DPS2025 Timetable

November 13 (Thu)

8:10–9:00	Registration	
9:10–9:30	Opening Remark / Award Ceremony	
9:40–10:00	Nishizawa Award Lecture Masaru Izawa (Hitachi High-Tech Corporation) "Understanding Plasma Etching Processes through Surface Reaction Models"	
10:10	Break 10min	
10:20–10:50	A-1 <Invited> Sung-Il Cho (Samsung Electronics Co., Ltd.) "Breaking new ground : From current progress to future innovations in HARC etching technology"	**Session A** AS1. Understanding the mechanisms for future high-aspect-ratio etching technology
11:00–11:30	A-2 <invited> Thorsten Lill (Lam Research Corporation) "Ion scattering during cryo etching of silicon oxides and nitrides"	
11:40–12:50	Poster Session Day1 (80min)	
13:00–14:10	Lunch Break 13:00-14:20 (80min)	
14:20–14:30	B-1 J. Hoang (Lam Research Corp.) "Deposition and Etch Co-Optimization for Merged 3D NAND Memory Hole and Interlayer Dielectric Contact Etches"	**Session B** AS1. Understanding the mechanisms for future high-aspect-ratio etching technology
14:40–14:50	B-2 T.Kurushima (Nagoya Univ.) "Effect of Gas-Phase Radical Composition Ratio on CFx Sticking Probability in High-Aspect-Ratio Holes"	
15:00–15:10	B-3 K. Tanaka (Daikin Industries, Ltd.) "Novel Additive Gas Development for HF-based Cryogenic HAR Dielectric Etching using Digital Twin"	
15:20–15:30	Break 20min	
15:40–15:50	C-1 M. Sekine (Nagoya Univ.) "Role of H2O in SiO2 cryogenic etching using HF plasma"	**Session C** Etching Technologies
16:00–16:10	C-2 T. Imamura (Hitachi, Ltd.) "Depth control of protection layer for HF gas etching via TMSDMA vapor exposure"	
16:20–16:30	D-1 D. Kim (Nagoya Univ.) "Quantitative evaluation of the influence of ion-neutral collisions in the sheath on ion angular distributions"	**Session D** Plasma Diagnostics and Monitoring Systems
16:40–16:50	Break 20min	
17:00–17:30	E-1 <invited> Vincent M. Donnelly (University of Houston) "Mechanistic Insights and New Approaches to Atomic Layer Etching of Silicon in Chlorine and Bromine-Containing Plasmas"	**Session E** AS2. Atomic layer processes (ALE/ALD/ASD) for ultimate control of surface reaction
17:40–17:50	E-2 M. Fukasawa (AIST) "Plasma-surface interactions of extreme ultraviolet photoresist in atomic layer etching processes"	
18:00–18:10	E-3 M. ADJABI (Univ. of Orleans) "Cryogenic Atomic Layer Etching of MoS2 using Cyclic Fluorocarbon and Argon plasma"	
18:20–18:30	E-4 L. Ghorbani (Ku Leuven and imec) "ALE and Pulsed ALE of Mg-based Oxide Semiconductors (MgZnO) at Sub-100 nm Pitches Using Ru Hard Mask"	
18:40–18:50		
19:00–21:00	Banquet	

November 14 (Fri)

8:10–8:30	Registration	
8:40–9:00	F-1 <Invited> Christophe Vallee (University at Albany) "Engineering plasma for atomic scale processing: ALD, ALE and ASD"	**Session F** AS2. Atomic layer processes (ALE/ALD/ASD) for ultimate control of surface reaction
9:10–9:30	F-2 H. Liu (Tokyo Electron Technology Solutions Ltd.) "Selective Surface Passivation to Unlock High Temperature Area Selective ALD SiN"	
9:40–9:50	F-3 N. Tamaoki (Univ. of Tokyo) "Simulation-Based Prediction of Metal-ALD Growth per Cycle using Molecular Dynamics with Neural Network Potentials"	
10:00–10:10	Break 20min	
10:20–10:30	G-1 M. Kushner (Univ. of Michigan) "Consequences of Pulsing and Non-Sinusoidal Waveforms on Charging During Cryogenic Plasma Etching of SiO2"	**Session G** Computational Approaches (Modeling, Simulation, Machine Learning, AI, Informatics, DX) for Dry Process
10:40–10:50	G-2 J. Um (Samsung Electronics Co., Ltd.) "Atomistic insight into neutral transport in Low-temperature etching: A Machine-Learned Potential approach"	
11:00–11:10	G-3 Y. Ando(Nagoya Univ.) "Atomistic Origins of Stress in Amorphous Carbon Films: A First-Principles Investigation"	
11:20–11:30	G-4 Y. Sunwoo (Ulsan National Institute of Science and Technology) "Atomistic Insights into Plasma-Material Interactions: Ion Bombardment Driven Crystallization and Pressure Dependent Radical Transportation"	
11:40–12:50	Poster Session Day2 (80min)	
13:00–14:10	Lunch Break 13:00-14:20 (80min)	
14:20–14:50	H-1 <Invited> Jeongsoo Kim (imec) "Dry etch process technology for 3D-IC and advanced packaging"	**Session H** AS3. Dry process technology for 3D-IC and advanced packaging
15:00–15:30	H-2 <Invited> Chulhyun Lim (Samsung Electronics Co., Ltd.) "Packaging Innovations: Leveraging the dry etch process for Hybrid Copper Bonding die singulation"	
15:40–15:50	Break 20min	
16:00–16:10	H-3 E. Dupuy (imec) "High aspect ratio gate etching for monolithic CFET"	
16:20–16:30	I-1 A. Fathzadeh (Ku Leuven / imec) "Transient Assisted Processing (TAP): a novel scalable plasma processing approach for precision etching and sustainability in semiconductor manufacturing"	**Session I** New Dry Process Concepts
16:40–16:50	I-2 T. Tillocher (GREMI - Univ. of Orleans/CNRS) "Investigation of adsorbed species in cryogenic etching of SiO2 by SF6/H2 plasma"	
17:00–17:10	Break 20min	
17:20–17:30	J-1 N. Kuboi (Sony Semiconductor Solutions Corp.) "Process design for ultra-low Si damage by suppressing diffusive point defects"	**Session J** Surface Reaction and Damage
17:40–17:50	K-1 N. Oguchi (Univ. of Kyoto) "Correlation between Delamination and Carrier Trapping Dynamics in BN/Si structures"	**Session K** Deposition Technologies (CVD / PVD)
18:00	Closing Remarks	