral 2
14:20-14:35 (15min)	Metal Decorated BiVO ₄ with Improving Photocatalytic Performance (Trinh Duy Nguyen, Vinh Huu Nguyen, Que-Minh T. Doan, Truc Thai Thanh, Oanh T.K. Nguyen, Taeyoon Lee)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Kazuya Kusaka and Dr. A. S. Kornievsky)	Analysis
14:45-15:05 (20min)	Hypersingular Integral Inversion of Mean-Field Potentials for Non-Destructive Mapping of Defect Distributions in Advanced Materials (Yu. E. Drobotov, Russia)	Invited speaker (17min presentation / 3min Q&A)

15:05-15:20 (15min)	Numerical Investigation and Comparison of Effective Elastic Properties of Regular Porous Structures (A.S. Kornievsky, A.V. Nasedkin, Russia)	Oral 1
15:20-15:35 (15min)	Modified Fields–Backofen Constitutive Modelling of Cold Deformation Behaviour for 10B38 Boron Steel (Quang-Cherng Hsu, Taiwan)	Oral 2
15:35-15:50 (15min)	Analysis of the Friction–Wear Correlation of Tire Tread Compound Considering Strain-Dependent Nonlinear Viscoelastic Properties (Hyunseung Kang, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday

Room 3

Oral (12 min presentation / 3 min Q&A)

13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Toshihiro Moriga)	Analysis
13:30-13:50 (20min)	Influence of Silicone Oil Viscosity on Laser Cleaning Effects of A3003 Aluminum Alloy Surfaces (Sunghwan Kim, Korea)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Analysis of Re-solidified Metal Layer Formation during Underwater Laser Cutting of Stainless Steel for Nuclear Decommissioning (Jaecook Jeon, Korea)	Oral 1
14:05-14:20 (15min)	ECHO LOG: A Study on Sonic Visualization and Interactive Experience of Delphinid Cetaceans in Taiwan Waters. (Wang Yun-Han, Xu Ruo-Zhen, Luo Yu-Ching, Qiu Xiang-En, Chen Cheng-Huan, Lan Wei-Hsien, Chang	Oral 2

	Shun-Hsyung, Wen Chai-Sheng, Lu Shi-Ming, Taiwan)	
14:20-14:35 (15min)	Micromechanics-based Modeling of Electrical Conductivity in CNT-reinforced Cementitious Composites (Seoyoung Moon, Korea)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. (S.A. Lychev and Mr. Sung Uk Yoo)	Analysis
14:45-15:05 (20min)	A Fast and Accurate Quasi-atom Method Hybrid Model for Simultaneous Atomistic and Continuum Simulation of Solids (Artem Chuprova, Egor Nuzhin, Nikolay Brilliantov, Russia)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Space-Time Symmetries and Gauge Invariance in the Geometric Theory of Evolving Defects: A Noether Current Approach to Configurational Forces (S.A. Lychev, Russia)	Oral 1
15:20-15:35 (15min)	Solution of an Edge Crack in a Semi-infinite Plate of General Anisotropy Subjected to a Self-equilibrating Loads at a Crack Face (Yohei Sonobe, Japan)	Oral 2
15:35-15:50 (15min)	Dry-Jet Wet-Spun Bamboo-Derived Continuous Cellulose Fibers for Composite Applications (Eunseok Lee, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday

Room 4

Oral (12min presentation / 3min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. P. A. Oganessian and Dr. Ken Yoshida)	Sensing & Architecture
13:30-13:50 (20min)	Increasing Diamond Ore Beneficiation Process Efficiency with LMS-driven Production Simulation and VR/AR-approaches (V.A. Afanasyev, S.A. Tyasto, Russia)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	A Switched Capacitor Regulator with Low Input Voltage for Energy Harvesting System. (Yi-Chieh Hsu, I-Wen Chang, Yu-Cheng Liang, Yi-Cheng Lai, Taiwan)	Oral 1
14:05-14:20 (15min)	Detector influence in X-ray elastic constant measurement of polyphenylene sulfide (Itsuki Takahata, Japan)	Oral 2
14:20-14:35 (15min)	An AI-Driven Dynamic Questionnaire System to Streamline Pre-Consultation for the Elderly (Chih-Fu Yang, Taiwan)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Daisuke Yonekura)	Sensing & Architecture
14:45-15:05 (20min)	A Finger-worn Responsive Bio-inspired Controller Utilizing a Silver-ink Force Sensing Resistor. (Yueh-Wei Chen, Yu-An Chiu, Cheng-Yu Wu, Hsin-Ti Chiu, Chen-Fang Kang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Development of Large-Area Flexible CsPbBr ₃ Perovskite Quantum Dot LEDs. (Kuan-Yu Ke, Wu-Kai Tsui, Yin-Ting Hsu, Sih-An Chen, Lung-Chien Chen, Zong-Liang Tseng, Shun-Hsyung	Oral 1+R24:S27

	Chang, Taiwan)	
15:20-15:35 (15min)	Rapid UTI Diagnostics using ITO EGFET with LAMP techniques (Chun-Ming Albert Wang, Taiwan)	Oral 2
15:35-15:50 (15min)	Physics-Informed U-NET for Label-Free Stress Analysis in 3D Lattice Structure Design (Seunghyun Kim, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday		
Room 5		
Oral details (12min presentation / 3min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chen-Fang Kang and Prof. Yohei Sonobe)	Analysis
13:30-13:50 (20min)	Green Synthesis of β-Tricalcium Phosphate Particles from Waste Eggshells: A Comparative Study of Different Processes for Radiative Cooling(Yang Yu Hsuan, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Distribution of Mode-I Thermal Stress Intensity Factor along a Front of Three-dimensional Surface Crack due to an Instantaneous Internal Point Heat (Yohei Sonobe, Shinichi Kubota, Takuichiro Ino Atsuhiro Koyama, Akihide Saimoto)	Oral 1
14:05-14:20 (15min)	An End-to-End Simulation Framework for Piezoelectric Transducer Systems in Underwater Acoustic Communication (Nhut Thang Le, Cong Toai Truong, Ngoc Hung Nguyen, Quang Huy Cao, Huy Hung	Oral 2

	Nguyen, Tan Tien Nguyen, Van Tu Duong)	
14:20-14:35 (15min)	Flame-Retardant Self-Reinforced PET Composites for Circular Automotive interior Panel (Se-Yoon Kim, Korea)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Sung Youl Bae)	Structure
14:45-15:05 (20min)	A Portable Double-Acting Piston Pump for Biomedical Applications: Design, Modeling, and Experimental Evaluation (Cong Toai Truong, Trung Dat Phan, Huy Hung Nguyen, Tan Tien Nguyen, Van Tu Duong)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	A Study on the Mechanical-Thermal Properties of Reformed Perlite Cores and BF/HDPE Sandwich-Structured Composites (Hyeon-Mok Jung, Korea)	Oral 1
15:20-15:35 (15min)	Development of Ti-Zr alloys with various pore structures and their mechanical properties for load-bearing implant materials (Seok-june Seo, Tomoyuki Fujii and Yoshinobu Shimamura)	Oral 2
15:35-15:50 (15min)	Comparative Study of TiC and TiN Reinforced CoCrFeNiAl High Entropy Alloy Composites Fabricated by Laser Powder Bed Fusion (Juwon Kim, Korea)	Oral 3

PHENMA & AMDP 2026

Day 2 (July 16, 2026) - Thursday		
Main Hall (Room1)		
10:00-12:00 (120min)	PHENMA / AMDP 2026 Opening	
10:00-10:30 (30min)	Opening ceremony Chair : Prof. Yun-Hae Kim Co-chairs :Prof. Shun Hyung Chang, Prof. Mikito Yasuzawa and Prof. Parinov	
10:30-10:40 (10min)		Tea Break
10:40-11:20 (40min)	The Wave of Silicon: Past, Present, and Future of the Semiconductor Industry. (Prof. Chai-Sheng Wen, National Taiwan Ocean University,Taiwan)	Keynote Speech I
11:20-12:00 (40min)	Effective approaches for enhancing the Photocatalytic activities of Bismuth Halide-Based Nanocomposites (Prof. Pankaj Koinkar, Tokushima University, Japan)	Keynote Speech II

Day 2 (July 16, 2026) - Thursday		
Room 1		
Oral (12 min presentation / 3 min Q&A)		
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Se-Yoon Kim and Dr. Antonio Nakagaito)	Nanoscience

13:20-13:40 (20min)	Molding of all-cellulose plates by filtration of nanofiber aqueous suspension (Antonio Norio Nakagaito, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Spin-state Manipulation of Fe Single Atom Catalysts for Enhanced Bifunctional ORR/OER Performance (Yongfang Zhou, New Zealand)	Oral 1
13:55-14:10 (15min)	Reduction of carbon dioxide using electrodes modified with copper hydroxide nanosheets incorporating fatty acid ions (Masashi Kurashina, Japan)	Oral 2
14:10-14:25 (15min)	Environmentally Safe Hydrogel-hydrochar Composites: from Synthesis to Practical Application (Margarita Getman, Ekaterina Kravchenko, Tatiana Minkina, Dariya Privizentseva, Russia)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Huang-Chang Lee)	Nanoscience
14:40-15:00 (20min)	Metal-Triggered Electrochromic Device with Gel Electrolyte. (Min Yen Yeh, Ming Jia Liu, Yun-Shiuan Yeh, Jin-Hau Yeh, Chi-Da Yang, Yu-Hung Chen, Shun Hsyung Chang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Phase Stability and Domain Dynamics in PNN–PLN–PT Ceramics: Insights from Composition and Hf ⁴⁺ Perturbation (Yubin Li, Zhimin Li, Yangxi Yan, Ri-ichi Murakami, and Dongyan Zhang)	Oral 1
15:15-15:30 (15min)	Synthesis of Porous SiO ₂ Particles using the Bio Template of Escherichia Coli for Radiative Cooling Applications (Uzma Qazi, Dwi Fortuna Anjusa Putra and Shao Ju-Shih*)	Oral 2
15:30-15:45 (15min)	Synergistic Integration of Plasmonic Au and MoS ₂ Co-Catalyst in TiO ₂ for Hydrogen Evolution Under Visible Light (Minhaz Md Hussain, Japan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 2		
Oral (12 min presentation / 3 min Q&A)		
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Kei-ichiro Murai and Dr. Sung-Won Yoon)	Structure
13:20-13:40 (20min)	Suppression of Hygroscopicity in Y-Substituted $\text{In}_2\text{Mo}_3\text{O}_{12}$ Negative Thermal Expansion Materials by K^+ Incorporation (Keiichiro Murai, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Engineering yttrium distribution in spray pyrolyzed yttrium aluminum silicate glass particles with bioactivity and cytotoxicity evaluation in vitro (Yu Jen Chou, Taiwan)	Oral 1
13:55-14:10 (15min)	Morphology-Tuned Fe_2O_3 -Based Heterostructures for Sustainable Photocatalytic Degradation (Niloy Paul, Japan)	Oral 2
14:10-14:25 (15min)	Role of Pt Thickness and Nanoparticles in Liquid-Nitrogen-Enabled Nitrogen Incorporation for p-Type ZnO Thin Films. (Yi-Jing Chen, Han-De Chen, Xu-Yi Jie, Jun-Ting Wu, Lin-Wei Yang, Jian-Fu Tang)	Oral 3
14:25-14:40 (15min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Seong-Yeol Ba and Dr. Chih-Yuan Hsu)	Structure
14:40-15:00 (20min)	Optimization of SAE 8620 Steel 3D Printing Mold Processes and Evaluation of Physical Foaming Formability for Enhanced Elastomeric Performance of Industrial Foams (Jin-Woo Lee, Korea)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Comparison of Joining Characteristics of Aluminum/Thermoplastic Composite Hybrid Joints According to Surface Treatment Methods (Ji-Yeol Kim, Korea)	Oral 1

15:15-15:30 (15min)	Influence of High-Temperature Isothermal Exposure on the Crystallization Behavior and Mechanical Properties of CF/PEKK Composites (Min-Jun Kim, Korea)	Oral 2
15:30-15:45 (15min)	Modified Fields–Backofen Constitutive Modelling of Cold Deformation Behaviour for 10B38 Boron Steel. (Hong-Thao Pham, Thanh-Cong Nguyen, Quang-Cherng Hsu, Taiwan)	Oral 3

Day 2 (July 16, 2026) - Thursday		
Room 3		
Oral (12 min presentation / 3 min Q&A)		
13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Hitoshi Mizuguchi and Dr. Chang-Wook Park)	Analysis
13:20-13:40 (20min)	Chromatographic Signatures of Electrochemical Reversibility in HPLC with Multi-TEME Detection (Hitoshi Mizuguchi, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Effects of Surface-Modified Starting Powders on the Sintering Properties of (Mg _{0.2} Ni _{0.2} Zn _{0.2} Co _{0.2} Mn _{0.2}) ₂ SiO ₄ Ceramics (Shao-Ju Shih, Taiwan)	Oral 1
13:55-14:10 (15min)	Computational Schemes for Determining Parameters of Nonlinear Elastic Materials (S.A. Egorova, M.I. Karyakina, Russia)	Oral 2
14:10-14:25 (15min)	Sensitive Determination of PET and PC in Airborne Particulate Matter by Thermochemolysis-GC/MS (Ogawa Tomoya, Japan)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Sung-Min Yoon and Prof. Shao-Ju Shih)	Analysis

14:40-15:00 (20min)	Magnet Reduction and Efficiency Limit Analysis of a Small External Rotor BLDC Motor for Precision Applications. (Chun-Yu Hsiao, Yu-Pei Cai, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Hydrochar as a Waste Product with Added Value (Dariya Privizentseva, Ekaterina Kravchenko, Margarita Getman, Russia)	Oral 1
15:15-15:30 (15min)	Electrostatic Discharge Susceptibility of DDR5 DIMM Analyzed via Electromagnetic Simulation. (Yu-Lin Chiu, Jyh-Liang Wang, Taiwan)	Oral 2
15:30-15:45 (15min)	Effect of bias voltage on X-ray elastic constant and residual stress in titanium nitride films (Kazuya Kusaka, Japan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 4

Oral (12 min presentation / 3 min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Weison Li and S.A. Egorova)	Sensing & Architecture
13:20-13:40 (20min)	MXene Based Self-Powered Monitoring of Environmental Pollutants and Biomarkers (Aman Mahajan, India)	Invited speaker (17min presentation / 3min Q&A)
13:40-13:55 (15min)	Fabrication and Evaluation of a Continuous Glucose Monitoring Sensor Using bacterial cellulose (Makuto Gaki, Japan)	Oral 1
13:55-14:10 (15min)	Fractional Hypersingular Diffusion Layer for Robust Signal Denoising on Metric Graphs (Yu. E. Drobotov, Russia)	Oral 2
14:10-14:25 (15min)	Polycarbonate Transfer Technique for 2D Semiconductor Devices (Meng-Lin Tsai, Taiwan)	Oral 3

14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chiao-Yun Chang and Dr. Masashi Kurashina)	Sensing & Architecture
14:40-15:00 (20min)	GaN Based UV Photodetector Application as Optical Communication with Biorobot Control (Cheng-Yu Wu, Pei-Yi Liang, Hsin-Ti Chiu, Chia-Kuan Hung, Wen-An Chen, Yu-An Chiu, Yueh-Wei Chen, Chun-Yi Chen, Chih-Min Chuang, Zun-Hao Shih, Dung-Sheng Tsai, Chen-Fang Kang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	Architecture-Optimized Ag–CsPbI ₃ Platforms for PIERS Detection. (Chih-Yi Liu, Jhih-Yan Guo, Dian Luo and Shun-Wei Liu, Taiwan)	Oral 1
15:15-15:30 (15min)	A Stable and High-Efficiency Boost Converter LED Driver with PWM Control for High-Voltage Applications. (I-Wen Chang, Yi-Chieh Hsu, Taiwan)	Oral 2
15:30-15:45 (15min)	A Multi-Mode 24 GHz mm Wave Radar Sensing System for Privacy-Preserving Home Security Applications. (Chun-Yu Hsiao, Jao-Yi Lin, Yichao Wang, Taiwan)	Oral 3

Day 2 (July 16, 2026) - Thursday

Room 5

Oral (12 min presentation / 3 min Q&A)

13:20-14:25 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chun-Yu Hsiao and Chih-Tsung Chang)	AI
13:20-13:40 (20min)	Deep Learning-based Feature Extraction for 40 Hz SSVEP Recognition in Flicker-Free Neuromodulation	Invited speaker (17min presentation / 3min Q&A)

	Systems. (Hong-Ming Lin, Chih-Tsung Chang, Taiwan)	
13:40-13:55 (15min)	Neuromorphic Memristor via Machine Learning. (Yu-Cheng Wang, Ya-Ge Huang, Guan-Lin Li, Yu-Kai Shen, Taiwan)	Oral 1
13:55-14:10 (15min)	Quantum Transport in Simple Structure Based Neuromorphic Memristor via Machine Learning. (Yu-Hao Chen, Ting-Hsuan Tsai, Yu-En Huang, Hsin-Ti Chiu, Cheng-Yu Wu, Chen-Fang Kang, Taiwan)	Oral 2
14:10-14:25 (15min)	Machine Learning Approach for Stationary State Problems of One-dimensional Schrödinger Equation in Self-rectifying Memory Array. (Yu-An Chiu, Yueh-Wei Chen, Ting-Hsuan Tsai, Yu-En Huang, Chen-Fang Kang*, Taiwan)	Oral 3
14:25-14:40 (15 min)		Tea Break
14:40-15:45 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Yi-Chieh Hsu and Dr. Sung Won Yoon)	Sensing & Architecture
14:40-15:00 (20min)	Influence of ZnO Doping Concentration and Resistive Layer Thickness on Switching Characteristics and Conduction Mechanisms of Flexible RRAM Devices. (Yuan-Nan Tsai*, Chen-Jui Yang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:00-15:15 (15min)	An Enhanced Ripple-Based Regulator with Master-Slave RS Control and Dual-Loop Feedback. (Yi-Chieh Hsu*, Yi-Cheng Lai, Taiwan)	Oral 1
15:15-15:30 (15min)	GaN Based UV Photodetector Application as Optical Communication with Biorobot Control. (Cheng-Yu Wu, Dung-Sheng Tsai*, Taiwan)	Oral 2
15:30-15:45 (15min)	Green Graphene-Based Flexible Sensors for Wireless and Real-Time Pulse Monitoring. (Chiao-Deng Yeoh, Chen-Fang Kang*, Dung-Sheng Tsai**, Taiwan)	Oral 3

Day 3 (July 17, 2026) - Friday

Main Hall (Room 1)		
	Chair : Prof. Pankaj Koinkar	
10:00-10:40 (40min)	Distribution of Mode-I Thermal Stress Intensity Factor along a Front of Three-dimensional Surface Crack due to an Instantaneous Internal Point Heat. (Prof. Akihide Saimoto, Nagasaki University, Japan)	Keynote Speech III
10:40-11:20 (40min)	Building an Optimal Radar Sequence of Binary Phase-manipulated Signals as a Discrete Optimization Problem and Various Heuristic Approaches to its Solution. (Prof. Boris Melnikov, Bo Zhang, Elena Melnikova, Russia)	Keynote Speech IV
11:20-11:30 (10min)	Tea Break	
11:30-12:10 (40min)	" Current Status of Domestic and International Standardization of Key Materials in Korean Industry "Dr. Chi-Sung Song, National Standard Coordinator, Korea)	Keynote Speech V

Day 3 (July 17, 2026) - Friday		
Room 1		
Oral (12 min presentation / 3 min Q&A)		
13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chih-Yi Liu and Dr. Meng-Lin Tsai)	AI
13:30-13:50 (20min)	Automated Optical Inspection Platform for Micro-LED Matrices Integrating Embedded Control and Deep Learning.	Invited speaker (17min presentation / 3min Q&A)

	(Wei Cheng Chen, Tzu Hsun Kao, Min Yen Yeh, Taiwan)	
13:50-14:05 (15min)	Adaptive Control of a Robotic Manipulator with Nonlinear Dynamics Using Hybrid Neural Network Control Loops N.K. (Litvinov, Yu. E. Drobotov, Russia)	Oral 1
14:05-14:20 (15min)	An Investigation into the Impact of Environmental Factors on the Stability of Remote Monitoring Systems in Animal Shelters Using Open Meteorological Data (Yu-Cheng Wang, Taiwan)	Oral 2
14:20-14:35 (15min)	Numerical Investigation of Placement and Geometry Effects of PZT Patches on MEMS Cantilever Electromechanical Behavior (hubham Kumar Mishra, Abhinav Sharma, Mohd. Zahid Ansari, Afzal Husain, Russia)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Kyo-Moon Lee)	Structure
14:45-15:05 (20min)	Black-box Optimization Techniques for Modelling New Materials (P.A. Oganessian, E.I. Fomenko, S.A. Gorshkov, A.V. Vissarionova, Russia)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Prediction and Validation of Mechanical Properties of Fiber-Reinforced Composites Using Physics-Based Modeling and Machine Learning (Soonmin Hong, Korea)	Oral 1
15:20-15:35 (15min)	A Study on the Properties of Composites Using Vitrimers Resin Based on an Automated Intermediate Material Manufacturing Process (Min-Ji Koo, Korea)	Oral 2
15:35-15:50 (15min)	Microstructure and Electrical Properties of RF Magnetron Sputtered MoC Thin Films for Precision Resistor Applications (Ying-Chieh Lee, Taiwan)	Oral 3
15:50-16:05 (15min)	Synergistic Enhancement Mechanisms and Design Strategies for PHT-Based Piezoelectric Ceramics with High Curie Temperature (Peng Zhang, China)	Oral 4

Day 3 (July 17, 2026) - Friday

Room 2

Oral (12 min presentation / 3 min Q&A)

13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Boris Melnikov, Dr. Jin-Woo Lee)	Structure
13:30-13:50 (20min)	Film Structure and Corrosion Protection Mechanisms of Film-Forming Amines: Role of Surface Oxidation State and Hydrophobicity (Ken Yoshida, Japan)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Suppression Strategy for Crack-Tip Stress Concentration in Lip-Type Cracks under Coupled Mechanical and Electrothermal Loading (Wan-Yu Xu, Yi-Lun Liao, Ching-Kong Chao, Yu-Hsi Huang, Taiwan)	Oral 1
14:05-14:20 (15min)	Atomistic Mechanism of Friction-Force Independence on the Normal Load and Other Friction Laws for Dynamic Structural Superlubricity (Nikolay Brilliantov, Russia)	Oral 2
14:20-14:35 (15min)	Metal Decorated BiVO ₄ with Improving Photocatalytic Performance (Trinh Duy Nguyen, Vinh Huu Nguyen, Que-Minh T. Doan, Truc Thai Thanh, Oanh T.K. Nguyen, Taeyoon Lee)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Kazuya Kusaka and Dr. A. S. Kornievsky)	Analysis
14:45-15:05 (20min)	Hypersingular Integral Inversion of Mean-Field Potentials for Non-Destructive Mapping of Defect Distributions in Advanced Materials (Yu. E. Drobotov, Russia)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Numerical Investigation and Comparison of Effective Elastic Properties of Regular Porous Structures (A.S. Kornievsky, A.V. Nasedkin, Russia)	Oral 1

15:20-15:35 (15min)	Modified Fields–Backofen Constitutive Modelling of Cold Deformation Behaviour for 10B38 Boron Steel (Quang-Cherng Hsu, Taiwan)	Oral 2
15:35-15:50 (15min)	Analysis of the Friction–Wear Correlation of Tire Tread Compound Considering Strain-Dependent Nonlinear Viscoelastic Properties (Hyunseung Kang, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday

Room 3

Oral (12 min presentation / 3 min Q&A)

13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Toshihiro Moriga)	Analysis
13:30-13:50 (20min)	Influence of Silicone Oil Viscosity on Laser Cleaning Effects of A3003 Aluminum Alloy Surfaces (Sunghwan Kim, Korea)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Analysis of Re-solidified Metal Layer Formation during Underwater Laser Cutting of Stainless Steel for Nuclear Decommissioning (Jacook Jeon, Korea)	Oral 1
14:05-14:20 (15min)	ECHO LOG: A Study on Sonic Visualization and Interactive Experience of Delphinid Cetaceans in Taiwan Waters. (Wang Yun-Han, Xu Ruo-Zhen, Luo Yu-Ching, Qiu Xiang-En, Chen Cheng-Huan, Lan Wei-Hsien, Chang Shun-Hsyung, Wen Chai-Sheng, Lu Shi-Ming, Taiwan)	Oral 2
14:20-14:35 (15min)	Micromechanics-based Modeling of Electrical Conductivity in CNT-reinforced Cementitious Composites (Seoyoung Moon, Korea)	Oral 3
14:35-14:45 (10min)		Tea Break

14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. (S.A. Lychev and Mr. Sung Uk Yoo)	Analysis
14:45-15:05 (20min)	A Fast and Accurate Quasi-atom Method Hybrid Model for Simultaneous Atomistic and Continuum Simulation of Solids (Artem Chuprova, Egor Nuzhin, Nikolay Brilliantov, Russia)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Space-Time Symmetries and Gauge Invariance in the Geometric Theory of Evolving Defects: A Noether Current Approach to Configurational Forces (S.A. Lychev, Russia)	Oral 1
15:20-15:35 (15min)	Solution of an Edge Crack in a Semi-infinite Plate of General Anisotropy Subjected to a Self-equilibrating Loads at a Crack Face (Yohei Sonobe, Japan)	Oral 2
15:35-15:50 (15min)	Dry-Jet Wet-Spun Bamboo-Derived Continuous Cellulose Fibers for Composite Applications (Eunseok Lee, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday

Room 4

Oral (12min presentation / 3min Q&A)

13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. P. A. Oganessian and Dr. Ken Yoshida)	Sensing & Architecture
13:30-13:50 (20min)	Increasing Diamond Ore Beneficiation Process Efficiency with LMS-driven Production Simulation and VR/AR-approaches (V.A. Afanasyev, S.A. Tyasto, Russia)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	A Switched Capacitor Regulator with Low Input Voltage for Energy Harvesting System. (Yi-Chieh Hsu, I-Wen Chang, Yu-Cheng Liang, Yi-Cheng Lai, Taiwan)	Oral 1

14:05-14:20 (15min)	Detector influence in X-ray elastic constant measurement of polyphenylene sulfide (Itsuki Takahata, Japan)	Oral 2
14:20-14:35 (15min)	An AI-Driven Dynamic Questionnaire System to Streamline Pre-Consultation for the Elderly (Chih-Fu Yang, Taiwan)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Prof. Daisuke Yonekura)	Sensing & Architecture
14:45-15:05 (20min)	A Finger-worn Responsive Bio-inspired Controller Utilizing a Silver-ink Force Sensing Resistor. (Yueh-Wei Chen, Yu-An Chiu, Cheng-Yu Wu, Hsin-Ti Chiu, Chen-Fang Kang, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	Development of Large-Area Flexible CsPbBr ₃ Perovskite Quantum Dot LEDs. (Kuan-Yu Ke, Wu-Kai Tsui, Yin-Ting Hsu, Sih-An Chen, Lung-Chien Chen, Zong-Liang Tseng, Shun-Hsyung Chang, Taiwan)	Oral 1+R24:S27
15:20-15:35 (15min)	Rapid UTI Diagnostics using ITO EGFET with LAMP techniques (Chun-Ming Albert Wang, Taiwan)	Oral 2
15:35-15:50 (15min)	Physics-Informed U-NET for Label-Free Stress Analysis in 3D Lattice Structure Design (Seunghyun Kim, Korea)	Oral 3

Day 3 (July 17, 2026) - Friday

Room 5

Oral details (12min presentation / 3min Q&A)

13:30-14:35 (65min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Chen-Fang Kang and Prof. Yohei Sonobe)	Analysis
13:30-13:50 (20min)	Green Synthesis of β-Tricalcium Phosphate Particles from Waste Eggshells: A Comparative Study of Different Processes for Radiative Cooling(Yang Yu Hsuan, Taiwan)	Invited speaker (17min presentation / 3min Q&A)
13:50-14:05 (15min)	Distribution of Mode-I Thermal Stress Intensity Factor along a Front of Three-dimensional Surface Crack due to an Instantaneous Internal Point Heat (Yohei Sonobe, Shinichi Kubota, Takuichiro Ino Atsuhiko Koyama, Akihide Saimoto)	Oral 1
14:05-14:20 (15min)	An End-to-End Simulation Framework for Piezoelectric Transducer Systems in Underwater Acoustic Communication (Nhut Thang Le, Cong Toai Truong, Ngoc Hung Nguyen, Quang Huy Cao, Huy Hung Nguyen, Tan Tien Nguyen, Van Tu Duong)	Oral 2
14:20-14:35 (15min)	Flame-Retardant Self-Reinforced PET Composites for Circular Automotive interior Panel (Se-Yoon Kim, Korea)	Oral 3
14:35-14:45 (10min)		Tea Break
14:45-15:50 (65 min)	Parallel Sessions (Invited and Oral Presentations) (Session chair : Dr. Sung Youl Bae)	Structure
14:45-15:05 (20min)	A Portable Double-Acting Piston Pump for Biomedical Applications: Design, Modeling, and Experimental Evaluation (Cong Toai Truong, Trung Dat Phan, Huy Hung Nguyen, Tan Tien Nguyen, Van Tu Duong)	Invited speaker (17min presentation / 3min Q&A)
15:05-15:20 (15min)	A Study on the Mechanical-Thermal Properties of Reformed Perlite Cores and BF/HDPE Sandwich-Structured Composites (Hyeon-Mok Jung, Korea)	Oral 1
15:20-15:35 (15min)	Development of Ti-Zr alloys with various pore structures and their mechanical properties for load-bearing implant materials (Seok-june Seo, Tomoyuki Fujii and Yoshinobu Shimamura)	Oral 2
15:35-15:50 (15min)	Comparative Study of TiC and TiN Reinforced CoCrFeNiAl High Entropy Alloy Composites Fabricated by Laser Powder Bed Fusion (Juwon Kim, Korea)	Oral 3

PHENMA / AMDP 2026 Poster
Room 6 Chair Dr. Se-Yoon Kim

No.	Paper title	Name
1	Improvement in Strength Variation of Bi-Zn Solder/Glass Joints Bonded Using Ultrasonic Soldering Method	Yuuto Nakanishi
2	Synthesis and Electronic Structure Characterization of Nanostructured Fe - Co - Ni Phosphides for Hydrogen Evolution	Sheng-Chang Wang
3	Interfacial Reactions Between Multi-walled Carbon Nanotubes-reinforced Sn-3.0 wt. %Ag-0.5 wt. %Cu Composite Solder With Cu	Yi-Pin Lin
4	In Situ Polymerization of HCl-doped Polyaniline on PET Fabrics for Robust, and Flexible Humidity Sensors	Cheng-Ho Chen
5	Effect of Polyaniline Content on the Performance of Humidity Sensors Based on Self-Fabricated Flexible Interdigitated Electrodes	Tzu-Yi Lin
6	Designing Single Atom Catalysts for the Hydrogen Oxidation Reaction in Proton-exchange Membrane Fuel Cells	Jing Wang
7	In situ Monitoring of Flow-Accelerated Corrosion Inhibition by Film-Forming Amines in a High-Temperature and High-Pressure Loop Test	Mayu Jobe
8	Investigation Characteristics of Thermal Field in SiC Crystal Growth Using PVT	Ming-Hsien Shih
9	Rheological Behavior of 76S Bioactive Glass/Collagen Composite Bioinks with Varying Solid Loadings	Ji-Yan Li
10	Influence of Solid Contents on the Rheological Behaviors of Bioactive Glass/Collagen Composite Bioinks	Ji-Yan Li
11	Influence of thermal annealing on the performance of microcrystalline silicon thin film solar cell fabricated from fluorinated precursors by two-step growth PECVD technique	Yu-Hung

12	Fretting Fatigue Damage Behavior of Cr/CrN Multilayer Coatings with Different Numbers of Layers	Izuru Tasaki
13	Effect of Particle size on Erosion Properties of Cr/CrN Multilayer Coating	Osuke Nakatani
14	Chemical Mechanical Polishing Research for Hybrid Bonding Application	Cheng-Yu Lin
15	Mo ₃ C ₂ T _x MXene Based Efficient Material for Hydrogen Generation and Supercapacitor Applications	Akshidha Singla
16	Low-Complexity Transvers with Square Wave Carrier for Band-Limited Acoustic Transducers.	An-Zhe Yeh, Yu-Lin Lin, Huang-Chang Lee*.

PHENMA / AMDP 2026 Poster Room 7 Chair Prof. Shun-Hsyung Chang		
No.	Paper title	Name
16	Rice Quality Identification via Multimodal Physical Feature Analysis: An Optical Inspection System.	Chih-Yuan Hsu*, Zi-Jie Lin.
17	Eco-Friendly and Flexible UV Photodetectors Based on PEDOT:PSS/Lead-Free Perovskite/Green Graphene Heterostructures on Paper Substrates.	En-Kai Xu ¹ , Guan-Hong Chen ¹ , Li-Yu Song ¹ , Po-Kai Chan ¹ , Heng-Yi Lin ¹ , Meng-Lin Tsai ² , Dung-Sheng Tsai ^{1, 3*} .
18	Study of a Highly Selective Ammonia Gas Sensor Based on a Sputtered Amorphous Aluminum-Doped Indium Zinc Oxide Thin Film Decorated with Evaporated Platinum Nanoparticles.	A. A. Hashia, S. W. Tana, R. U. Pengb, W. C. Liuc.
19	Multi-Stage Process Optimization of Bottom-Gate IGTO Thin-Film Transistors.	Jing-Hsiang Lin ¹ , Shouu-Jinn Chang ¹ , Jone-Fang Chen ¹ , Sheng-Po Chang ^{2, *} .

20	Modulating Oxygen Vacancy Distribution to Enhance Switching Stability in Ag/ZrO ₂ /Ti/Pt RRAM Devices.	Min-Hsing Chiul, Jone-Fang Chenl, Shoou-Jinn Changl, Sheng-Po Chang2, *.
21	Synthesis and NO ₂ Gas Sensing Properties of 2D SnS ₂ Thin Films Derived from SnO Precursor.	Ssu-Yao Li ¹ , Shoou-Jinn Changl, 2, Jone- Fang Chenl, 2, Sheng-Po Chang3, *.
22	A Novel Method for Multifunction Filter Synthesis Using Integrator and Differentiator.	Ta-Chi Jeang, Thai Hung Cuong, Hoang Van Tung, Tran Van Thuy, Hung-Yu Wang*.
23	Process-Window Analysis of p-GaN Etch Depth in E-Mode AlGaN/GaN HEMTs.	Tsung-I Liaol, Shoou-Jinn Changl, 2, Jone- Fang Chenl, 2, Sheng-Po Chang3, *.
24	Verification of Vibration Mode and Acceleration Spectrum to Suppress the Print Circuit Board in a Fan-driven Power Supply.	Wei-Hsiang Chena*, Ching- Kong Chaoa, Yu- Hsi Huangb.
25	Enhancement of Conductive Filament Through RTA Technique Based on Cu-Doped Gallium Oxide RRAM.	Wei-Yu Liul, Jone-Fang Chenl, Shoou-Jinn Changl, Sheng-Po Chang2, *, Chih- Han Chen3.
26	A Physical Blanking Mechanism for Improving Energy Efficiency in Reconfigurable Convolution Engines.	Weison Linl, Zhe- Hao Lin2*.
27	Efficiency Optimization in Perovskite/Lead Sulfide Quantum Dot Heterojunction Photodetectors.	Yu-Shan Tsaia, Zhen-Wei Laia, Zong-Liang Tsenga*, Shun- Hsyung Changb.

28	Synergistic Enhancement of Indium-Tungsten-Gallium Oxide TFTs via Dual-Channel Architecture and Al ₂ O ₃ High-k Dielectrics.	Yun-Chieh Tsai ¹ , Shoou-Jinn Chang ¹ , Jone-Fang Chen ¹ , Sheng-Po Chang ² , *.
29	A Fundamental Study on Effects of Laser Power and Irradiation Time on Surface Morphology in Concrete Scabbling Using Fiber Laser	Gi-Soung Kim
30	Frequency-Selective Carrier Injection Governed by Interface Physics in Monolayer WSe ₂ Light-Emitting MOS Structures.	Chiao-Yun Chang ¹ *, Bo-Heng Liao ¹ , Yu-Ting Chen ¹ , Cheng- Hsiang Yul, Zheng-Zhe Chen ^{2,3} , Che-Jia Chang ^{2,4} , Min- Hsiung Shih ^{2,5} , Shih-Yen Lin ^{2,4} .
31	Angle-Resolved Phase-Sensitive SPR Sensor Based on Four-Step Phase-Shifting Interferometry for Goos - Hänchen Shift Detection.	Li-Chen Su ^{1,2,*} , Shun-Wei Fnag ³ , Chen-Kai Chang ³ .