

ISGMA 2016

International Symposium on
Green Manufacturing and Applications

Program and Proceedings



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ISGMA 2016

**International Symposium on
Green Manufacturing and Applications**

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The Korean Society for Precision Engineering (KSPE)
Korea Institute of Machinery and Materials (KIMM)
Korea Institute of Industrial Technology (KITECH)
Seoul National University (SNU) Institute of Advanced Machinery and Design
Seoul National University (SNU) Nano Printing Lab.
Changwon National University
Pusan National University (PNU) ERC of Innovative Technology on Advanced Forming
Universiti Teknologi Malaysia (UTM)

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WELCOME ADDRESS

Dear Distinguished Symposium Attendees,

It is our great honor and pleasure to welcome all of you to the 2016 International Symposium on Green Manufacturing and Applications (ISGMA 2016). The Symposium becomes one of the globally well-known events in the field of Green Manufacturing and it is held this year in beautiful island of gods, Bali, Indonesia.

For ISGMA 2016, we have accepted 404 technical papers and posters, and expect to host nearly 450 participants representing 14 countries. 17 distinguished plenary, keynote, and invited speakers from internationally reputed institutes will aim to present the state-of-the-art research, development, and innovative advances and its related issues to our ever changing environment. We hope this will foster relevant discussions in the various fields of green manufacturing and applications as related to energy conservation, system efficiency, pollution and waste reduction, eco-friendly materials, renewable energy systems, and environment management in factories, robotics, and processes.

All presentation will provide a forum for the presentation of the state-of-the-art technology in green manufacturing and its related-fields, such as eco-friendly design/manufacturing, improvement of manufacturing efficiency, energy saving and waste reduction process, light • eco-friendly materials, and manufacturing of new-renewable energy systems, energy • environment management and strategy. This Symposium aims to facilitate and provide opportunities for researchers and engineers to exchange knowledge by profound discussions and promote the international and multi-disciplinary collaboration.

Highly motivated organizing committee members of ISGMA 2016 are dedicated to make this Symposium both unforgettable and technologically exceptional. We hope you join us and have a meaningful time with all experts. We wish all of you the best time both academic and relaxing experience in Bali, Indonesia.

Thank you,



Prof. Choon-Man Lee and **Prof. Noordin Mohd Yusof**

Chairs of ISGMA 2016

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Plenary Speaker



Mansoo Choi

Seoul
National
University
(Korea)

Three Dimensional Nanostructures and Their Applications to Energy and Sensor Devices

Dr. **Mansoo Choi** is currently a Professor of School of Mechanical and Aerospace Engineering at Seoul National University and a Director of the Global Frontier Center for Multiscale Energy Systems. The Global Frontier Center for Multiscale Energy Systems aims to develop novel renewable energy systems based on multiscale architectures that can compete with conventional fossil fuel based systems.

He received his B.S. (1980) and M.S. (1982) from Seoul National University and Ph.D. (1987) from University of California, Berkeley, all from mechanical engineering. After working as an engineer at Argonne National Laboratory until 1991, he returned to Korea to join in Seoul National University as a faculty.

His current research interests include aerosol synthesis & assembly of nanoparticles and nanoparticle based nanodevices. He has been a Editor-in-Chief of Journal of Aerosol Science since 2004 and he is now serving as a President of International Aerosol Research Assembly(IARA). He invented IAAL (Ion-Assisted Aerosol Lithography) method which is a parallel process that can assemble nanoparticles in multiscales and multidimensions with nanoscale resolution at atmospheric condition.

Abstract of Speech

Three dimensional nanostructures could provide platforms for novel nanodevices including various sensors, electronic devices, energy devices such as new concept solar and fuel cells. Although 3D nanofabrications are possible though costly serial approaches, we need more practical parallel methodology that can be done at atmospheric condition. In this presentation, I will introduce our method using charged aerosols for three dimensional assembly of nanoparticles to fabricate 3D nanostructures. I will show various applications of resultant 3D nanostructures to sensors and solar cells. In addition, recently developed nanocrack based ultrasensitive mechanical sensors will be also presented. Its mechanism and analogy to spiders' vibration sensory system will be discussed.

Keynote Speaker



C.-C. Arthur Chen

Nat'l Taiwan U. of Sci. & Tech. (Taiwan)

Title : Eco-Diamond Lapping Process of Sapphire Wafers



I. S. Jawahir

Univ. of Kentucky (USA)

Title : Manufacturing Innovation at Product, Process and System Levels for Sustainable Value Creation with Closed-loop Material Flow



Haedo Jeong

Pusan National Univ. (Korea)

Title : Chemical and mechanical balance of CMP for electronic materials



Beomjoon Kim

The University of Tokyo (Japan)

Title : Penciling a Triboelectric Power on Paper- Energy harvest MEMS for sensor networks



Byung Sun Kim

Korea Institute of Materials Science (Korea)

Title : Multiscale Hybrid Composites Reinforced with Interface-controlled Carbon Nanomaterials for Multifunctional Applications



Sun-Kyu Lee

Gwangju Institute of Sci. & Tech. (Korea)

Title : Green Lighting - Laser Diode-driven white light



Jehyun Lee

Changwon National Univ. (Korea)

Title : Solidification Microstructure and Grain Controls in the Directional Solidification Ni-base Superalloy



Mingzhe Li

Jilin Univ.(China)

Title : Recent Progress in Flexible Forming Techniques for Three-Dimensional Surface Parts of Sheet Metal



Xiaochun Li

UCLA (USA)

Title : Scifacturing: Science Driven Manufacturing for Sustainable Future



Mustafizur Rahman

National University of Singapore (Singapore)

Title : Green or "Sustainable" Manufacturing through Innovation



Zhongde Shan

China Academy of Machinery Sci. & Tech. (China)

Title : Green Combined Forming Manufacturing Technology of Complex Metal Parts

Invited Speaker



Jae-Won Choi

The Univ. of Akron (USA)

Title : Advances and Challenges in 3D Printing of Stretchable Tactile Sensors



Jae Won Hahn

Yonsei Univ. (Korea)

Title : Nano-scale three dimensional printing with plasmonic lithography



Dae Wook Kim

Univ. of Arizona (USA)

Title : Efficient and Rapid Freeform Optics Manufacturing Process



Hyung Gyu Park

ETH Zurich (Switzerland)

Title : Large-scale manufacturing of nanoporous arrays based on block copolymer nanolithography



Yong Jin Yoon

Nanyang Technological Univ. (Singapore)

Title : 3D holographic lithography as a novel additive manufacturing for precision measurement of cellular refractive index

PROGRAM *at a Glance*

21 Tuesday

11:00	Committee Meeting / Registration Open
19:30	Committee Reception (*only invited) at BNDCC Jimbaran Café (Ground floor) *Participants: Guest Speaker & ISGMA Committee

22 Wednesday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
09:00-10:20	3D Printing & Additive Manufacturing for Smart Structures (organized)	Re-configurable Manufacturing for Smart Factory (organized)	Alloy/Ceramics I	CAD/CAM I
10:20-10:40	Coffee Break			
10:40-11:10	Keynote Speech 1 Mustafizur Rahman	Keynote Speech 2 I. S. Jawahir	Keynote Speech 3 Jehyun Lee	Keynote Speech 4 Byung Sun Kim
11:10-11:40	Opening Ceremony : Nusa Dua Hall 1,2,3			
11:40-12:20	Plenary Speech * Mansoo Choi (Seoul National Univ.) Nusa Dua Hall 1.2.3			
12:20-13:30	Lunch : Nusa Dua Hall 4			
13:30-14:00	Keynote Speech 5 Chao-Chang A. Chen	Keynote Speech 6 Sun-Kyu Lee	Keynote Speech 7 Xiaochun Li	Keynote Speech 8 Beom Jun Kim
14:00-14:10	Break time			
14:10-14:30	Invited Speech 1 Jae Won Hahn	Invited Speech 2 Yong Jin Yoon	Invited Speech 3 Hyung Gyu Park	Invited Speech 4 Jae-Won Choi
14:30-15:50	Alloy / Ceramics II	Machinery / Electronics I	CAD / CAM II	Advances & Challenges in 3D Printing of Stretchable Tactile Sensors (Organized)
15:50-16:10	Coffee Break			
16:10-17:10	Bio / Composite Materials I	Molding / Joining	Micro / Nanofabrication	Smart / Photonic Materials

23 Thursday

9:00-10:20	Poster Presentation 1 : Nusa Dua Hall 1.2.3			
10:20-10:50	Coffee Break			
10:50-12:10	Poster Presentation 2 : Nusa Dua Hall 1.2.3			
12:10-13:30	Lunch : Nusa Dua Hall 4			
	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
13:30-15:10	Remanufacturing / Recycle Process	Machinery / Electronics II	Management and Policy	Innovative Forming I (Organized)
15:10-15:30	Coffee Break			
	Keynote Speech 9	Keynote Speech 10	Invited Speech 5	Keynote Speech 11
15:30-16:00	Haedo Jeong	Zhongde Shan	Dae Wook Kim	Li Mingzhe
16:00-16:10	Break time			
16:10-17:40	Hybrid Manufacturing (Organized)	Forming I	Machining	Innovative Forming II (Organized)
18:00~	Official Banquet of ISGMA2016 at BNDCC : Nusa Dua Hall 4			

24 Friday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
09:30-10:50	Solar / Wind Energy	Forming II	Energy / Robot	Manufacturing Process (Organized)
10:50-11:10	Coffee Break			
11:30-17:00	Industrial/Technical Tour at Indonesia Power Organizer Committee Meeting			

25 Saturday

Local Tour – Nusa Dua, Denpasar, Bali
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ORAL session

22 Wednesday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
9:00-10:20	3D Printing and Additive Manufacturing for Smart Structures*	Re-configurable Manufacturing for Smart Factory*	Alloy / Ceramics I	CAD / CAM I
	Chair : Jae-Won Choi	Chair : Gyu-Bong Lee	Chair : Doo-Man Chun	Chair : Ainul Ghurri
	OP001 / 083 Research for the Circuit Formed on the Plastic Surface (Hochan Kim)	OP005 / 346 Modular Design Method for Cell Controller of Reconfigurable Manufacturing System based on Colored Petri Net (Mengru Tu)	OP009 / 050 Effect of Coconut Shell Activated Carbon on the Dielectric Properties of β -Silicon Carbide Polymer Based Nanocomposites (Been Seok Yew)	OP013 / 051 Development of Product Recoverability Evaluation Tool in Product Design (Novita Sakundarini)
	OP002 / 219 Research on the Improvement of Surface Roughness for FDM Technology (In Hwan Lee)	OP006 / 061 A Quality Prediction as a Service for Manufacturing Small and Medium-sized Enterprises (SMEs) (Muhammad Syafrudin)	OP010 / 037 Novel Fabrication Techniques for SiC/SiC (Dang-Hyok Yoon)	OP014 / 260 Simulation of Consumed Energy of Machine Tool During 3-Axis Machining Motions (Akio Hayashi)
	OP003 / 508 Stretchable Tactile Sensors using Ionic Liquids and Carbon Nanotubes (Jae-Won Choi)	OP007 / 332 Pre-Assessments of the Production Re-Configurability for Automotive Assembly Lines using Modeling and Simulation Technologies (Quanri Li)	OP011 / 585 Study of Dispersion of Carbon Nanotubes in Cementitious Composites (Lenka Bodnarova)	OP015 / 425 Optimal Directional Arrangements of Trussed Legs for Jack-up Vessel (Dang Ahn)
	OP004 / 509 Conformal Direct-Print Photopolymerization for Fabrication of Smart Structures (Jae-Won Choi)	OP008 / 423 Design of Baffles in the Double-pipe Boiler Considering Heat Efficiency (Yong Hee Oh)	OP012 / 152 The effect of Graphene Addition on Tribological Properties and Wear Behaviour of Al_2O_3 and Si_3N_4 Ceramics (Lucyna Jaworska)	OP016 / 291 FE Analysis of a New Typed Caster using Polyurethane Ring for Vibration Reduction (Tae Ho Yoon)
10:20-10:40	Coffee Break			
10:40-11:10	Keynote Speech 1 Mustafizur Rahman	Keynote Speech 2 I. S. Jawahir	Keynote Speech 3 Jehyun Lee	Keynote Speech 4 Byung Sun Kim
	Chair: Noordin M. Yusof	Chair: Denni Kurniwan	Chair: Keun Park	Chair: Seung Hwan Chang
	Green or "Sustainable" Manufacturing through Innovation	Manufacturing Innovation at Product, Process and System Levels for Sustainable Value Creation with Closed-loop Material Flow	Solidification Microstructure and Grain Controls in the Directional Solidification Ni-base Superalloy	Multiscale Hybrid Composites Reinforced with Interface-controlled Carbon Nanomaterials for Multifunctional Applications
11:10-11:40	Opening Ceremony (Nusa Dua Hall 1.2.3)			
11:40-12:20	Plenary Speech * Mansoo Choi (Seoul National Univ.) Nusa Dua Hall 1.2.3 * Title : Three Dimensional Nanostructures and Their Applications to Energy and Sensor Devices * Chair : Suk-Won Cha			
12:20-13:30	Lunch (Nusa Dua Hall 4)			

* Organized Session

22 Wednesday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)		
13:30~14:00	Keynote Speech 5 Chao-Chang Arthur Chen Chair: Hyunseop Lee	Keynote Speech 6 Sun-Kyu Lee Chair: Seong-Wook Hong	Keynote Speech 7 Xiaochun Li Chair: Young Beom Kim	Keynote Speech 8 Beom Jun Kim Chair: Dae Eun Kim		
	Eco-Diamond Lapping Process of Sapphire Wafers	Green Lighting - Laser Diode-driven white light	Scifacturing: Science Driven Manufacturing for Sustainable Future	Penciling a Triboelectric Power on Paper- Energy harvest MEMS for sensor networks		
	Break time					
14:00-14:10	Invited Speech 1 Jae Won Hahn Chair: Been Seok Yew	Invited Speech 2 Yong Jin Yoon Chair : Zhengchun Du	Invited Speech 3 Hyung Gyu Park Chair : Akio Hayashi	Invited Speech 4 Jae-Won Choi Chair : Dong-Gyu Ahn		
	14:10-14:30	Nano-scale three dimensional printing with plasmonic lithography	3D holographic Lithography as a Novel Additive Manufacturing for Precision Measurement of Cellular Refractive Index	Large-scale Manufacturing of Nanoporous Arrays based on Block Copolymer Nanolithography	Advances and Challenges in 3D Printing of Stretchable Tactile Sensors	
	Alloy / Ceramics II Chair : Been Seok Yew				Machinery / Eletronics I Chair : Zhengchun Du	CAD / CAM II Chair : Akio Hayashi
14:30-15:50	OP017 / 084 Ballistic Performance Assessment of Al ₂ O ₃ /Ti Functionally Graded Material (Meng-Chiao Wu)	OP021 / 119 CFD Analysis on Coffee Ring Effect in Roll-to-Roll Slot-Die Coating Process (Seongyong Kim)	OP025 / 096 Structural Analysis of Disassembly Tool Under Circulation of Coolant Water (Tae-Ho Yang)	OP029 / 091 A Knowledge Based System for 3D Printing Process Planning (Ngoc-Hien Tran)		
	OP018 / 071 Effects of Sintering Additives & Hot-Pressing Conditions on the Microstructure and Flexural Strength of SiC/SiC Composites (Pipit Fitriani)	OP022 / 155 Optimal Light Color for Scanning Images of Flat Panel Display using Simplex Search (HyungTae Kim)	OP026 / 265 NC Tool Path Generation using Geometric Parameters for Two-Flute Drills (Yoongho Jung)	OP030 / 592 Direct Printing of Stretchable & Transparent Thin Film via Melt Electrospinning (Gil-Yong Lee)		
	OP019 / 025 High-Temperature Corrosion of Al-Cr-Si-N and Al-Cr-Ti-Si-N Films in Ar-1%SO ₂ Gas (Poonam Yadav)	OP023 / 307 System Design of Automatic Tool Changer of SMA Tool Holder (Sungcheul Lee)	OP027 / 297 An Optimized Aerodynamic Device for Air Resistance Reduction on Ultra Large Container Ship (ULCS) (Hicham Kharoufi)	OP031 / 322 Direct Writing of Nanoparticles via Aerodynamically Focused Nanoparticle (AFN) Printing (Gil-Yong Lee)		
	OP020 / 431 Deformation Behavior of Solid-Solution-Strengthened Magnesium Alloy (Soo Yeol Lee)	OP024 / 010 Thermal Deformation Isolation by Flexible Connection for High Precision Satellite Platform (Zhengchun Du)	OP028 / 269 Numerical Study to Indicate the Plaque Rupture using Patient-Specific Plaque Models in Coronary Artery (Wookjin Lee)	OP032 / 149 Effect of MAX Phase from Ti-Si-C Systemon Microstructure and Mechanical Properties of WC-Co Hardmetal Sintered by SPS Method (Magdalena Szutkowska)		
	Coffee Break					
15:50-16:10	Coffee Break					

* Organized Session

22 Wednesday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
	Bio / Composite Materials I	Molding / Joining	Micro / Nanofabrication	Smart / Photonic Materials
	Chair : Hitoshi Takagi	Chair : Kee Ju Kim	Chair : Yong Jin Yoon	Chair : Gil-Yong Lee
16:10-17:10	OP033 / 240 Effects of Microstructural Modification on Mechanical Performance of Cellulose Nanofiber Composites (Hitoshi Takagi)	OP036 / 183 Reactive Air Brazing Technique for Joining Oxygen Transport Membrane (OTM) Ceramics with Metals (Kati Raju Muksin)	OP039 / 154 DAN based Sensor for Nanotoxic Material (Kuehwan Jang)	OP042 / 064 Effect of Carbonyl Iron Grade On Microstructure and Viscoelasticity of Magnetorheological Elastomer (Hyoung Jin Choi)
	OP034 / 067 Crystal Structure and Hydrogen Bond Changes of Thermoplastic Oxidized Starch from Starch-Based Biomass Composites (Chuan-Wei Zhang)	OP038 / 429 Rheological Characteristics of Powder Injection Molding Feed stock with Space Holder (Sangjune Park)	OP040 / 462 Flexible Optical Head with Super Resolution Dynamic Nano Apertures for Nanolithography (Eikhyun Cho)	OP043 / 156 Solar Water Splitting Performances of InGaN/GaN Nanowire Photoanode (Sang-Wan Ryu)
	OP035 / 153 Effects of Different Method of Machining on the Residual Stress, Microstructure and Surface Roughness of Aluminum Matrix Composite Reinforced with Heterophase SiC + Cg Particles Produced by Stir Casting Method (Jolanta Cyboron)		OP041 / 318 Inkjet Printing of Nanoparticle Silver Electrodes on Fibrous Filter Papers (Yau-Pin Chen)	OP044 / 238 Numerical & Experimental Analysis of Induced Torque in Terfenol-D Rod (Ha-Gyun Lee)

23 Thursday

	Remanufacturing / Recycle Process	Machinery / Electronics I	Management and Policy	Innovative Forming I *
	Chair : Mitsutaka Matsumoto	Chair : Dunant Halim	Chair : Sung-Hoon Ahn	Chair : Tae-Wan Ku
13:30-15:10	OP045 / 009 Tribological Performance of Amorphous Carbon and CVD-Diamond Against Aluminum (Markus Prieske)	OP050 / 446 Development of Automation System For Constraints Extraction During Plant Module Transportation (Heechan Kim)	OP055 / 537 Comparison of Evaluation Criteria for Sustainable Factories of the Future (Iahau Lewis Chen)	OP060 / 267 Study of Optimization Cooling Channel of Hot Stamped Automobile Part (Seunghoon Cha)
	OP046 / 215 Study on Demand Forecasting for Production Planning in Automotive Parts Remanufacturing (Mitsutaka Matsumoto)	OP051 / 451 Development of Transportability Evaluation System using Swept Path Analysis and Multi-body Dynamics Simulation (Hyun-Tae Hwang)	OP056 / 004 The Least Energy Demand Method, a Tool for Evaluation and Cross-Assessment of the Energy Efficiency in the Production (Sven Kreitlein)	OP061 / 501 Inverse Finite Element Analysis for Characterizing Mechanical Properties of Oxide Scale in Low Carbon Steel (Wooram Noh)
	OP047 / 490 Correlation of Oxygen Transfer and Power Consumption in an Aeration System by a Rotating Cone (Koji Higashiono)	OP052 / 350 Gearbox Fault Diagnosis via Acoustic and Vibration Measurements (Dunant Halim)	OP057 / 228 Dynamic Lot-Sizing for Disassembly and Reprocessing in Remanufacturing Systems (Hyoung-Ho Doh)	OP062 / 060 Experimental and Numerical Study on Interfacial Adhesive Characteristic of Fiber Metal Laminates (Eu-Tseum Park)
	OP048 / 008 Modification of Diamond-Like-Carbon Tool Coatings for Dry Forming of Aluminum (Tim Abraham)	OP053 / 013 Thermal Error Compensation of Magnetic Scale based on Thermal Characteristic and Deformation Mechanism Analysis (Zhengchun Du)	OP058 / 227 A Branch and Bound Algorithm for Parallel and Selective Disassembly Sequencing with Sequence-Dependent Setups (Hyung-Won Kim)	OP063 / 279 A Study on the Intra/Inter-Ply Thermal Shear Behaviors of CFRTP in Prepreg Compression Forming Process (Jeong Min Lee)
	OP049 / 263 Investigation of the Physical Characteristics of Graphene/CNT Coatings (Chang-Lae Kim)	OP054 / 007 Analysis of a New, Energy-Efficient Hydraulic Unit for Machine Tools (David Jasper)	OP059 / 398 A Real-Time Carbon Footprint Assessment Framework for Process-Layout Manufacturing (Wu-Hsun Chung)	OP064 / 195 Punch Array Modification using Local Bending Effect in Multi-Point Dieless Forming Process (Jiwoo Park)

23 Thursday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
	Keynote Speech 9	Keynote Speech 10	Invited Speech 5	Keynote Speech 11
	Haedo Jeong	Zhongde Shan	Dae Wook Kim	Li Mingzhe
15:30-16:00	Chair: Won-Shik Chu	Chair: In Hwan Lee	Chair: Geon-hee Kim	Chair: Tae-Wan Ku
	Chemical and Mechanical Balance of CMP for Electronic Materials	Green Combined Forming Manufacturing Technology of Complex Metal Parts	Efficient and Rapid Freeform Optics Manufacturing Process	Recent Progress in Flexible Forming Techniques for Three-Dimensional Surface Parts of Sheet Metal
	Hybrid Manufacturing *	Forming I	Machining	Innovative Forming II *
	Chair: Won-Shik Chu	Chair: Jean-Philippe Ponthot	Chair: Chang-Ju Kim	Chair: Tae-Wan Ku
	OP065 / 321 Study on the Effect of PH of Colloidal Silica Slurry on Removal Rate of Sapphire (Chuljin Park)	OP068 / 541 Flexural Performance of Stamped and Welded Round Post Holders in Bending Tests (Chin-Joo Tan)	OP072 / 026 Eccentric Rotary Swaging (Svetlana Ishkina)	OP076 / 393 Development of B-pillar with Laser Welded Blank and Patchwork Blank (Kwang Young Ye)
16:10-17:40	OP066 / 352 A Study on the Lapping of Sapphire using Abrasive Embedded Plate (Taekyung Lee)	OP069 / 128 The Research of The Hybrid Forming Technology of Patternless Sand Mold (Hongfeng Zhao)	OP073 / 305 Conceptual Design of Flexible Fixture for CFRP Machining (Minh Duc Do)	OP077 / 395 Prediction of Lateral Spread of High Carbon Steel Wire in Flat Rolling Process by Box-Behnken Design (Nam Jin Kim)
	OP067 / 414 Study of the Material Removal Characteristics in Lapping Process with the Friction Monitoring (Wonseok Jo)	OP070 / 092 Study on Sand Mold Flexible Extrusion Array Based on Packing Theory of Discrete Geometry (Shuai Zhang)	OP074 / 135 Effect of Tool Tilt Angle on High Speed Friction Stir Welding of AA6082- T6 Aluminium Alloy (P. S. Sreejith)	OP078 / 336 Formability Analysis of Laser-Welded Dual-Phase Steel Sheets (Yong Chan Her)
		OP071 / 374 Formability and Effect of Hole Bridge in the Single Point Incremental Forming (Van-Cuong Do)	OP075 / 022 Machinability Study of Single-Crystal Sapphire in a Ball-End Milling Process (Philipp Maas)	OP079 / 361 Development of Seat Side Frame using Die Compensation in Sheet Forming for DP980 (Hyun-seok Lee)
18:00-20:00	Official Banquet at BNDCC, Nusa Dua Hall 4			

* Organized Session

24 Friday

	Room #1 (Uluwatu 1)	Room #2 (Uluwatu 5)	Room #3 (Uluwatu 6)	Room #4 (Uluwatu 7)
	Solar / Wind Energy	Forming II	Energy/Robot	Manufacturing Process *
	Chair: Suk-Won Cha	Chair: Norizah Redzuan	Chair: Ainul Ghurri	Chair: Denni Kurniawan
09:30-10:50	OP080 / 159 Terahertz Techniques of Thickness Measurements in Shim Stock Films and Composite Materials (David K. Hsu)	OP084 / 058 Investigation on the Maximum m Superplastic Deformation (MaxmSPD) of Mg-Li Based Alloy (Hao-Peng Yang)	OP087 / 367 Magnetically-Coupled Triboelectric Nano-Generator for Harvesting Energy from Rotational Machinery (Jingui Qian)	OP091 / 034 Energy Consumption Calculation Using Cutting Force in Hard Turning of Stainless Steel (Rusdi Nur)
	OP081 / 312 Spray Printing of Titanium Dioxide (TiO2) Films on Fluorine-Doped Tin Oxide (FTO) Conductive Glasses (Kuan-Chen Liu)	OP085 / 012 Material Flow in Micro and Macro Rotary Swaging (Marius Herrmann)	OP088 / 493 Development of Energy Conversion System from the Cold Energy (Junta Endo)	OP092 / 545 Finite element analysis of peri-implant bone biomechanics due to cyclic loading (M.J. Hisam)
	OP082 / 483 Preliminary Assessment of Optimized Accessorial Roof Shape for the Performance of Eco-Roof System (Xiaohang Wang)	OP086 / 132 Lagrangian and Arbitrary Lagrangian Eulerian Simulations of Cold Roll Forming Processes (Jean-Philippe Ponthot)	OP089 / 341 Design of Robot-Assisted Upper Limb Rehabilitation System for Hemiplegia by Applying Bilateral Exercise (Jihun Kim)	OP093 / 549 Enhancement of polypropylene/sugar palm fiber composites using atmospheric glow discharge plasma polymerization (W.Z.W. Zahari)
	OP083 / 443 The Potential of an IoT-based Green Information System Framework for Managing Carbon Footprint Dynamics of Solar PV Supply Chain (Mengru Tu)	OP037 / 029 Piston Pin Optimisation with Respect to Lightweight Design (Nadja Missal)	OP090 / 310 Implementation of Muscle Synergy based Hand Primitive Framework for Sign Language Recognition using Wearable Device (Jinuk Kim)	OP094 / 566 Comprehensive Study of Chip Morphology in Turning Hardened Tool Steel Under Nitrogen Gas and Oil Mist Conditions (Norizah Redzuan)
				OP095 / 580 Inclusion of Iron Oxide (Fe ₂ O ₃) Nanoparticles in Cast or Oil as Cutting Fluid in Turning of Hardened Stainless Steel (Mohamed Handawi Saad Elmunafi)
10:50-11:10	Coffee Break			

* Organized Session

23 Thursday

09:00~10:20

POSTER *session*

Design and Products I			
	Machinery / Robot (I)	Machinery / Robot (II)	Machinery / Appropriate Tech. / Bio Tech.
1	PP001 / 117 A Study on Open-Loop Tension Control Systems using Passive Dancer in Roll-to-Roll Process (Changwoo Lee)	PP021 / 287 Development of the Novel Endoscopic Manipulator and Evaluate the Feasibility by In-vitro Test (Byung Gon Kim)	PP041 / 317 Structural Optimum Design for Prevention of Vibrational Damage on Vibrating Screen Using FEA (Young Taek Cha)
2	PP002/ 120 Self-Diagnosis for Eccentricity and Bearing Defects using Support Vector Machine and Empirical Mode Decomposition in Milling Process (Changwoo Lee)	PP022 / 316 Simple Method for Finite Element Analysis of Involute Spur Gear Based on Hertzian Contact Theory (YeonHo Lee)	PP042 / 057 The Development of Lab-scale Test Equipment for Telescopic Boom of All Terrain Crane Using HILS (Young Taek Cha)
3	PP003 / 589 Study on the Noise Prediction in a Power Pack for Construction Equipments (Changmin Keum)	PP023 / 129 A Study on Optimization of Machining Center by Using Genetic Algorithm (Seongyong Kim)	PP043 / 454 Robotic Needle Guidance in Endoscopic Discectomy using Multi-oriented X-ray Fluoroscopic Images (Deukhee Lee)
4	PP004 / 478 Experiments of the Underwater Vehicle Manipulator System Control Using Zero Moment Point (Jin-Il Kang)	PP024 / 326 Estimation of Guideway Jumps using Onboard Sensor Signals in a Maglev Train (Hyeon-cheol Park)	PP044 / 551 Assessment of Internal Stresses at Lower Extremity in Motion (Jeong Ro Yoon)
5	PP005 / 477 A Design and Control of a New Hybrid Underwater Glider (Dae-Hyeong Ji)	PP025 / 333 Mathematical Simulation for Thermal Fringing Effect Correction Factor in Triple Heat Sinks Pirani Gauge (Youngwook Noh)	PP045 / 245 Fingerprint Imaging based on Ultrasound Impedance Mismatch and Photoacoustic Method (Won Young Choi)
6	PP006 / 583 A Study on Helical Conical Gear for Small Class Marine Ship (Sung-Yoon Noh)	PP026 / 334 Based on Fuzzy Rule Base Position Control of DC Servo Motor for Prep Column (Oyoung Kwon)	PP046 / 534 Portable Vaccine Carrier Designed for Mountainous Region: A Case Study in Nepal (Tielin Li)
7	PP007 / 030 Measurement of Clad Elongation in a Nuclear Fuel Test Rig (Jintae Hong)	PP027 / 347 A Study on the Water Jet Digging Frame for Submarine Cable Burying Machine (Keon-Seok Nam)	PP047 / 535 Design and Construction of Primary School using New and Renewable Energy in High Altitude Village of Nepal (Won-Shik Chu)
8	PP008 / 105 Comparison of Linear and Torsion-Based Dynamic Modeling of a Jumping Robot via Energy Conversion (JaeNeung Choi)	PP028 / 348 The Development and Performance Evaluation of Underwater Bearing for Fuel Cell Water Pump (Deok Ho Min)	PP048 / 303 Estimation of Corneal Deformation in Ring-Nozzle-based Tonometer using Fluid-Structure Interaction Simulation (Hyung Jin Kim)
9	PP009 / 069 Analysis of Microstructure and Equivalent Fracture Strain for FSW Joint by MSP (SungMo Yang)	PP029 / 371 Flexible Tactile Force Sensor System using a Composite Material for Robot Application (Chullhee Cho)	PP049 / 179 EMG %MVC Pattern Analysis during the Falling Down (Jaesoo Hong)
10	PP010 / 394 Comparison of Plant Design Model and As-built Plant with 3D Scanned Data (Geunmuk Jeong)	PP030 / 375 Teleoperation System of Industrial Robot Using Haptic Device (Seukwoo Ryu)	PP050 / 097 An Advanced Method of Carbon Nanotube Functionalization for Detection of CD4+ T Cell (Joonhyub Kim)

23 Thursday

09:00~10:20

Design and Products I			
	Machinery / Robot (I)	Machinery / Robot (II)	Machinery / Appropriate Tech. / Bio Tech.
11	PP011 / 085 Efficient FE Analysis of a Toleranced Cycloid Reducer Using Nonlinear Spring (Hyeong-Joon Ahn)	PP031 / 407 Design and Fabrication of Multi-actuator Soft Morphing Ray Robot (Hyung-Soo Kim)	PP051 / 087 The Strength Analysis of Planetary Gears of Two Speed Reducer for Rotator System with Hybrid Function for the Piling Construction Work (Tae Yeol Bae)
12	PP012 / 448 Design of Disaster Machinery Leg Part for Rough Terrain based on Kinematics Analysis (Dongbin Shin)	PP032 / 234 Structural Design and Analysis of a Novel Heat Exchanger for Aero Engine (Na-Hyun Kim)	PP052 / 257 A Neural Network-Based Real-Time Fault Diagnosis for Planetary Gear Set (Soonyoung Han)
13	PP013 / 261 Human Assist System for Weight Training and Its Validity (Junho Hong)	PP033 / 221 Application of EKF, UKF and Particle Filter for Sensorless Fault-Tolerant Control of Electric Motor (Junhyung Bae)	PP053 / 217 Development of Omnidirectional Annular Optics for Inspection of Screw Threads (Yeong Eun Lim)
14	PP014 / 441 Development of the Underwater Positioning System in Engineering Basin (Je-Doo Ryu)	PP034 / 177 Failure Diagnosis System of a Paper Cup Forming Machine (Baeksuk Chu)	PP054 / 126 Diagnosis for Bearing Fault of Rotary Using Support Vector Machine Classifier (Byeonghui Park)
15	PP015 / 230 Design of the Crawler Mobile System for Disastrous Terrain based on Dynamic Analysis (Yeonho Ko)	PP035 / 178 Performance Evaluation of a Precision Hybrid Roll Machining System (Jeong Seok Oh)	PP055 / 276 Design of Solenoid Actuator for FCV Cylinder Valve using Electro Magnetic Field Analysis (Dong Ju Lee)
16	PP016 / 357 Impact Loads Analysis of Jaw Crusher using Transfer Path Analysis (TPA) and Direct Measurement Method (Sungju Hong)	PP036 / 145 A Study on the Fuel Consumption Based on Kinetic Energy of a Transmission of Commercial Vehicles (Sung Gil Han)	
17	PP017 / 459 Design of a Moving Mechanism for Mobile Machining Systems (Chang-Ju Kim)	PP037 / 146 Sound Transmission Loss Analysis by Shape of the Support for Enclosure Panel (Daehun Park)	
18	PP018 / 256 Development of Co-simulation Model of Locking Differential System for Tractors (JooYoung Oh)	PP038 / 136 Development of Eco-Friendly Range Extension UTV Hybrid Vehicle System (Si Tae Won)	
19	PP019 / 273 Study for Static Analysis of Transfer Robot Between the Press Machines (Choong-Pyo Jeong)	PP039 / 137 A Study on the Properties of Adhesion and Separation at CFRP Specimen due to the Laminate Angle (Guewan Hwang)	
20	PP020 / 286 Energy Saving Effect of Load Sensing Pump for Mobile Cranes with Single Cylinder Type Telescopic Boom (Min Gi Cho)	PP040 / 138 A Study on Static Fracture of TDCB Aluminum Foam Porous Material with Type of Mode III due to Specimen Thickness (Jung Ho Lee)	

23 Thursday

09:00~10:20

	Manufacturing Processes I		Energy
	Non-traditional Manufacturing Process (I)	Non-traditional Manufacturing Process (II)	Renewable Energy / Storage / Energy Harvesting
1	PP056 / 503 ZnO based Superhydrophobic Coating on the Fabrics and Its Durability (Sunil Babu Eadi)	PP074 / 419 A Location Method of Register Controller for High-Precision Register Control (Jongsu Lee)	PP093 / 481 Effect of Welding Quality on the Collapse Behavior of a Spacer Grid for Fuel Cells (Jong-Bong Kim)
2	PP057 / 255 Basic Study for the Development of Metal 3D Printing CAM Software (Sang Eun Song)	PP075 / 473 An Evaluation of Effect on Transition Layer using Selective Deposition Technology on Hot Forging Dies (Haichuan Shi)	PP094 / 567 Hydrogen Membrane Fuel Cell using Amorphous Ni-Zr Alloy Membrane (SungBum Park)
3	PP058 / 457 Application of UV Imprinted Cliché to Revers Offset Printing Process (Youn Jae Kim)	PP076 / 249 Characterization of the Sintering Conditions in the PBF System (Sungwoo Bae)	PP095 / 565 A Study on the Vessel Propulsion System for 50kW Class Fuel Cell (Minwook Kim)
4	PP059 / 596 Roll to Roll Atmospheric Atomic Layer Deposition: A Breakthrough Technology for Mass Production of Functional Thin Films (Kyung-Hyun Choi)	PP077 / 340 Micro-EDM of Alumina(Al ₂ O ₃) Using Assisting Electrode Method with Powder (Jaewon Kim)	PP096 / 476 Numerical Study on the Oscillating Flow Effect in the Cathode Channel of PEMFC (Yong-Sheon Hwang)
5	PP060 / 587 Study on aligned patterning of ZnO nanowires and protein using micro contact printing (Won Seok Yang)	PP078 / 351 Mechanical and Metallurgical Properties of Repaired Cast Iron Part using Direct Energy Deposition(DED) Process (Jaehyun Yu)	PP097 / 246 The Combustion Performance and Exhaust Emissions of CNG Fuel in a Direct Injection Spark Ignition Engine (Min-Ki Kim)
6	PP061 / 500 Effective Mass Flow Rate of the Precursor Gas in Thermal Chemical Vapor Deposition (Kang-In Lee)	PP079 / 364 A Study on Delivery Characteristics of Stellite21 Powder of a Powder Bed System (Ho-jin Lee)	PP098 / 018 Study on the Temperature Separation Characteristics of a Vortex Tube According to Geometric Parameters and The Back Pressure of the Cold Exit (Jiwoong Jeong)
7	PP062 / 465 Metal Surface Heat Treatment by Low Vacuum High Power E-Beam (Eun Goo Kang)	PP080 / 372 Fabrication of Photocatalytic WO ₃ Thin Film using Nano-Particle Deposition System (Hani Park)	PP099 / 368 A study on the Installation Angle of the Solar Panels to Minimize the Loss is accorded for the Reduction of Loss due to Partial Shading Effect on the SPM System (Jae Hee Jang)
8	PP063 / 283 Surface Energy Control by Embedding Zeolite in Electrospinning Process PVDF Films (Dong Hee Kang)	PP081 / 386 A Fault Diagnostic Method of Roll using Web Tension in Roll-to-Roll System (Hyogeun Gil)	PP100 / 438 Durability Tests of Rh/Al-Ce-Zr Catalysts coated on NiCrAl Metal Foam for ATR of Dodecane at High Temperature (Won Young Choi)
9	PP064 / 295 Evaluation of Sn, Zn Metal Particle Deposition using Hybrid - Laser and Dry Particle Deposition Process (Jung-Oh Choi)	PP082 / 391 Growth of Tailing Defects in Roll-to-Roll Gravure Printing Process (Soosung Park)	PP101 / 181 Thermal Performance Analysis of Cooling System for Generator in MW-class Wind Turbine (Tae An Kim)
10	PP065 / 308 A Study on Reaction Force Compensation for CFRP Inspection System (Chang-hoon Seo)	PP083 / 400 A Study on Electron Beam Remelting of Stellite21 Deposited Specimen by a Laser -Aided Direct Metal Rapid Tooling Process (Dong-In Kim)	PP102 / 049 Experimental Studies of Comparative Combustion, Performance, and Emission Characteristics of a DI Diesel Engine Fueled with Canola Oil Biodiesel-Diesel Blend (Jun Cong Ge)

23 Thursday

09:00~10:20

	Manufacturing Processes I		Energy
	Non-traditional Manufacturing Process (I)	Non-traditional Manufacturing Process (II)	Renewable Energy / Storage / Energy Harvesting
11	PP066 / 362 Development of Micro Pattern Machining Process and Tools using Ultra-precision Machining System (Young-Jae Choi)	PP084 / 140 The Effect of Dancer Roll Diameter on Tension Control Performance with Open-Loop Dancer Unit (Dongguk Kim)	PP103 / 590 Investigation of Capacitance Effect on Energy Harvesting with Reverse Electrowetting-on-Dielectric (Hwichul Yang)
12	PP067 / 422 Large-area Ag NWs Flexible Transparent Conductive Film with Uniform Sheet Resistance using Roll-to-roll Slot-die Coating (Hakyung Jeong)	PP085 / 118 Effect of Pulse Electric Current to Vickers Hardness of SUS304 (Jing Liu)	PP104 / 577 Fabrication of Nanotubular Structure for Flowing of CO ₂ and H ₂ O through TiO ₂ Membrane (Cuili Chu)
13	PP068 / 428 Trial Machining of Sub-micron Pattern (Ki-Hyeong Song)	PP086 / 114 Novel Post-Processing Technique for Thermoforming Molds Fabricated by Fused Deposition Modelling (Trieu Khoa Nguyen)	PP105 / 314 Design of Tunable Rotational Wave Energy Harvester (Seon-Jun Jang)
14	PP069 / 434 Near-Infrared Sintering Effect on the Resistivity of Printed Ag Layers (Ki-Hak Sung)	PP087 / 104 Thermal Transport in Solidification Process for Additive Manufacturing (BoHung Kim)	PP106 / 109 Design of Three Degree of Freedom Electro-Magnetic Vibrational Energy Harvester for the Increased Bandwidth (Seon-Jun Jang)
15	PP070 / 078 Synthesis of Flower-Shaped MoS ₂ Nanoparticles and Annealing (Jinwook Jung)	PP088 / 021 Surface Modifications by a Hybrid Process of EDM in Gas Combined with Ultrasonic Vibration and Abrasive Jet Machining (Yan-Cherng Lin)	PP107 / 461 Reduction and Oxidation Behavior of Ilmenite added Various Additives for Chemical Looping Combustion (Chang Joon Park)
16	PP071 / 079 Control and Manipulation of Nano Cracks Mimicking Optical Wave (Young D. Suh)	PP089 / 268 Effect of Carbon Additives on the Surface Characteristics of Engineering Plastic (Kyeong-Hee Kang)	PP108 / 464 Catalytic Activity of Copper Aluminate for Reduction of SO ₂ to Element Sulfur (Jin Wook Lee)
17	PP072 / 053 Fabrication of Three-Dimensional Complex Shape PDMS Microstencil Using Air-Knife System (Jin Ho Choi)	PP090 / 301 Evaluation of the Microstructure and Mechanical Properties on Solution Heat Treatment of Recycled A319 Cutting Chip (Dong Hyuk Kim)	PP109 / 254 Studies that Improve Electrolyte Resistance for a Lithium Secondary Battery Casing (Do Hyun Kim)
18	PP073 / 597 Liquid-Metal based Microfluidic System for Stretchable Electronics Applications (Dongwon Lee)	PP091 / 356 A Study on the Machinability Evaluation of Eco-Friendly Cutting Process on NC Turning System (Dong Hyun Kim)	PP110 / 486 Simulation of Energy Consumption and Minimizing Energy Consumption of Gravity Direction Feeding Units (Chan Hong Lee)
19		PP092 / 062 Modeling and Sensitivity Analysis of Tripod Type CVJ for Efficiency Improvement (Dongwan Kim)	PP111 / 504 Synthesis of VO ₂ Coated TiO ₂ Powders Glass using V ₂ O ₅ Solution and Its Thermal Properties (Sunil Babu Eadi)

23 Thursday

09:00~10:20

	Management and Policy	Orgnized session	
	Strategy / IT Applications / Energy Monitoring	Precision Machinery and Related Materials	
1	PP112 / 432 Product and Production Data Management by Green e-BOM and Green m-BOM (Kezia Amanda Kurniadi)	PP117 / 197 A Study on the Stability Evaluation of an Overload Detecting Pad for Hi-Pass System (Eun-Jung Kim)	PP127 / 510 A New Conceptual Three-Dimensional Laser Assisted Hybrid Machining System (Choon-Man Lee)
2	PP113 / 530 Network Design Decisions and Supply Chain Performance: A Proposal on Sustainability (Kuan Yew Wong)	PP118 / 203 A Study on the Improvement of Edge Chipping of Silicon Nitride according to Spindle Speed and Inclination Angle of Workpiece in Laser-Assisted Milling (Wan-Sik Woo)	PP128 / 497 A Study on the Microstructures and Mechanical Properties of the WC-TiN Films Deposited by AIP and Magnetron Sputtering Technique (Yun Kon Joo)
3	PP114 / 437 Data Analytics and Decision-making in MES for Smart Factory Management (Hwaseop Lee)	PP119 / 353 Evaluation of Fracture Toughness for Nuclear Pipes Using the Curved Equivalent Stress Gradient (curved ESG) Specimens (Tao Shen)	PP129 / 496 Preparation of Sand Mold with High Strength by High Efficiency Coating Process (Yeon-Gil Jung)
4	PP115 / 529 Energy Monitoring System of 5 Axis Machining Center with the Integration of Sensors and CNC (Dong Yoon Lee)	PP120 / 207 A Study on the Stability Evaluation of Miniature Ball Screw for High-Precision Control (Nam-Seok Oh)	PP130 / 290 A Study on the Development of Deep Drawing Process for a Shell Body (Min-Jeong Kim)
5	PP116 / 593 A Review on Warehouse Management Assessment Tools (Noordin M.Y.)	PP121 / 208 Development of a Multi-Axis Laser Module for Laser Assisted Milling (Dong-Hyeon Kim)	PP131 / 198 A Basic Study on the Dynamic Analysis of a Machining Center with 20,000 rpm Spindle (Jong-Tae Baek)
6		PP122 / 527 Determination of Accuracy & Repeatability of Positioning of Numerically Controlled Axes (Jung-Hoon Lee)	PP132 / 201 A Study on the Thermal Analysis for a 20,000rpm Machine Tool Spindle (Chi-Hyuk Choi)
7		PP123 / 196 A Study on the Development and Performance Evaluation of an Insert Type Coil Winding Machine for BLDC Motor (Sang-Seok Seol)	PP133 / 202 A Study on the Structure Analysis of Vehicle Seat Track using Ultra High Strength Steel of 1180MPa (Won-Jung Oh)
8		PP124 / 199 A Study on the Development of an Eco-Vacuum Filter System for Machine Center (Young-Hwa Roh)	PP134 / 205 A Study on the Stability Evaluation through Static and Dynamic Analysis of Chip Vacuum Filter System (Sung-Woo Shin)
9		PP125 / 200 A Study on the Structural Analysis of an Insert Type Coil Winding Machine for BLDC Motor (Jae-Hyeon Ha)	PP135 / 206 A Study on the Forming Analysis for Vehicle Seat Track using 1180MPa Ultra-high Strength Steel (Young-Ho Choi)
10		PP126 / 204 A Basic Study on the Analysis of Frictional Heat Generation in a Miniature Ball Screw (Sung-Ho Moon)	

23 Thursday

09:00~10:20

Orgnized session	
Precision Machinery / Fuel Cell / Railway Engineering	
1	PP136 / 163 The Effect of Angular Misalignment on the Fatigue Life of Cylindrical Roller Bearings (Van-Canh Tong)
2	PP137 / 164 Dynamic Modeling and Analysis of Cage in Tapered Roller Bearings (Van-Canh Tong)
3	PP138 / 107 Development of Glass Array Aspherical Lens Using Glass Molding Press with Ultra-precision Grinding Machining (Soon Sub Park)
4	PP139 / 122 Optimal Sputtering Power for Ni-GDC Cermet Anodes in SOFCs (Waqas Hassan Tanveer)
5	PP140 / 540 Calculation of the Crack Growth Speed in a Rail Head Considering Seasonal Operating Conditions (Hyun kyu Jun)
6	PP141 / 523 The Effect of Gear Tooth Damage on Vibration of High-speed Railway's Gearbox (Dong-Hyung Lee)
7	PP142 / 505 Fatigue Strength Evaluation of EMU Bogie Frame by Test Rig and Field Test (Jungwon Seo)
8	PP143 / 479 Degradation Evaluation for Aged Railway Wheel (Seok-Jin Kwon)
9	PP144 / 086 Experimental Studies on the Tightening Force Characteristics of Reusable Self-Locking Nuts under Various Vibratory Conditions (Chanwoo Lee)
10	PP145 / 082 A study on Calibration of Measuring Wheelsets Using a Wheel Derailment Test Facilities (Young-Sam Ham)

23 Thursday

10:50~12:10

Design and Products II			
IoT, CAD / CAE / CAM / Optimization			
1	PP146 / 582 Monte Carlo Simulation for Hit Probability of Combat Vehicle (Hwan il Kang)	PP156 / 471 Construction of an Accurate Panorama View from Multiple Camera Images (Kang Park)	PP166 / 166 Parameter Study on the Thermal/Structural Performance Influenced by an Adhesive of Vacuum Insulation Glazing (Gyu Jin Choi)
2	PP147 / 536 Development of Automated Electric Snowplow for vehicle by Using Sprocket and Chain for Improving Durability (Kee Joo Kim)	PP157 / 270 Experimental Study on Optimal Impact Spacing of Spherical Type Bit Button (Kibeom Kwon)	PP167 / 167 Numerical Analysis to Predict the Fracture of Curtain Wall Glass in a Fire (Mingeon Jeong)
3	PP148 / 093 Mechanical analytic Approaches of Hybrid Clamping Brake System (Dong-Hwan Shin)	PP158 / 271 Structural Analysis of a Hybrid Cowl Cross Bar in an Automobile Considering the Forming History of Long Fiber Composite (Youn Ki Ko)	PP168 / 169 Numerical Analysis for 3D Cutting Process using Finite Element Method (Jin Su Kang)
4	PP149 / 077 Optimum Design of Oxygen Transport Module using Structure Thermal and FSI Analysis (Dong Gyu Lee)	PP159 / 272 Formability Prediction of Polypropylene Foam in Twin-Sheet Forming Process for an Automotive Air Duct (Bo-Ram Kim)	PP169 / 174 Development of Simulation Model to Predict Percussive Drilling Performance of DTH Hammer (Changheon Song)
5	PP150 / 239 Materials and Geometry Design of Heat Exchanger Tube for Super Critical Power Plants (Yoonha Lee)	PP160 / 329 Three-Dimensional Modeling Through Physical Blocks with IMU Sensors (Hoik Jang)	PP170 / 175 Optimal Design Parameter of Percussive Drilling System for Efficiency Improvement (Changheon Song)
6	PP151 / 165 The Elimination of Element Method in FEM Simulation of Wear (Jiwoo Nam)	PP161 / 355 Optimization Method of Bearing Stiffness in Linear Motion Units (Gyungho Khim)	PP171 / 047 Optimum Design for Energy-Saving Percussive Drilling Drifter Using Taguchi Method (Changheon Song)
7	PP152 / 294 Reduced-Order Melting Model of Electroslag Remelting Process Optimization by using Modified PSO Algorithm (Fuqing Miao)	PP162 / 377 Construction of Unwinding Equation of Motion for Thin Cable Using Spherical Coordinate System (Kun-Woo Kim)	PP172 / 094 Approaches of Suction Imitations in Multi-Body Dynamic Simulation for Transfer Robots (Dong-Hwan Shin)
8	PP153 / 440 Optimization of the LNG-retrofit on a Container Ship based on Risk Assessment (Byeong-cheol Park)	PP163 / 189 Deformation Analysis using Solid Works during Drilling of an Aircraft Engine Compressor Case (Young Chan Hong)	PP173 / 158 Difference Threshold for the Manufacturing Allowance of a Feature Line on a Car Body Outer Panel (YunChan Chung)
9	PP154 / 369 Development of Web-Based Simulator for Verifying the Design of Embedded Systems (Yongzhu Jin)	PP164 / 191 A Study on an Improved Drill Shape for the Efficient Drilling of Inconel 718 (Do Hyeog Kim)	PP174 / 048 Optimum Design of Housing of Hydraulic Breaker using TPA Method and FEM (Daeji Kim)
10	PP155 / 482 Stress Analysis of FCC Reactor Vessel using SP Test and FEA (Hee Yong Kang)	PP165 / 211 Performance Prediction of Cluster-Hammer Drill Machine using Linear Percussion Test (Jin-Young Park)	

23 Thursday

10:50~12:10

Manufacturing Processes II			
Machining / Forming / Grinding / Molding / Joining			
1	PP175 / 005 Experimental Study on Surface Grinding of M330 with Flexible Abrasives (Ting Tang)	PP195 / 252 Evaluation of Wear Characteristics of Porthole Extrusion Die according to Repair Methods (Sung-Yun Lee)	PP215 / 095 Ultra-Precision Machining Technique of Off-Axis Aspheric Mirror for TMA Optical System (Geon-hee Kim)
2	PP176 / 309 Force Predictive Model for Cryogenic Orthogonal Cutting Process of Ti-6Al-4V Incorporating the Phase Transformation (DoYoung Kim)	PP196 / 262 Cryogenic Temperature Measurement in Titanium Milling using Wireless Tool-Integrated Monitoring System (Mohd Suhaimi)	PP216 / 054 Study on Dissimilar Welding of Aluminum Alloy and Advanced High Strength Steel by Spot Welding Process (Young Gon Kim)
3	PP177 / 421 Prediction of Machined Surface Profile based on Energy Modeling of Abrasive Water-Jet (Rakwon Choi)	PP197 / 264 An Indirect Cryogenic Cooling Method for Machining Titanium Alloy Ti-6Al-4V (Gi-Dong Yang)	PP217 / 044 Hybrid Abrasive Fluidized Bed Machining System for Surface Finishing of 3D Structure (Jinyeop Jeong)
4	PP178 / 427 Influence of Preheating Source on Mechanical Properties and Welding Residual Stress Characteristics of Hybrid Friction Stir Welded Joints of Ultra Thin Ferritic Stainless Steel (Kyoung-Hak Kim)	PP198 / 338 A Method to Estimate the Flow Stress of a Material under Extreme Deformation using the Strain and Temperature Data in the Deformation Zone of Workpiece during Machining (Jihong Hwang)	PP218 / 024 Thermal Impact on Material Removal Characteristics in Sapphire Double-side Lap Grinding (Hyunseop Lee)
5	PP179 / 579 Microstructure and Texture Evolution in the Friction Stir Weld of AA5052-H32 Thin Sheets (Kwangjin Lee)	PP199 / 354 Conical Roll Shaping Process for Fabrication of Spiral Wind Blade with Clothoid Curvature (Sungmoon Yang)	PP219 / 594 Reduction of Hole Dislocation in Magnetic Field Assisted Deep Hole Drilling (Farhad Najarian)
6	PP180 / 187 A Study on the Electrically Assisted Tensile Behavior of Complex Phase Ultra-High Strength Steel (Trung Thien Nguyen)	PP200 / 378 Hot Forging Process Design of Al Piston for Automotive Hybrid Engine (Seong-won Lee)	
7	PP181 / 576 Study of Deburring on CFRP Exit Hole using EDM (ChangPing Li)	PP201 / 380 Thread Rolling Process of Hollow Round Material for Automotive Rack Bar (Seong-won Lee)	
8	PP182 / 192 A Powder Compaction Process Simulation for Synchronizer-Hub Using Finite Element Analysis (Yong-jin Choi)	PP202 / 382 Press Molds Direct Heating Method (Young-Tae Cho)	
9	PP183 / 281 A Study on Trimming Die Manufacturing with Dissimilar Material using Metal 3D Printing Technology (Myoung Pyo Hong)	PP203 / 397 Development of External Swaging Tools for 21,000kPa-class Fittings (Shinyeh Moon)	
10	PP184 / 143 The Effect of Laser Assisted Local Heating on the Mechanical Property of Hot Stamping Steel Tubes (Mahmudun Nabi Chowdhury)	PP204 / 399 Tool Cutting Force and Wear Evaluation in Micro-Machining using FEM Method (SeungYub Baek)	

23 Thursday

10:50~12:10

Manufacturing Processes II		
Machining / Forming / Grinding / Molding / Joining		
11	PP185 / 144 A Study on Electrically Assisted Stress Relief Process of Automotive Springs (Gi Dong Park)	PP205 / 426 Fabrication of Large Optical Surfaces using a Robot Arm (Young-Sik Ghim)
12	PP186 / 168 Effect of Tool Geometry AND Process Parameters on Mechanical Properties of Friction Stir Spot Welded Dissimilar Aluminum Alloys (JuRi Kim)	PP206 / 235 Process Design System for Multistage Shape Drawing Process (Sang-Kon Lee)
13	PP187 / 170 Fabrication and Resultant Properties of Friction Stir Welding Joints of Dissimilar Aluminum Alloys (EunYeong Ahn)	PP207 / 236 Optimized Edge Gate Injection Molding Analysis Utilizing the DOE (Gyunmyoung Park)
14	PP188 / 173 Electrically Assisted Rapid Heating of Al-Si Coated Hot Stamping Steels (Thi Kieu Anh Dinh)	PP208 / 218 Ultrasonic Forming of Micro-Speaker Diaphragm without Thermal Energy (Hojin Bae)
15	PP189 / 538 MQL Drilling of Austenitic Stainless Steel using Refined Palm Olein: Effect of Tool Coating on Surface Roughness and Tool Wear (A.Z. Sultan)	PP209 / 176 Diffusion Enhancement during Electrically Assisted Brazing of a Ferritic Stainless Steel Alloys (Viet Tien Luu)
16	PP190 / 532 Numerical Analysis of Kerf Width Variation according to the Cutting Process of a Welded Structure (Chao Wang)	PP210 / 193 Electrically Assisted Springback Reduction of Titanium Alloy and Resultant Mechanical Properties (Yong-Ha Jeong)
17	PP191 / 343 Effect of the Tool Rotation Speed on Mechanical Properties and Microstructure of the FSW Joints with Ti-6Al-4V Alloy Sheets (Youngju Ko)	PP211 / 162 An Experimental Investigation on In-Process Mitigation of Welding Distortion using Air-Atomized Mist Jet Cooling for Thin Stainless Steel Plate (KwangSoo Park)
18	PP192 / 512 A Study of the Selection of Optimum Superfinishing Conditions on an Anodized Al7075 Surface with the Taguchi Method (Su Hyun Choi)	PP212 / 150 Using Adjustable Magnetic Field to Enhance the Performance with Electro-Chemical Discharge Machining (Kun-Ling Wu)
19	PP193 / 467 Influence of Punch Motion on the Formability of a Cup with Boss in Backward Extrusion Using Servo Press (Se-Je Park)	PP213 / 142 Mechanical Behaviors of Friction Stir Blind Riveting Joints of Dissimilar Lightweight Materials (Gwang-Ho Ha)
20	PP194 / 250 Development of Hot Stamping-piercing Concurrent Forming Process (In-Kyu Lee)	PP214 / 108 High Precision Measurement of an Off-Axis Aspheric Mirror based on the Phase-Measuring Deflectometry (Sangwon Hyun)

23 Thursday

10:50~12:10

Materials			
	Natural / Bio-inspired / Light-weight / Powder	Metals / Ceramics / Polymers / Composites / Graphene	FGM / Graphene / Smart Material & Structure / Photonic
1	PP220 / 157 Development of Safety Design Technique for Electric Vehicle Battery Mounting Methods by Considering Light-Weight (Si Tae Won)	PP227 / 098 Application of Ultrasonic and AE Techniques on TIG Weld Effect of Stainless Steel (Jinkyung Lee)	PP247 / 115 Manufacturing and Characterization of Copper Nanowires for Flexible Application (Young Jei Oh)
2	PP221 / 133 Ultrasensitive Patterned Crack Sensor for Pressure Measurements (Yong Whan Choi)	PP228 / 572 Finite Element Analysis of Bone Healing Process according to Prosthesis Property under Real Loading Condition (Min Gu Han)	PP248 / 072 Steric Effects on Catechol Oxidation of Diccopper(II) Complexes Containing Silicon Ligands (Eunkyung Choi)
3	PP222 / 106 Ion Transport through Thermally Reduced Graphene Oxide Membrane by Mechanical Stretching (Wook Choi)	PP229 / 277 The Research via Linear Model of Tantalum Thin Film Thickness Depending on Revolution Velocity of Spin Coater (Seung Wook Kim)	PP249 / 073 Inclusion and Behavior of Fused Aromatic Hydrocarbon Guests within Nano-Channel MOFs (Tae Hwan Noh)
4	PP223 / 502 Synthesis of Hollow ZnSnO ₃ Spheres and Its Application for Sensing Methane (Sunil Babu Eadi)	PP230 / 556 Preparation and Characterization of Electrospun PVDF/PVA- γ Fe ₂ O ₃ Composite Membranes (Nor Hasrul Akhmal Ngadiman)	PP250 / 074 Construction of Hetero-Multi-Layered Pd(II) Complexes via Intramolecular π - π Interactions (Haeri Lee)
5	PP224 / 180 In-situ Micromechanical Characterization of Beetle Shell Biocomposite in FIB System (Hyun-Taek Lee)	PP231 / 553 Fabrication of 3D Scaffolds of PVA/Fe ₂ O ₃ Composite using Combination of Electrospinning and Thermally Induced Phase Separations Processes (Nor Hasrul Akhmal Ngadiman)	PP251 / 075 Construction of Silver(I) Coordination Polymeric 1D Loop-and-Chains with Y-type Tridentate Ligands (Jeong Jun Lee)
6	PP225 / 055 Biotechnological Production of the Sweet-Tasting Protein Brazzein in Yeast (Kwang-Hoon Kong)	PP232 / 116 Electrical Effect of CVD Graphene with the Residue in Various Humidity Condition (Young Jun Son)	PP252 / 076 Analysis of Ballistic Performance on Varied Content of Alumina/Zirconia FGM (Chin-Yu Huang)
7	PP226 / 027 Estimation of Stress Fields Using Particle Image Correlations in the Bio-Inspired Polymer Model (Kyeihan Rhee)	PP233 / 548 Synthesis and Hydrophobicity of Fluoropolymer Tethered On Polyhedral Oligomeric Silsesquioxanes (POSS) (In Park)	PP253 / 065 Effect of Residual Oxygen in a Vacuum Chamber on the Deposition of Cubic Boron Nitride Thin Film (Seung Keun Oh)
8		PP234 / 519 A High Sensitivity Capacitive-type Humidity Sensor based on Polymer Thin Film (MingQing Liu)	PP254 / 487 Fabrication of P(Acrylic acid)-P(vinyl alcohol) Hydrogels for Reconfigurable Lens Actuator (Tippanbattini Jayaramudu)
9		PP235 / 469 A Study on the Prediction of Thermo-Mechanical Fatigue Life of IN738LC Using the Creep Damage and Low Cycle Fatigue (Jeong-Min Lee)	PP255 / 547 Fabrication of a Fabric-type Sensor using Electroactive Polymer P(VDF-TrFE) and Feasibility Check for Structural Health Monitoring (Ji-Hun Bae)
10		PP236 / 470 A Study on Durability Prediction of TBC in a High Temperature Condition (Hyunwoo Song)	PP256 / 546 Cooperative Effect of Nanoclay on Electro-Mechanical Properties of an Electroactive Polymer (PVDF-TrFE) Film (Ji-Hun Bae)

23 Thursday

10:50~12:10

Materials		
	Metals / Ceramics / Polymers / Composites / Graphene	FGM / Graphene / Smart Material & Structure / Photonic
11	PP237 / 243 Mechanical Properties and Tribological Performance of Improved Soft White Metal by Laser Cladding (Si-Geun Choi)	PP257 / 533 Cyclic Testing of Electrochromic Windows Fabricated by Nano-particle Deposition System (NPDS) (Jang-Yeob Lee)
12	PP238 / 299 Mechanical Properties of Hydrogen-Charged 304L Stainless Steels (Jae Hwan Gwak)	PP258 / 507 Gas Sensors based on ZnO Films with the Formation of Tetrapod Nano Structure (Soon-Wook Jeong)
13	PP239 / 300 Investigation on Mechanical Properties of CFRTP and CFRTS according to Pressure and Curing Temperature (Daewon Kim)	PP259 / 282 Plasma Assisted Nano Particle Deposition for Electrochromic Devices (Sung-ik Park)
14	PP240 / 311 Effect of Open Die Forging Parameters on Mechanical Properties of Aluminum Metal Matrix Composites with Multi-Wall Carbon Nanotubes (Longrui Jiang)	PP260 / 320 An Optimized Design Procedure for Magnetic Circuit in Magnetostrictive Actuator (Young-Woo Park)
15	PP241 / 385 Comparative Study on Mechanical Properties of CR340/CFRP Composites Through Three Point Bending Test by Using Theoretical and Experimental Methods (Min-sik Lee)	PP261 / 392 Laser Assisted Nano Particle Deposition for Electrochromic Window (Se-Heon Kim)
16	PP242 / 222 Electromagnetic Interference Shielding Effectiveness of Sheet Molding Compound Composites with Metal Coated Glass Fiber (Pyoung-Chan Lee)	
17	PP243 / 223 Mechanical and Thermal Properties of Polyamide/Montmorillonite/Metallic Pigments Nanocomposites (Sun Kyoung Jeoung)	
18	PP244 / 224 Comparison of Organic Steric Stabilizer and Inorganic Pickering Emulsifier for Preparation of Thermally Expandable Microcapsule (Jin Uk Ha)	
19	PP245 / 226 Study on Improving the Vertical Thermal Conductivity of Graphite-Polymer Sheet (MyeongHan Yoo)	
20	PP246 / 147 The Effect of CNT Diameters on Properties of CNT-polyamide Composites (Joon Hyuk Song)	

23 Thursday

10:50~12:10

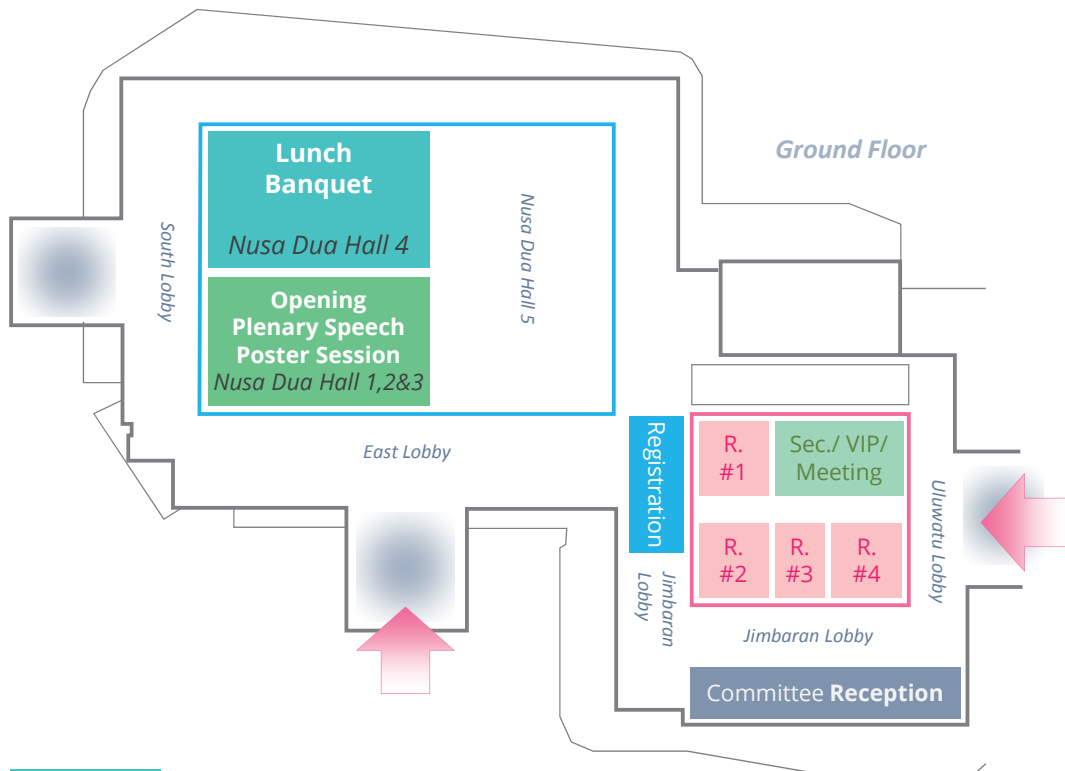
Organized session		
	3D Printing and Nano Printing / Additive & Reconfigurable Manufacturing for Smart Factory / Green Fabrication Technologies for Photonics and Metamaterials / Metal Matrix Composite	Hybrid Manufacturing / Innovative Forming
1	PP262 / 404 Design and Evaluation of Micro Cantilevers Fabricated using Nanoscale 3D Printing System (Hae-Sung Yoon)	PP275 / 046 Investigation of Oxalic Acid in CMP Slurry for SUS304 as Flexible Solar Cell Substrate (Jinyeop Jeong)
2	PP263 / 420 A 3D Printed Flexible Strain Sensor Embedded Smart Soft Composite Actuator (Nam-Geuk Kim)	PP276 / 485 Additive Manufacturing Process For Smart Soft Composite Actuator (Mincheol Kim)
3	PP264 / 406 Manufacturing Machine Interaction for Mass Personalization Service Platform FaaS (Hyonyoung Han)	PP277 / 439 Numerical Simulation of Induction Heating for Friction Stir Welding (Seokkwan Hong)
4	PP265 / 125 Development of Mobile HMI System to Enhance Convenience of Worker in Smart Manufacturing Process (Gyu-Bong Lee)	PP278 / 444 Estimation of Cutting Force/Torque in CFRP Drilling with Tool Wear (Dong Sub Park)
5	PP266 / 241 Development of a Floating-type Sensor Network Platform for Monitoring Water Quality in Wide Area (Hyeunseok Choi)	PP279 / 188 Effect of Wafer Size on Material Removal Rate in copper CMP Process (Haedo Jeong)
6	PP267 / 327 Assembly Flexible Job Shop Scheduling Problems with Storage Space Constraints (Heechul Bae)	PP280 / 124 Controllability of Removal Profile Using Multiple Spray Slurry Nozzles in Cu CMP (Dasol Lee)
7	PP293 / 449 Assembly Line Reconfiguration Using Modified IEEE 802.15.4 MAC (Young Ae Jeon)	PP281 / 014 Improve of Photovoltaic Performance of Dye-sensitized Solar Cell by Concentrating Sunlight (Yong-woo Kim)
8	PP268 / 292 Implementation of Reconfigurable Assembly Module using Self Device Profiling Method (Hyun Jong Kim)	PP282 / 035 Tool Modification for Thick Plate Forming of Hollow-Partitioned Turbine Stator with Large Surface Area (Byeong-Kwon Kang)
9	PP269 / 315 Long Distance Barcode Image Recognition for Parts Supply System using on Smart Factory (Yongkwi Lee)	PP283 / 102 Arrhenius-Type Constitutive Modeling with Regression Kriging for High Temperature Flow Stress Prediction (Kyunghoon Lee)
10	PP270 / 475 Multi Axis Error Compensation for Scanning Beam Laser Interference Lithography (Minsoo Kim)	PP284 / 253 Experimental Investigation on Tribological Performance of AISI H13 Grade Tool Steels for Al6061 (Tae-Dong Ma)

23 Thursday

10:50~12:10

Organized session		
	3D Printing and Nano Printing / Additive & Reconfigurable Manufacturing for Smart Factory / Green Fabrication Technologies for Photonics and Metamaterials / Metal Matrix Composite	Hybrid Manufacturing / Innovative Forming
11	PP271 / 484 Imprinted Planar Lightwave Circuit for Blood Glucose Sensor (Jun Hyun Kim)	PP285 / 258 Design of Gear Forming Process for Improved Dimensional Accuracy of Automotive Seat Recliner (Gil-Seok Kang)
12	PP272 / 325 Fabrication of Plasmonic Metamaterial Absorber as Refractive Index Sensor using Nanoimprint Lithography (Joo-Yun Jung)	PP286 / 376 Integrated Process of Forming and Heat Treatment on Al6061 Tailor Rolled Blank (Jae-Hong Kim)
13	PP273 / 039 Plasmonic Nanostructure Film with Enhanced Wear Property (Junhyuk Choi)	PP287 / 418 Design of Integral Safety Vent in Prismatic Lithium-ion Battery (Jeong Hun Kim)
14	PP274 / 151 Development of Carbon Nanotube Reinforced Composite by Low Pressure Casting (Yongbum Choi)	PP288 / 161 Stress Analysis for Fiber-Reinforced Composite Cylindrical Shell of Variable Stiffness (Abera Tullu)
15		PP289 / 491 Numerical and Semi-Analytical Prediction of Longitudinal Curvature in Flexibly-Reconfigurable Roll Forming Process (Hadi Ghiabakloo)
16		PP290 / 492 Numerical Verification on Formability of Metallic Alloys for Skin Structure using Multi-point Die-less Forming (Misganaw Abebe)
17		PP291 / 342 Numerical Analysis of Shock Lines in Deep Drawing of Ultra-Thin Stainless Steel Sheets (Jun-Yeol Chae)
18		PP292 / 090 Effect of Elastic Anisotropy on Springback of Advanced High Strength Steels (Jaebong Jung)

Venue at Bali Nusa Dua Convention Center



Lunch (22~23, June)
Banquet (23, June)
: Nusa Dua Hall 4

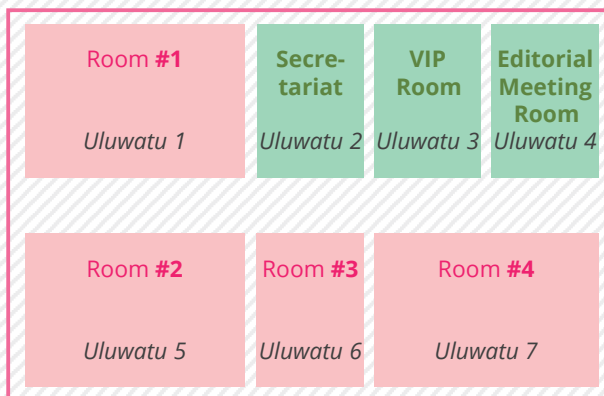
Opening (22, June)
Plenary Speech (22, June)
Poster Session (23, June)
: Nusa Dua Hall 1, 2 and 3

Registration Desk (21~24, June)
Information (22~24, June)

Oral Session (22~24, June)
: Uluwatu 1, 5, 6 and 7

Committee Reception (21, June)
: Jimbaran Restaurant

Detail layout for **Oral Presentation**



Conference Information

Registration

Registration desk will be located at the Jimbaran Lobby

CATEGORY	ON-SITE REGISTRATION
Regular (include banquet)	750 USD / 850,000 KRW
Student	500 USD / 550,000 KRW
Banquet (option to Student or Accompanying person)	75 USD / 90,000 KRW

Awards

Best Paper Award, Best Poster Award, Young Researcher Award, Outstanding Presentation and Kahp-Yang Suh Paper Award will be presented at the banquet.

Poster Presentation

Poster will be displayed in the 'Nusa Dua Hall 1, 2 and 3'.

Each poster of 'Poster Presentation I' should be posted by 08:50 and dismantled after 10:20 on June 23. Each poster of 'Poster Presentation II' should be posted by 10:40 and dismantled after 12:10 on June 23. All poster presenters are encouraged to be at their poster panels for discussion with participants during the poster presentation time.

Poster Session	Date / Time
Poster Presentation I	June 25 / 09:00 ~ 10:20
Poster Presentation II	June 25 / 10:50 ~ 12:10

Information Desk

General information of the conference will be available at the information desk located in the registration desk (Jimbaran Lobby) during conference time.

Coffee Break

Coffee and tea will be served on the conference site during the coffee break time.



Journal Publication

Selected paper will be published in Journals below after review.

- International Journal of Precision Engineering and Manufacturing (SCIE, IF 1.205)
- International Journal of Precision Engineering and Manufacturing-Green Technology (SCIE)
- Advanced Composite Materials (SCIE, 0.929)
- Journal of Computational Design and Engineering (KCI)
- Composite Research (KCI)
- Journal of the Korean Society for Precision Engineering and Manufacturing (KCI)



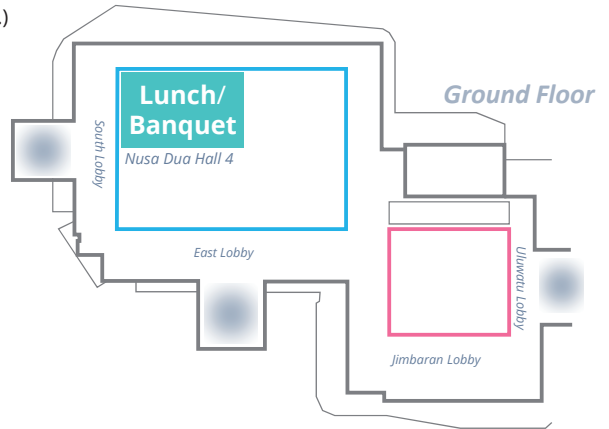
Lunch

TIME AND PLACE

12:20, June 22 (Wed.) / 12:10, June 23 (Thur.)

Nusa Dua Hall 4

at Bali Nusa Dua Convention Center



Banquet

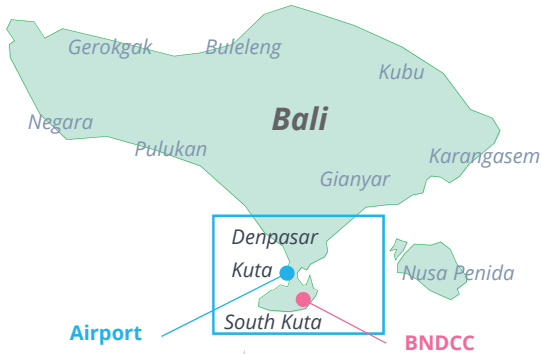
TIME AND PLACE

June 23 (Thur.) / 18:00 ~ 20:00



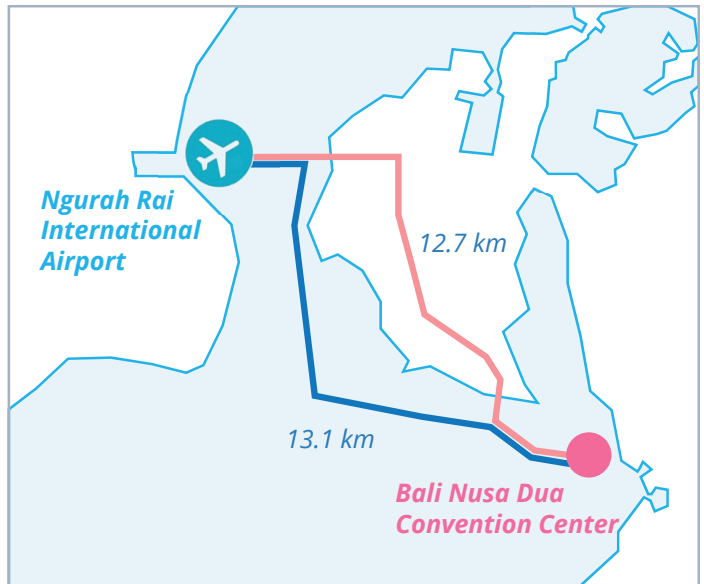
* Banquet will be offered to regular registrants and student/accompanying people who purchased banquet (optional).

Location and transportation



To Denpasar

- Singapore 2 h 30 m
- Kuala Lumpur 3 h
- Bangkok 4 h 15 m
- Hongkong 4 h 45 m
- Taipei 5 h
- Shanghai 5 h 30 m
- Melbourne 5 h 30 m
- Sydney 5 h 50 m
- Osaka 6 h 30 m
- Seoul 7 h
- Tokyo 7 h



Bali Airport (Ngurah Rai)

Bali Ngurah Rai International Airport, also known as Denpasar International Airport, is located in southern Bali, 13 km south of Denpasar. It is Indonesia's third-busiest international airport.

TAXI

The Bali airport only allows one official taxi operator. The taxi counter is located just after exit at the international arrival building. Taxi fare from Bali airport to BNDCC (and hotels within BTDC resort area) is IDR 150,000.

Alternatively, you may arrange airport transfer with your hotel. The price is usually more expensive than taking official airport taxi. We (local team) also provide airport transfer service. The price is the same or cheaper than official airport taxi. If you wish to arrange your airport transfer with us, please contact:

isgma@utm.my

Index of Presenter

C

Presenter Name **No. of Paper** **Date** **Time** **Place**

Guest Speakers

Choi Mansoo	PL001	22(Wed)	11:40	Nusa Dua Hall 1.2.3
Chen Chao-Chang Arthur	KS001	22(Wed)	13:30	Room #1
Jawahir I. S.	KS002	22(Wed)	10:40	Room #2
Jeong Haedo	KS003	23(Thu)	15:30	Room #1
Kim Beom Jun	KS004	22(Wed)	13:30	Room #4
Kim Byung Sun	KS005	22(Wed)	10:40	Room #4
Lee Sun-Kyu	KS006	22(Wed)	13:30	Room #2
Lee Jehyun	KS007	22(Wed)	10:40	Room #3
Li Mingzhe	KS008	22(Wed)	14:10	Room #4
Li Xiaochun	KS009	22(Wed)	13:30	Room #3
Shan Zhongde	KS010	23(Thu)	15:30	Room #2
Rahman Mustafizur	KS011	22(Wed)	10:40	Room #1
Choi Jae-Won	IS001	22(Wed)	14:10	Room #4
Hahn Jae Won	IS002	22(Wed)	14:10	Room #1
Kim Dae Wook	IS003	23(Thu)	15:30	Room #3
Park Hyung Gyu	IS004	22(Wed)	14:10	Room #3
Yoon Yong Jin	IS005	22(Wed)	14:10	Room #2

A

Abebe Misganaw	PP290 / 492	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Abraham Tim	OP048 / 008	23(Thu)	13:30	Room #1
Ahn Hyeong-Joon	PP011 / 085	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ahn Dang	OP015 / 425	22(Wed)	9:00	Room #4
Ahn EunYeong	PP187 / 170	23(Thu)	10:50	Nusa Dua Hall 1.2.3

B

Bae Heechul	PP267 / 327	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Bae Hojin	PP208 / 218	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Bae Ji-Hun	PP255 / 547	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Bae Ji-Hun	PP256 / 546	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Bae Junhyung	PP033 / 221	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Bae Sungwoo	PP076 / 249	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Bae Tae Yeol	PP051 / 087	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Baek Jong-Tae	PP131 / 198	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Baek SeungYub	PP204 / 399	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Bodnarova Lenka	OP011 / 585	22(Wed)	9:00	Room #3

Cha Seunghoon	OP060 / 267	23(Thu)	13:30	Room #4
Cha Young Taek	PP041 / 317	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Cha Young Taek	PP042 / 057	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Chae Jun-Yeol	PP291 / 342	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Chen Chin-Tai	OP081 / 312	24(Fri)	9:30	Room #1
Chen Jahau Lewis	OP055 / 537	23(Thu)	13:30	Room #3
Chen Yau-Pin	OP041 / 318	22(Wed)	16:10	Room #3
Cho Chulhee	PP029 / 371	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Cho Eikhyun	OP040 / 462	22(Wed)	16:10	Room #3
Cho Min Gi	PP020 / 286	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Cho Young-Tae	PP202 / 382	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Chi-Hyuk	PP132 / 201	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Eunkyung	PP248 / 072	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Gyu Jin	PP166 / 166	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Hyeunseok	PP266 / 241	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Hyoung Jin	OP042 / 064	22(Wed)	16:10	Room #4
Choi JaeNeung	PP008 / 105	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Jae-Won	OP003 / 508	22(Wed)	9:00	Room #1
Choi Jae-Won	OP004 / 509	22(Wed)	9:00	Room #1
Choi Jin Ho	PP072 / 053	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Jung-Oh	PP064 / 295	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Junhyuk	PP273 / 039	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Kyung-Hyun	PP059 / 596	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Rakwon	PP177 / 421	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Si-Geun	PP237 / 243	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Su Hyun	PP192 / 512	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Won Young	PP045 / 245	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Won Young	PP100 / 438	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Wook	PP222 / 106	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Yong Whan	PP221 / 133	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Yongbum	PP274 / 151	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Yong-Jin	PP182 / 192	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Choi Young-Ho	PP135 / 206	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Choi Young-Jae	PP066 / 362	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Chowdhury Mahmudun Nabi	PP184 / 143	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Chu Baeksuk	PP034 / 177	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Chu Cuili	PP104 / 577	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Chu Won-Shik	PP047 / 535	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Chung Wu-Hsun	OP059 / 398	23(Thu)	13:30	Room #3
Chung YunChan	PP173 / 158	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Cyborofu Jolanta	OP035 / 153	22(Wed)	16:10	Room #1

D

Dinh Thi Kieu Anh	PP188 / 173	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Do Minh Duc	OP073 / 305	23(Thu)	16:10	Room #3
Do Van-Cuong	OP071 / 374	23(Thu)	16:10	Room #2
Doh Hyoung-Ho	OP057 / 228	23(Thu)	13:30	Room #3
Du Zhengchun	OP024 / 010	22(Wed)	14:30	Room #2
Du Zhengchun	OP053 / 013	23(Thu)	13:30	Room #2

E

Eadi Sunil Babu	PP056 / 503	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Eadi Sunil Babu	PP111 / 504	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Eadi Sunil Babu	PP223 / 502	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Elmunafi Mohamed Handawi Saad	OP095 / 580	24(Fri)	9:30	Room #4
Endo Junta	OP088 / 493	24(Fri)	9:30	Room #3

F

Fitriani Pipit	OP018 / 071	22(Wed)	14:30	Room #1
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G

Ge Jun Cong	PP102 / 049	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ghiabakloo Hadi	PP289 / 491	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ghim Young-Sik	PP205 / 426	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Gil Hyogeun	PP081 / 386	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Gwak Jae Hwan	PP238 / 299	23(Thu)	10:50	Nusa Dua Hall 1.2.3

H

Ha Gwang-Ho	PP213 / 142	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ha Jae-Hyeon	PP125 / 200	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ha Jin Uk	PP244 / 224	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Halim Dunant	OP052 / 350	23(Thu)	13:30	Room #2
Ham Young-Sam	PP145 / 082	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Han Hyonyoung	PP264 / 406	23(Thu)	10:50	Nusa Dua Hall 1.2.3

Han Min Gu	PP228 / 572	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Han Soonyoung	PP052 / 257	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Han Sung Gil	PP036 / 145	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hayashi Akio	OP014 / 260	22(Wed)	9:00	Room #4
Her Yong Chan	OP078 / 336	23(Thu)	16:10	Room #4
Herrmann Marius	OP085 / 012	24(Fri)	9:30	Room #2
Higashiono Koji	OP047 / 490	23(Thu)	13:30	Room #1
Hisam M. J.	OP092 / 545	24(Fri)	9:30	Room #4
Hong Jaesoo	PP049 / 179	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hong Jintae	PP007 / 030	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hong Junho	PP013 / 261	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hong Myoung Pyo	PP183 / 281	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Hong Seokwan	PP277 / 439	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Hong Sungju	PP016 / 357	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hong Young Chan	PP163 / 189	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Hsu David K.	OP080 / 159	24(Fri)	9:30	Room #1
Huang Chin-Yu	PP252 / 076	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Hwang Guewan	PP039 / 137	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hwang Hyun-Tae	OP051 / 451	23(Thu)	13:30	Room #2
Hwang Jihong	PP198 / 338	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Hwang Yong-Sheon	PP096 / 476	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Hyun Sangwon	PP214 / 108	23(Thu)	10:50	Nusa Dua Hall 1.2.3

I

Ishkina Svetlana	OP072 / 026	23(Thu)	16:10	Room #3
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J

Jang Hoik	PP160 / 329	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jang Jae Hee	PP099 / 368	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jang Kuehwan	OP039 / 154	22(Wed)	16:10	Room #3
Jang Seon-Jun	PP105 / 314	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jang Seon-Jun	PP106 / 109	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jasper David	OP054 / 007	23(Thu)	13:30	Room #2
Jaworska Lucyna	OP012 / 152	22(Wed)	9:00	Room #3
Jayaramudu Tippanbattini	PP254 / 487	23(Thu)	10:50	Nusa Dua Hall 1.2.3

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Jeon Young Ae	PP293 / 449	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Bo-Ram	PP159 / 272	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jeong Choong-Pyo	PP019 / 273	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Byung Gon	PP021 / 287	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeong Geunmuk	PP010 / 394	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Chang-Ju	PP017 / 459	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeong Haedo	PP279 / 188	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Chang-Lae	OP049 / 263	23(Thu)	13:30	Room #1
Jeong Hakyung	PP067 / 422	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Daeji	PP174 / 048	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jeong Jinyeop	PP217 / 044	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Daewon	PP239 / 300	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jeong Jinyeop	PP275 / 046	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Do Hyeog	PP164 / 191	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jeong Jiwoong	PP098 / 018	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Do Hyun	PP109 / 254	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeong Mingeon	PP167 / 167	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Dong Hyuk	PP090 / 301	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeong Soon-Wook	PP258 / 507	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Dong Hyun	PP091 / 356	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeong Yong-Ha	PP210 / 193	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Dongguk	PP084 / 140	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jeoung Sun Kyoung	PP243 / 223	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Dong-Hyeon	PP121 / 208	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ji Dae-Hyeong	PP005 / 477	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Dong-In	PP083 / 400	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jiang Longrui	PP240 / 311	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Dongwan	PP092 / 062	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jin Yongzhu	PP154 / 369	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim DoYoung	PP176 / 309	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jo Wonseok	OP067 / 414	23(Thu)	16:10	Room #1	Kim Eun-Jung	PP117 / 197	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Joo Yun Kon	PP128 / 497	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Geon-hee	PP215 / 095	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jun Hyun kyu	PP140 / 540	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Heechan	OP050 / 446	23(Thu)	13:30	Room #2
Jung Jaebong	PP292 / 090	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Hochan	OP001 / 083	22(Wed)	9:00	Room #1
Jung Jinwook	PP070 / 078	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Hyun Jong	PP268 / 292	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Jung Joo-Yun	PP272 / 325	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Kim Hyung Jin	PP048 / 303	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jung Yeon-Gil	PP129 / 496	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Kim Hyung-Soo	PP031 / 407	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Jung Yoongho	OP026 / 265	22(Wed)	14:30	Room #3	Kim HyungTae	OP022 / 155	22(Wed)	14:30	Room #2
					Kim Hyung-Won	OP058 / 227	23(Thu)	13:30	Room #3
					Kim Jae-Hong	PP286 / 376	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Jaewon	PP077 / 340	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Jeong Hun	PP287 / 418	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Jihun	OP089 / 341	24(Fri)	9:30	Room #3
					Kim Jinuk	OP090 / 310	24(Fri)	9:30	Room #3
					Kim Jong-Bong	PP093 / 481	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Joonhyub	PP050 / 097	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Jun Hyun	PP271 / 484	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim JuRi	PP186 / 168	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Kee Joo	PP147 / 536	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Kun-Woo	PP162 / 377	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Kyoung-Hak	PP178 / 427	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Mincheol	PP276 / 485	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Min-Jeong	PP130 / 290	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Min-Ki	PP097 / 246	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Minsoo	PP270 / 475	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Kim Minwook	PP095 / 565	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Na-Hyun	PP032 / 234	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Kim Nam Jin	OP077 / 395	23(Thu)	16:10	Room #4

K

Kang Byeong-Kwon	PP282 / 035	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kang Dong Hee	PP063 / 283	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kang Eun Goo	PP062 / 465	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kang Gil-Seok	PP285 / 258	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kang Hee Yong	PP155 / 482	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kang Hwan il	PP146 / 582	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kang Jin Su	PP168 / 169	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kang Jin-Il	PP004 / 478	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kang Kyeong-Hee	PP089 / 268	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Keum Changmin	PP003 / 589	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kharoufi Hicham	OP027 / 297	22(Wed)	14:30	Room #3
Khim Gyungho	PP161 / 355	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kim BoHung	PP087 / 104	23(Thu)	9:00	Nusa Dua Hall 1.2.3

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Kim Nam-Geuk	PP263 / 420	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Ho-Jin	PP079 / 364	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kim Se-Heon	PP261 / 392	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Hwaseop	PP114 / 437	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kim Seongyong	OP021 / 119	22(Wed)	14:30	Room #2	Lee Hyun-seok	OP079 / 361	23(Thu)	16:10	Room #4
Kim Seongyong	PP023 / 129	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Hyunseop	PP218 / 024	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kim Seung Wook	PP229 / 277	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Hyun-Taek	PP224 / 180	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kim Tae An	PP101 / 181	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee In Hwan	OP002 / 219	22(Wed)	9:00	Room #1
Kim Yong-woo	PP281 / 014	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee In-Kyu	PP194 / 250	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kim YounJae	PP058 / 457	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Jang-Yeob	PP257 / 533	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kim Young Gon	PP216 / 054	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee JeoungJun	PP251 / 075	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ko Yeonho	PP015 / 230	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Jeong Min	OP063 / 279	23(Thu)	13:30	Room #4
Ko Youn Ki	PP158 / 271	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Jeong-Min	PP235 / 469	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ko Youngju	PP191 / 343	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Jin Wook	PP108 / 464	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kong Kwang-Hoon	PP225 / 055	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Jinkyung	PP227 / 098	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Kreitlein Sven	OP056 / 004	23(Thu)	13:30	Room #3	Lee Jongsu	PP074 / 419	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kurniadi Kezia Amanda	PP112 / 432	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Jung Ho	PP040 / 138	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kwon Kibeom	PP157 / 270	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Jung-Hoon	PP122 / 527	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kwon Oyoung	PP026 / 334	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Kang-In	PP061 / 500	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Kwon Seok-jin	PP143 / 479	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Kwangjin	PP179 / 579	23(Thu)	10:50	Nusa Dua Hall 1.2.3
L									
Lee Chan Hong	PP110 / 486	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Kyunghoon	PP283 / 102	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Changwoo	PP001 / 117	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Min-sik	PP241 / 385	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Changwoo	PP002 / 120	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Pyoung-Chan	PP242 / 222	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Chanwoo	PP144 / 086	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Sang-Kon	PP206 / 235	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Choon-Man	PP127 / 510	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Seong-won	PP200 / 378	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Dasol	PP280 / 124	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Seong-won	PP201 / 380	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Deukhee	PP043 / 454	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Soo Yeol	OP020 / 431	22(Wed)	14:30	Room #1
Lee Dong Gyu	PP149 / 077	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Lee Sungcheul	OP023 / 307	22(Wed)	14:30	Room #2
Lee Dong Ju	PP055 / 276	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Sung-Yun	PP195 / 252	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Dong Yoon	PP115 / 529	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Taekyung	OP066 / 352	23(Thu)	16:10	Room #1
Lee Dong-Hyung	PP141 / 523	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee Wookjin	OP028 / 269	22(Wed)	14:30	Room #3
Lee Dongwon	PP073 / 597	23(Thu)	9:00	Nusa Dua Hall 1.2.3	Lee YeonHo	PP022 / 316	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Lee Gil-Yong	OP030 / 592	22(Wed)	14:30	Room #4	Lee Yongkwi	PP269 / 315	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Gil-Yong	OP031 / 322	22(Wed)	14:30	Room #4	Lee Yoonha	PP150 / 239	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Gyu-Bong	PP265 / 125	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Li ChangPing	PP181 / 576	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Lee Haeri	PP250 / 074	23(Thu)	10:50	Nusa Dua Hall 1.2.3	Li Quanri	OP007 / 332	22(Wed)	9:00	Room #2
Lee Ha-Gyun	OP044 / 238	22(Wed)	16:10	Room #4	Li Tielin	PP046 / 534	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Lim Yeong Eun	PP053 / 217	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Lin Yan-Cherng	PP088 / 021	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Liu Jing	PP085 / 118	23(Thu)	9:00	Nusa Dua Hall 1.2.3
					Liu MingQing	PP234 / 519	23(Thu)	10:50	Nusa Dua Hall 1.2.3
					Luu Viet Tien	PP209 / 176	23(Thu)	10:50	Nusa Dua Hall 1.2.3

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Ma Tae-Dong	PP284 / 253	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Maas Philipp	OP075 / 022	23(Thu)	16:10	Room #3
Matsumoto Mitsutaka	OP046 / 215	23(Thu)	13:30	Room #1
Miao Fuqing	PP152 / 294	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Min Deok Ho	PP028 / 348	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Missal Nadja	OP037 / 029	24(Fri)	9:30	Room #2
Moon Shinyeh	PP203 / 397	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Moon Sung-Ho	PP126 / 204	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Muksin Kati Raju	OP036 / 183	22(Wed)	16:10	Room #2

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Najarjan Farhad	PP219 / 594	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Nam Jiwoo	PP151 / 165	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Nam Keon-Seok	PP027 / 347	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ngadiman Nor Hasrul Akhmal	PP230 / 556	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ngadiman Nor Hasrul Akhmal	PP231 / 553	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Nguyen Trieu Khoa	PP086 / 114	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Nguyen Trung Thien	PP180 / 187	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Noh Sung-Yoon	PP006 / 583	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Noh Tae Hwan	PP249 / 073	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Noh Wooram	OP061 / 501	23(Thu)	13:30	Room #4
Noh Youngwook	PP025 / 333	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Noordin M.Y.	PP116 / 593	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Nur Rusdi	OP091 / 034	24(Fri)	9:30	Room #4

O

Oh Jeong Seok	PP035 / 178	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Oh JooYoung	PP018 / 256	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Oh Nam-Seok	PP120 / 207	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Oh Seung Keun	PP253 / 065	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Oh Won-Jung	PP133 / 202	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Oh Yong Hee	OP008 / 423	22(Wed)	9:00	Room #2
Oh Young Jei	PP247 / 115	23(Thu)	10:50	Nusa Dua Hall 1.2.3

P

Park Byeong-cheol	PP153 / 440	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Byeonghui	PP054 / 126	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park ChangJoon	PP107 / 461	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park Chuljin	OP065 / 321	23(Thu)	16:10	Room #1
Park Daehun	PP037 / 146	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park Dong Sub	PP278 / 444	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Eu-Tteum	OP062 / 060	23(Thu)	13:30	Room #4
Park Gi Dong	PP185 / 144	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Gyunmyoung	PP207 / 236	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Hani	PP080 / 372	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park Hyeon-cheol	PP024 / 326	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park In	PP233 / 548	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Jin-Young	PP165 / 211	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Jiwoo	OP064 / 195	23(Thu)	13:30	Room #4
Park Kang	PP156 / 471	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park KwangSoo	PP211 / 162	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Sangjune	OP038 / 429	22(Wed)	16:10	Room #2
Park Se-Je	PP193 / 467	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Soon Sub	PP138 / 107	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park Soosung	PP082 / 391	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park SungBurn	PP094 / 567	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Park Sung-ik	PP259 / 282	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Park Young-Woo	PP260 / 320	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Ponthot Jean-Philippe	OP086 / 132	24(Fri)	9:30	Room #2
Prieske Markus	OP045 / 009	23(Thu)	13:30	Room #1

Q

Qian Jingui	OP087 / 367	24(Fri)	9:30	Room #3
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R

Redzuan Norizah	OP094 / 566	24(Fri)	9:30	Room #4
Rhee Kyeahan	PP226 / 027	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Roh Young-Hwa	PP124 / 199	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ryu Je-Doo	PP014 / 441	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ryu Sang-Wan	OP043 / 156	22(Wed)	16:10	Room #4
Ryu Seukwoo	PP030 / 375	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Sakundarini Novita	OP013 / 051	22(Wed)	9:00	Room #4

S

Seo Chang-hoon	PP065 / 308	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Seo Jungwon	PP142 / 505	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Seol Sang-Seok	PP123 / 196	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Shen Tao	PP119 / 353	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Shi Haichuan	PP075 / 473	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Shin Dongbin	PP012 / 448	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Shin Dong-Hwan	PP148 / 093	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Shin Dong-Hwan	PP172 / 094	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Shin Sung-Woo	PP134 / 205	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Son Young Jun	PP232 / 116	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Changheon	PP169 / 174	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Changheon	PP170 / 175	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Changheon	PP171 / 047	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Hyunwoo	PP236 / 470	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Joon Hyuk	PP246 / 147	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Song Ki-Hyeong	PP068 / 428	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Song Sang Eun	PP057 / 255	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Sreejith P. S.	OP074 / 135	23(Thu)	16:10	Room #3
Suh Young D.	PP071 / 079	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Suhaimi Mohd	PP196 / 262	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Sultan A.Z.	PP189 / 538	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Sung Ki-Hak	PP069 / 434	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Syafrudin Muhammad	OP006 / 061	22(Wed)	9:00	Room #2
Szutkowska Magdalena	OP032 / 149	22(Wed)	14:30	Room #4

T

Takagi Hitoshi	OP033 / 240	22(Wed)	16:10	Room #1
Tan Chin-joo	OP068 / 541	23(Thu)	16:10	Room #2
Tang Ting	PP175 / 005	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Tanveer Waqas Hassan	PP139 / 122	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Tong Van-Canh	PP136 / 163	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Tong Van-Canh	PP137 / 164	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Tran Ngoc-Hien	OP029 / 091	22(Wed)	14:30	Room #4
Tu Mengru	OP005 / 346	22(Wed)	9:00	Room #2
Tu Mengru	OP083 / 443	24(Fri)	9:30	Room #1
Tullu Abera	PP288 / 161	23(Thu)	10:50	Nusa Dua Hall 1.2.3

W

Wang Chao	PP190 / 532	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Wang Xiaohang	OP082 / 483	24(Fri)	9:30	Room #1
Won Si Tae	PP038 / 136	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Won Si Tae	PP220 / 157	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Wong Kuan Yew	PP113 / 530	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Woo Wan-Sik	PP118 / 203	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Wu Kun-Ling	PP212 / 150	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Wu Meng-Chiao	OP017 / 084	22(Wed)	14:30	Room #1

Y

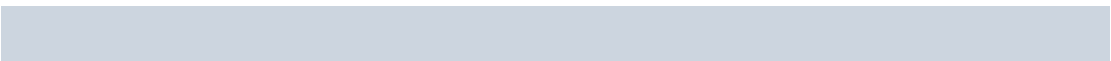
Yadav Poonam	OP019 / 025	22(Wed)	14:30	Room #1
Yang Gi-Dong	PP197 / 264	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Yang Hao-Peng	OP084 / 058	24(Fri)	9:30	Room #2
Yang Hwichul	PP103 / 590	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Yang SungMo	PP009 / 069	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Yang Sungmoon	PP199 / 354	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Yang Tae-Ho	OP025 / 096	22(Wed)	14:30	Room #3
Yang Won Seok	PP060 / 587	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Ye Kwang Young	OP076 / 393	23(Thu)	16:10	Room #4
Yew Been Seok	OP009 / 050	22(Wed)	9:00	Room #3
Yoo MyeongHan	PP245 / 226	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Yoon Dang-Hyok	OP010 / 037	22(Wed)	9:00	Room #3
Yoon Hae-Sung	PP262 / 404	23(Thu)	10:50	Nusa Dua Hall 1.2.3
Yoon Jeong Ro	PP044 / 551	23(Thu)	9:00	Nusa Dua Hall 1.2.3
Yoon Tae Ho	OP016 / 291	22(Wed)	9:00	Room #4
Yu Jaehyun	PP078 / 351	23(Thu)	9:00	Nusa Dua Hall 1.2.3

Z

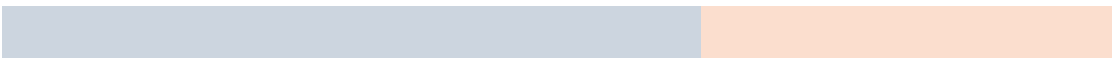
Zahari W.Z.W.	OP093 / 549	24(Fri)	9:30	Room #4
Zhang Chuan-Wei	OP034 / 067	22(Wed)	16:10	Room #1
Zhang Shuai	OP070 / 092	23(Thu)	16:10	Room #2
Zhao Hongfeng	OP069 / 128	23(Thu)	16:10	Room #2

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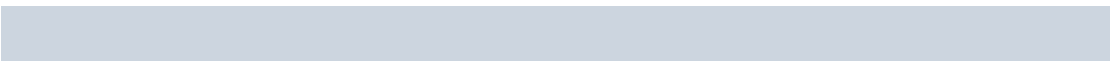


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