

PRESM 2025_ORAL Program : Plenary, Keynote Speech & Focus session

Topic / Organizer	No.	Focus No.	Start	End	Time		Type	Abstract	Regist.	Presenter	Affiliation	Country	e-mail	Title
Monday, 7 July														
Registration Desk 10:00-17:30														
Coffee Break			1000	1030	30									
Opening			1030	1050	20									
[M1] Focus A	1	M1-FA1	1050	1115	25	1	Keynote	A426	0025	Chih-Yung Huang	National Tsing Hua University	Taiwan	cyhuang@pme.nthu.edu.tw	Precision Measurements with Micrometer Resolution in Microscale Thermal-fluid Science
Micro/Nano Manufacturing Technology	2	M1-FA2	1115	1130	15	2	Regular	A365	0522	Sanghoon Ahn	Korea Institute of Machinery & Materials	Korea	shahn@kimm.re.kr	Investigation of Parameter Effects in Water-guided Laser Processing
Organized by Dr. Jeongdal Jo (Korea Institute of Machinery & Materials, Korea)	3	M1-FA3	1130	1145	15	3	Regular	A157	0108	Shuhei Kodama	Tokyo City University	Japan	skodama@tcu.ac.jp	Laser-assisted Scanning Electrochemical Machining of Titanium Alloys for Micromachining
Session Chairs: Dr. Sanghoon Ahn (Korea Institute of Machinery & Materials, Korea) & Prof. Shuhei Kodama (Tokyo City University, Japan)	4	M1-FA4	1145	1200	15	4	Regular	A260	0612	Hyun Jun Ryu	KAIST	Korea	oererkh@kaist.ac.kr	Scalable Manufacturing of CNT Embedded Hierarchical Surface for Piezo-electric Tactile Sensing
Lunch_Day1			1200	1300	60									
[M2] Focus B	1	M2-FB1	1300	1325	25	5	Keynote	A066	0021	Seonghwan Kim	University of Calgary	Canada	sskim@ucalgary.ca	Advanced Functional Nanocomposites and their Applications in Physical/Chemical Sensing
Green and Smart Materials and Processes	2	M2-FB2	1325	1350	25	6	Keynote	A026	0547	Junsuk Rho	POSTECH	Korea	jsrho@postech.ac.kr	Sustainable Manufacturing of Optical Metasurfaces for Imaging, Sensing and Display
Organized by Prof. Sung-Hoon Ahn (Seoul National University, Korea)	3	M2-FB3	1350	1405	15	7	Regular	A103	0069	Ji Ho Jeon	University of Connecticut	USA	jiho.jeon@uconn.edu	Synergistic Effects of Ultrasonic Cavitation and Electropolishing in Post-processing of Additively Manufactured 316L Stainless Steel via Selective Laser Melting
Session Chairs: Profs. Ji Ho Jeon (University of Connecticut, Korea) & Ji-Hyeon Song (Dankook University, Korea)	4	M2-FB4	1405	1420	15	8	Regular	A150	0428	Jon Dewitt Dalisay	University of the Philippines Diliman	Philippines	jedalisay@up.edu.ph	Hybrid Accelerometer-optical Measurements for Modal Analysis of 3D-printed Cantilevered Beams with Artificial Damage
	5	M2-FB5	1420	1435	15	9	Regular	A176	0297	Doo-Man Chun	University of Ulsan	Korea	dmchun@ulsan.ac.kr	Fabrication of Superhydrophobic and Superhydrophilic Surfaces on Aluminum and Titanium using Laser Texturing and Green Post-processes
	6	M2-FB6	1435	1450	15	10	Regular	A200	0319	Young-Jin Kim	KAIST	Korea	yj.kim@kaist.ac.kr	Mass Production of Laser-induced Graphene Green Electronics for Energy Storage Applications
	7	M2-FB7	1450	1505	15	11	Regular	A416	0451	Ji-Hyeon Song	Dankook University	Korea	jhsong@dankook.ac.kr	Development of Fused Powder Extrusion 3D Printing Process
Coffee Break			1505	1520	15									
[M3] Focus C	1	M3-FC1	1520	1545	25	12	Keynote	A576	0422	Hyung Gyu Park	POSTECH	Korea	parkhg@postech.ac.kr	Charged 2D Confinement of a Lamellar Ion Exchange Membrane for Blue Energy Harvesting
Energy Devices	2	M3-FC2	1545	1610	25	13	Keynote	A583	0597	Pei-Chen Su	Nanyang Technological University	Singapore	peichensu@ntu.edu.sg	Enhancing Electrochemical Performance of Perovskite Electrodes via Surface Modification for Solid Oxide Cells
Organized by Prof. Suk Won Cha (Seoul National University, Korea)	3	M3-FC3	1610	1625	15	14	Regular	A548	0358	Rojana Pornprasertsuk	Chulalongkorn University	Thailand	rojana.p@chula.ac.th	Upcycling Primary Battery Materials: Converting Spent Cells into Rechargeable Zinc-Ion Energy Storage Systems
Session Chairs: Profs. Suk Won Cha (Seoul National University, Korea) & Rojana Pornprasertsuk (Chulalongkorn University, Thailand)	4	M3-FC4	1625	1640	15	15	Regular	A369	0584	Hyong June Kim	POSTECH	Korea	hyongjunekim@postech.ac.kr	Surface Modification of Electrodes by Plasma Enhanced Atomic Layer Deposition for Solid Oxide Cells
Break			1640	1650	10									
POSTER I		POSTER I	1650	1750	60					[Regular] Machine Tools & Systems Materials & Design Micro/Nano Technology [Special] Innovative Design and Integrated Manufacturing				

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Topic / Organizer	No.	Focus No.	Start	End	Time		Type	Abstract	Regist.	Presenter	Affiliation	Country	e-mail	Title
Tuesday, 8 July														
Registration Desk 08:30-17:30														
[T1] Focus D	1	T1-FD1	900	925	25	16	Keynote	A560	0296	Chee Kai Chua	Singapore University of Technology & Design	Singapore	cheekai_chua@sutd.edu.sg	Print Me an Organ. Why Are We Not There Yet?
Advanced Bio-health Technologies	2	T1-FD2	925	950	25	17	Keynote	A581	0221	Shinji Deguchi	The University of Osaka	Japan	deguchi.shinji.es@osaka-u.ac.jp	AI-based Cellular Force Mapping for Precision Medicine
Organized by Prof. Hyun Wook Kang (UNIST, Korea)	3	T1-FD3	950	1005	15	18	Regular	A333	0513	Hee-Gyeong Yi	Chonnam National University	Korea	hgyi@chonnam.ac.kr	Multi-scale Vascular Tissue Fabrication with Reinforced Bioinks Using Advanced Bioprinting Technologies
Session Chairs: Profs. Hyun Wook Kang (UNIST, Korea) & Jennifer H. Shin (KAIST, Korea)	4	T1-FD4	1005	1020	15	19	Regular	A341	0540	Yeong-Jin Choi	Korea Institute of Materials Science	Korea	jinchoi@kims.re.kr	Customizable Bioinks with Peptide Tagging for Tissue-specific Microenvironments
	5	T1-FD5	1020	1035	15	20	Regular	A234	0388	Brian Lee	Sungkyunkwan University	Korea	brianjee@skku.edu	Capillary-driven ISF Sampling via a 3D-printed Lattice Microneedle Array Patch
	6	T1-FD6	1035	1050	15	21	Regular	A351	0317	Hee-Kyeong Kim	Wonkwang University	Korea	peter_hee@naver.com	Antibacterial Surfaces using Nanohole Structures: Bacteriostatic Effect on Staphylococcus aureus
Coffee Break			1050	1100	10									
Plenary I			1100	1140	40	22	Plenary	A589	0622	Denis Noble	University of Oxford	UK	edbestford@gmail.com, dunnysford@gmail.com	Born of Water, Built on Silicon. Are We So Different in Intelligence
Lunch_Day2			1200	1300	60									
[T2] Focus E	1	T2-FE1	1300	1325	25	23	Keynote	A410	0052	Kazutoshi Katahira	RIKEN	Japan	kazukata@riken.jp	Ultra-precision Milling of Hard and Brittle Materials with PCD/NPD Microtools
Advanced Manufacturing Processes (1)	2	T2-FE2	1325	1350	25	24	Keynote	A380	0068	Sangkee Min	University of Wisconsin-Madison	USA	sangkee.min@wisc.edu	AI-driven Prediction of Critical Depth of Cut in Single Crystal Sapphire Ultra-precision Machining
Organized by Dr. Tae-Gon Kim (Korea Institute of Industrial Technology, Korea)	3	T2-FE3	1350	1405	15	25	Regular	A377	0346	Erhan Budak	Sabanci University	Turkey	ebudak@sabanciuniv.edu	Design and Manufacturing of a High-speed Motorized Spindle: Engineering Considerations and Insights
Session Chairs: Dr. Tae-Gon Kim (Korea Institute of Industrial Technology, Korea) & Prof. Ming-Tsang Lee (National Tsing Hua University, Taiwan)	4	T2-FE4	1405	1420	15	26	Regular	A390	0572	Ming-Tsang Lee	National Tsing Hua University	Taiwan	mtlee@pme.nthu.edu.tw	Laser Induced Carbonized Nanoporous Conductive Micro-via for Polymer-based Flexible Electronics
Coffee Break			1420	1435	15									
[T3] Focus F	1	T3-FF1	1435	1500	25	27	Keynote	A221	0110	Kazuhiro Ohashi	Okayama University	Japan	k-ohashi@okayama-u.ac.jp	Temperature Measurements for High-quality and High-precision Grinding
Advanced Manufacturing Processes (2)	2	T3-FF2	1500	1515	15	28	Regular	A086	0204	Patrick Kwon	San Diego State University	USA	pkwon@sdsu.edu	Flank Wear Prediction when Turning Low Alloy Pearlitic Steel using Machine Learning and FEM
Organized by Prof. Sangkee Min (University of Wisconsin-Madison, USA)	3	T3-FF3	1515	1530	15	29	Regular	A556	0289	Min-Kyeom Kim	Sungkyunkwan University	Korea	minkygom.k@gmail.com	Highly Ductile Martensitic Stainless Steel Enabled by Metastable Austenite via Laser Powder Bed Fusion
Session Chairs: Profs. Sangkee Min (University of Wisconsin-Madison, USA) & Louis Angelo Danao (University of the Philippines, Philippines)	4	T3-FF4	1530	1545	15	30	Regular	A421	0477	Rudeemas Jankree	Thai-Nichi Institute of Technology	Thailand	rudeemas.jan@gmail.com	Increase in Formability of Redrawn Cylindrical Cup by Using Zoning Lubricant Technique
	5	T3-FF5	1545	1600	15	31	Regular	A160	0118	Louis Angelo Danao	University of the Philippines	Philippines	louisdanao@up.edu.ph	Finite Element Model Validation of Abaca Fiber-reinforced Polymer Composite Beam under Flexural Load
Break			1600	1610	10									
POSTER II		POSTER II	1610	1710	60					[Regular] Manufacturing Processes (1) Bio & Health New and Renewable Energy Sustainable Technology [Special] e-Chem Meditronic Systems				

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Topic / Organizer	No.	Focus No.	Start	End	Time		Type	Abstract	Regist.	Presenter	Affiliation	Country	e-mail	Title
Wednesday, 9 July														
Registration Desk 09:30-17:30														
[W1] Focus G	1	W1-FG1	1000	1025	25	32	Keynote	A575	0587	Doldet Tantraviwat	Chiang Mai University	Thailand	yothin.chimupala@cmu.ac.th	Power Diode Development: Overcoming the VF-Err Trade-off through Novel Process Integration
Intelligent Fab. Technology	2	W1-FG2	1025	1050	25	33	Keynote	A569	0580	Wassanai Wattanuchariya	Chiang Mai University	Thailand	wattanwa@gmail.com	Intelligent Food Fabrication: From Personalized Nutrition Research to Scalable Innovation with 3D Printing
Organized by Prof. Sang Won Lee (Sungkyunkwan University, Korea)	3	W1-FG3	1050	1105	15	34	Regular	A174	0072	Han Seo Ko	Sungkyunkwan University	Korea	hanseoko@skku.edu	Flow Field Investigation in a Parallel Plate CVD Reactor with a Showerhead and Baffle
Session Chairs: Profs. Moon Soo Bak & Hyung Mo Jeong (Sungkyunkwan University, Korea)	4	W1-FG4	1105	1120	15	35	Regular	A571	0363	Moon Soo Bak	Sungkyunkwan University	Korea	moonsoo@skku.edu	A Cost-effective Laser Absorption Technique for Diagnosing and Monitoring High-density Laser-induced Plasmas
	5	W1-FG5	1120	1135	15	36	Regular	A267	0087	Seong Je Park	Nanyang Technological University	Singapore	seongje.park@ntu.edu.sg	Design for Lattice Structure-based Interfaces of Metal-polymer Hybrid Structure
	6	W1-FG6	1135	1150	15	37	Regular	A580	0537	Hyung Mo Jeong	Sungkyunkwan University	Korea	hmjeong@skku.edu	Structural Distortion and Oxidation State Control of Metal Oxides for Semiconductor Gas Sensors
Lunch_Day3			1200	1300	60									
Plenary II			1300	1340	40	38	Plenary	A543	0006	Steven R. Schmid	University of North Carolina at Charlotte	USA	steve.schmid@charlotte.edu	Ubiquitous and Latent AI: The Future of Machinery
Break			1340	1350	10									
[W2] Focus H	1	W2-FH1	1350	1415	25	39	Keynote	A313	0559	Seung Ki Moon	Nanyang Technological University	Singapore	skmoon@ntu.edu.sg	Software-defined X: Novel System Architecture for Flexible Manufacturing in Industry 4.0
Smart & Sustainable Manufacturing	2	W2-FH2	1415	1430	15	40	Regular	A286	0249	Job Immanuel Encarnacion	University of the Philippines Diliman	Philippines	jbencarnacion1@up.edu.ph	Life Cycle Assessment of Horizontal Axis Tidal Turbines Applicable to Less Energetic Currents in the Philippines
Organized by Prof. Sang Won Lee (Sungkyunkwan University, Korea)	3	W2-FH3	1430	1445	15	41	Regular	A578	0517	Sang Won Lee	Sungkyunkwan University	Korea	sangwonl@skku.edu	Development of Vision AI-based Wafer Quality Inspection System
Session Chairs: Profs. Sang Won Lee (Sungkyunkwan University, Korea) & Job Immanuel Encarnacion (University of the Philippines Diliman, Philippines)	4	W2-FH4	1445	1500	15	42	Regular	A572	0087	Jinkee Lee	Sungkyunkwan University	Korea	lee.jinkee@skku.edu	Jetting, Coating, and Drying: Integrated Development for Advanced Material Printing
Coffee Break			1500	1510	10									
[W3] Focus I	1	W3-FI1	1510	1535	25	43	Keynote	A587	0346	Erhan Budak	Sabanci University	Turkey	ebudak@sabanciuniv.edu	Machining Process Monitoring and Fault Detection using Physics Informed Machine Learning towards Unsupervised Manufacturing
Autonomous Manufacturing in Machining	2	W3-FI2	1535	1600	25	44	Keynote	A538	0320	Martin B.-G. Jun	Purdue University	USA	mbgjun@purdue.edu	Autonomous Machining Chip Recognition and Removal System
Organized by Drs. Dong Yoon Lee (Korea Institute of Industrial Technology, Korea) & Chang-Ju Kim (Korea Institute of Machinery & Materials, Korea)	3	W3-FI3	1600	1615	15	45	Regular	A362	0402	Dong Yoon Lee	Korea Institute of Industrial Technology	Korea	dylee@kitech.re.kr	Autonomous Manufacturing: Complete Intelligentization Beyond Complete Automation
Session Chairs : Drs. Dong Yoon Lee (Korea Institute of Industrial Technology, Korea) & Chang-Ju Kim (Korea Institute of Machinery & Materials, Korea)	4	W3-FI4	1615	1630	15	46	Regular	A406	0012	Chang-Ju Kim	Korea Institute of Machinery & Materials	Korea	changjukim@kimm.re.kr	Autonomous Machining Cell Using Machine Tool Digital Twins and Collaborative Robots
	5	W3-FI5	1630	1645	15	47	Regular	A412	0200	Huitaek Yun	KAIST	Korea	htyun@kaist.ac.kr	Utilizing Multi-view Images and Digital Twin for Autonomous Robotic Machine Tending in Machine Tools
	6	W3-FI6	1645	1700	15	48	Regular	A585	0603	Jongseong Choi	The State University of New York, Korea, Stony Brook University	Korea	jongseong.choi@sunykorea.ac.kr	Physics-informed Neural Network (PINN) and Hyper-realistic Digital Twin (3DGS) for Predictive Engineering System Assessment
POSTER III		POSTER III	1700	1800	60					[Regular] Manufacturing Processes (2) Automation, Measurement & Control [Special] Railway Engineering Multidisciplinary Research & Mechatronics for Aero/Defense Applications Human-centered Convergence Mechanical Solution				

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Topic / Organizer	No.	Focus No.	Start	End	Time		Type	Abstract	Regist.	Presenter	Affiliation	Country	e-mail	Title
Thursday, 10 July														
Registration Desk 08:30-16:30														
[H1] Focus J	1	H1-FJ1	900	925	25	49	Keynote	A590	0623	Jay lee	University of Maryland College Park	USA	leejay@umd.edu	Non-traditional Machine Learning for Complex Manufacturing Systems
Robotics and Manufacturing	2	H1-FJ2	925	950	25	50	Keynote	A586	0609	Daniel Zontar	Fraunhofer IPT	Germany	Daniel.zontar@ipt.fraunhofer.de	Intelligent Production Machines
Organized by Prof. Sung-Hoon Ahn (Seoul National University, Korea)	3	H1-FJ3	950	1005	15	51	Regular	A533	0320	Martin B.-G. Jun	Purdue University	USA	mbgjun@purdue.edu	Autonomous Robot Motion Planning with Adaptive Safe Set (ARMPASS)
Session Chairs: Profs. Suk Young Chey (Seoul National University, Korea) & Sung-Hyuk Song (Dongguk University, Korea)	4	H1-FJ4	1005	1020	15	52	Regular	A178	0116	Jonghwan Baek	Korea Institute of Robotics & Technology Convergence	Korea	kawa0240@naver.com	Study on Improved Manipulator Control Method for Remote Inspection of Ropeway Facilities
	5	H1-FJ5	1020	1035	15	53	Regular	A225	0616	Sung-Hyuk Song	Dongguk University	Korea	shsong@dgdu.ac.kr	Variable Stiffness Morphing Wheel for Overcoming Various Obstacles
	6	H1-FJ6	1035	1050	15	54	Regular	A274	0431	Kyungjin Oh	Taelim Industrial Corp	Korea	wschu@gnu.ac.kr	Digital Transformation of SME with Robotics and Digital Twin Technologies: Efficiency and Agility
Coffee Break			1050	1100	10									
Plenary III			1100	1140	40	55	Plenary	A570		Thapanee Sarakonsri	Chiang Mai University	Thailand	thapanee.s@cmu.ac.th	Toward Sustainable Energy Storage: Biomass to Efficient Anodes for Next-gen Batteries
Lunch_Day4			1200	1300	60									
[H2] Focus K	1	H2-FK1	1300	1325	25	56	Keynote	A056	0026	Daewook Kim	The University of Arizona	USA	optjcs@gmail.com	Quasi-ray Tracing-based Precision Optical Alignment using Bessel Beam
Automation, Measurement & Control	2	H2-FK2	1325	1340	15	57	Regular	A059	0144	Youngmin Kim	Chungnam National University	Korea	youngmin.kim@cnu.ac.kr	Design of Data Management System based on Architecture Framework for CBM+
Organized by Prof. Hyeong-Joon Ahn (Soongsil University, Korea)	3	H2-FK3	1340	1355	15	58	Regular	A144	0213	Dongwook Lee	Kongju National University	Korea	dwlee@kongju.ac.kr	Trigonometric-based Motion Profile Optimization Strategy to Minimize Residual Vibration under Limited Time Conditions and System Uncertainties
Session Chairs: Profs. Hyeong-Joon Ahn (Soongsil University, Korea) & Jung Woo Sohn (Kumoh National Institute of Technology, Korea)	4	H2-FK4	1355	1410	15	59	Regular	A418	0251	Kyunghoon Jung	Hyundai Motors Co.	Korea	perelman@hyundai.com	Study on CAE Techniques for Deriving Single Component Durability Test Specification of Automotive Suspension Component
Coffee Break			1410	1420	10									
[H3] Focus L	1	H3-FL1	1420	1445	25	60	Keynote	A592	0204	Patrick Kwon	San Diego State University	USA	pkwon@sdsu.edu	Journey into Additive Manufacturing
AI in Design and Manufacturing	2	H3-FL2	1445	1500	15	61	Regular	A588	0634	Chih-Hsing Chu	National Tsing Hua University	Taiwan	chchu@ie.nthu.edu.tw	Artificial Intelligence-assisted Anomaly Detection of Fluid Connector Joints in Industrial Environments
Organized by Prof. Sung-Hoon Ahn (Seoul National University, Korea)	3	H3-FL3	1500	1515	15	62	Regular	A065	0129	Jihyun Lee	University of Calgary	Canada	jihyun.lee@ucalgary.ca	A Transfer Learning Approach for Chatter Detection in Multi-posture Robot Machining
Session Chairs: Dr. Suk Young Chey (Seoul National University, Korea) & Prof. Hyungjung Kim (Konkuk University, Korea)	4	H3-FL4	1530	1530	15	63	Regular	A180	0430	JIWoong Han	Korea Institute of Robotics & Technology Convergence	Korea	jwhan87@kiro.re.kr	Development of a Touch-based Robotic System for Coke Oven Door Sealing
	5	H3-FL5	1530	1545	15	64	Regular	A403	0427	Hyungjung Kim	Konkuk University	Korea	hyungjungkim@konkuk.ac.kr	Enabling Data-driven Manufacturing in SMEs: An Appropriate Smart Manufacturing Approach
	6	H3-FL6	1545	1600	15	65	Regular	A411	0599	Dong Min Kim	Tech University of Korea	Korea	dkim0707@tukorea.ac.kr	A Constructed Fundamental Dataset for Graph Neural Network Training in Clamping Feature Recognition in Machining Processes
Break			1600	1730	90									
Official Banquet			1730	1930	120					PRESM2025 Award & Farewell				