

Day 1			
April 3, 2023 (Monday)			
Diamond Hall(22F), THE PLAZA Seoul			
<b>Opening Session</b> Co-chairs: Jo-won Lee (NNFC) / Myung S. Jhon (CMU)	08:30-09:00	■ Registration	
	09:00-09:20 (10min/each)	■ Welcoming Address <ul style="list-style-type: none"><li>• (ROK) Tae Seog Oh (The1<sup>st</sup> Vice Minister, Ministry of Science and ICT)</li><li>• (USA) Andrew Herrup (Minister Counselor of Economic Affairs, U.S. Embassy in ROK)</li></ul>	
	09:20-10:10 (25min/each)	■ Policy Direction on National Nanotechnology <ul style="list-style-type: none"><li>• (ROK) Deok Kee Kim (Director of Nano-Semiconductor Department, NRF)<ul style="list-style-type: none"><li>- Nano &amp; Semiconductor Technology Initiative and R&amp;D in Korea</li></ul></li><li>• (USA) Mihail Roco (Senior Advisor, NSF and NII)<ul style="list-style-type: none"><li>- Nanotechnology Foundation for Emerging Technologies</li></ul></li></ul>	
	10:10-10:30	Coffee Break & Group Photo	
	10:30-11:45 (25min/each)	■ Keynote Speeches <ul style="list-style-type: none"><li>• (ROK) Kang-Wook Lee (Senior Vice President, SK hynix)<ul style="list-style-type: none"><li>- The Role of Packaging Technology for Semiconductor Industry Innovation</li></ul></li><li>• (USA) Farhang Shadman (Director of ERC, University of Arizona)<ul style="list-style-type: none"><li>- Environmental Challenges and Opportunities in Nano-Manufacturing (Virtual Presentation)</li></ul></li><li>• (USA) Victor Zhirnov (Chief Scientist, Semiconductor Research Corporation)<ul style="list-style-type: none"><li>- Decadal Plan for Semiconductors and Nanotechnology</li></ul></li></ul>	
11:45-12:45		Lunch & Informal Networking	
<b>Main Session</b> Chair: Jinho Ahn (Hanyang University)	<b>Next Generation Semiconductors I</b> (차세대반도체I) Co-chairs: Sanghun Jeon (KAIST) / Elias Towe (CMU)	12:45-14:35 (15 min/each, Incl. Q&A)	■ Introduction(5min)
			• (ROK) Sanghun Jeon (Professor, KAIST) <ul style="list-style-type: none"><li>- Opportunity of Negative Capacitance Behavior in Flash Memory for High-Density and Energy-Efficient In-Memory Computing Applications</li></ul>
			• (USA) Elias Towe (Grobstein Professor, Carnegie Mellon University) <ul style="list-style-type: none"><li>- Challenges and Opportunities in Neuromorphic Computing</li></ul>
			• (ROK) Sangbum Kim (Associate Professor, Seoul National University) <ul style="list-style-type: none"><li>- Device-Algorithm Co-optimization for Analog in-Memory Deep Learning</li></ul>
			• (USA) Steven Koester (Russel J. Penrose Professor, University of Minnesota) <ul style="list-style-type: none"><li>- Applications of 2D Materials in Future CMOS Nodes</li></ul>
			• (ROK) Woo Young Choi (Associate Professor, Seoul National University) <ul style="list-style-type: none"><li>- Extremely-Low-Power Electron Devices and Their Applications to Brain-Inspired Computing and M3D Integration</li></ul>
			• (USA) John Heron (Associate Professor, University of Michigan) <ul style="list-style-type: none"><li>- Ferroelectric Switching Kinetics in Epitaxial PMN-PT Thin Film (Virtual Presentation)</li></ul>
			• (ROK) Sanghyeon Kim (Associate Professor, KAIST) <ul style="list-style-type: none"><li>- Heterogeneous 3D Sequential CFET for Future logic</li></ul>
	14:35-14:40		Coffee Break

Main Session	Next Generation SemiconductorsII (차세대반도체II) Co-chairs: Sayoon Kang (KMEPS) / Ahmed Busnaina (Northeastern University)	14:40-16:30 (15 min/each, Incl. Q&A)	■ Introduction(5min)	
			• (ROK) Sayoon Kang (President, Korean Microelectronic and Packing Society) - How to Create the Values in Electronic Packaging for Semiconductor Competitiveness in Era of 4 <sup>th</sup> Industrial Revolution	
			• (USA) Ahmed Busnaina (University Distinguished Professor, Northeastern University) - Additive Manufacturing of Micro and Nanoscale Electronics for Heterogenous Integration and Advanced Packaging	
			• (ROK) Jichul Kim (Master (VP of Technology), Samsung Electronics) - Advanced Packaging for Future Mobile Devices	
			• (USA) Subramanian S. Iyer (Distinguished Chancellor's Professor, UCLA) - What really is Heterogeneous Integration?	
			• (ROK) Jiho Kang (Research Fellow, SK hynix) - An Overview of the Past, Present and Future of 3D Device Technology	
			• (USA) Ming Zhang (Board Director, Wave Photonics ) - The Future is Bright for Chips	
			• (ROK) Donghyun Kim (Vice President, Hana Micron) - Designing Chiplet-Based 2.5D High-Interconnect Density Semiconductor Packages: Challenges and Considerations	
		16:30-16:35		Coffee Break
	Chair: Jinho Ahn (Hanyang University)	The Environmental Implications of Semiconductor Manufacturing (친환경 반도체 공정) Co-chairs: Heeyeop Chae (SKKU) / Carolyn Duran (Intel Corp.)	16:35-18:50 (15 min/each, Incl. Q&A)	■ Introduction(5min)
• (USA) Mamadou Diallo (Program Director, NSF) - Environmental Implications of Semiconductor Manufacturing: Overview and NSF Funding Opportunities				
• (ROK) Heeyeop Chae (Professor, Sungkyunkwan University) - Low Global Warming Gas Development for Plasma Etching Process in Semiconductor Device Fabrication				
• (USA) Carolyn Duran (Vice President, Intel Corp.) - Sustainability and the Future of Moore's Law				
• (ROK) Jeong Sik Lim (Leader, Research center for climate metasphere, KRISS) - High-speed and sensitive measurement techniques for monitoring of carbon net-zero type semiconductor and display process				
• (USA) Carol Handwerker (Reingardt Schuhmann, Jr.Professor, Purdue University) - Closing the Sustainability Gap in Nano- and Microelectronics Research and Education				
• (ROK) Yeonghun Han (Technical Leader, SK hynix ) - Semiconductor etch process – a technical review in the scope of ESG				
• (USA) Gil Lee (Vice President, Applied Materials) - Making Possible A Better Future				
• (ROK) Sung-il Cho (Master(VP of Technology), Samsung Electronics) - Technology trends for Etch patterning in the aspect of energy and environment				
• (USA) Ara Philipossian (Emeritus Professor, University of Arizona) - Reducing Slurry Consumption while Boosting Chemical Mechanical Planarization (CMP) Process Performance				
18:50-19:00			Break & Banquet Set-up	
19:00-21:00			Banquet & Welcoming Reception Diamond Hall(22F), THE PLAZA Seoul	

Day 2		
April 4, 2023 (Tuesday)		
Ruby/Opal Hall(22F), THE PLAZA Seoul		
<b>Young Scholar Presentations</b> Co-chairs: Jo-won Lee (NNFC) / Myung S. Jhon (CMU) (Ruby Hall)	08:30-09:00	<b>■ Poster Set-up (Opal Hall Lobby)</b> <ul style="list-style-type: none"> <li>• (ROK) Hongyun So (Assistant Professor, Hanyang University) - Control of Electroplated Copper Layers for RDL Fabrication on PCB Substrates</li> <li>• (USA) Jungwon Choi (Assistant Professor, University of Minnesota) - Wide Bandgap Devices in Power Electronics (Virtual Presentation)</li> <li>• (ROK) Jaemyung Lim (Assistant Professor, Hanyang University) - Power Delivery Network in the Advanced Packaging</li> <li>• (USA) Jihoon Seo (Assistant Professor, Clarkson University) - Shallow Trench Isolation Chemical Mechanical Planarization: Slurry chemistry, Cleaning Chemistry, and Mechanisms</li> <li>• (ROK) Min-ju Kim (Assistant Professor, Dankook University) - Highly Reliable Organic Non-Volatile Memory Devices Based-on Hybrid Films via iCVD Process</li> </ul>
	09:00-10:00 (5 min/each, Incl. Q&A)	<ul style="list-style-type: none"> <li>• (USA) Inhee Lee (Assistant Professor, University of Pittsburgh) - Millimeter-Scale Smart Sensing Semiconductor Devices for Next-Generation IoT Applications</li> <li>• (ROK) Byungjin Cho (Associate Professor, Chungbuk National University) - Low Power 2D/oxide Memtransistor Device with Highly Reliable Heterosynaptic Plasticity</li> <li>• (USA) Siva Chandra Jangam (3DIC Technologist, Apple) - Advanced IC Packaging using Silicon Interconnect Fabric (Virtual Presentation)</li> <li>• (ROK) Youngwoo Kim (Assistant Professor, Sejong University) - Signal and Power Integrity Design for Advanced Packages</li> <li>• (ROK) Wonbo Shim (Assistant Professor, Seoul National University of Science and Technology) - 3D NAND based Compute-in-memory Technology for Energy-efficient Processing of Huge AI Models</li> <li>• (ROK) Haegyu Jang (Samsung Electronics) - OOO (Title of Presentation)</li> </ul>
	10:00-10:30	Coffee break & Poster Exhibition
	<b>Discussion / Working Groups</b> (Ruby/Opal Hall)	10:30-12:30 (120min) <ul style="list-style-type: none"> <li>■ <b>Group Discussion Workshop</b></li> <li>• Group 1: Next Generation Semiconductor I (Opal Hall)</li> <li>• Group 2: Next Generation Semiconductor II (Opal Hall)</li> <li>• Group 3: The Environmental Implication of Semiconductor Manufacturing (Ruby Hall)</li> </ul>
	12:30-13:30	Lunch
	<b>Wrap up Discussion</b> (Ruby Hall)	13:30-14:00 (30min) <ul style="list-style-type: none"> <li>■ Presented by U.S. Session Chairs</li> </ul>
	<b>Closing Session</b> (Ruby Hall)	14:00-15:00 (60min) <ul style="list-style-type: none"> <li>■ Young Scholar Presentations Award</li> <li>■ Draw-up Recommendation to the Governments</li> <li>■ Signature of Overall Summary and Recommendation</li> <li>■ Closing Remarks</li> </ul>
Day 3		
April 5, 2023 (Wednesday)		
National NANOFAB Center in Daejeon		
<b>(Optional) Technical Tour</b> (Name of organization: National NANOFAB Center in Daejeon)	09:00-11:00 (120min)	■ Move to Daejeon by bus
	11:00-12:30 (90min)	■ FAB Tour
	12:30-14:00 (90min)	■ Lunch
	14:00-16:30 (150min)	■ Move to Seoul by bus