



Tentative Program

(as of 15/02/2024)

TUESDAY MARCH 19, 2024

08:00-08:30	Registration	
08:30-08:45	Welcome	
08:45-09:25	Serge Nicoleau (STMicroelectronics, France) Title to be defined	K
S1-Metallization I		
09:25-09:55	Ivan Ciofi (IMEC, Belgium) Alternative Metallization: Benefits and Concerns	I
09:55-10:15	Mathias Franz (Fraunhofer ENAS, Germany) Atomic Layer Deposition of Cobalt at Low Temperatures	O
10:15-10:35	EunJi Jung (Samsung Electronics, South Korea) Development of Novel Selective Barrier Metal for Low Via Resistance in Cu Damascene	O
10:35-10:55		Break
S2-Power devices		
10:55-11:25	Mariane Coig (CEA-leti, France) Si and Mg ion implantation for doping of GaN grown on silicon	I
11:25-11:55	Simon Ruel (CEA-LETI, France) Low damage Etching processes developments for GaN-based devices patterning	I
11:55-12:15	Simone Milazzo (University of Catania, Italy) Forward conduction mechanism at W-based Schottky contacts on AlGaIn/GaN heterostructures	O
12:15-12:35	Leo Miglio (University of Milano-Bicocca, Italy) From sapphire to engineered Si substrates for Ga ₂ O ₃ heteroepitaxy: theory indications to avoid large lattice misfits	O
12:35-13:45		Lunch
S3-Patterning technologies		
13:45-14:15	Giulio Marti (IMEC, Belgium) Direct Metal Etch and Semi-Damascene Integration of Ruthenium: A Game-changer for interconnects	I
14:15-14:45	François Boulard (CEA-LETI, France) Cyclic etching processes for high selectivity and low plasma induced damage	I
14:45-15:05	Thibaut Chêne (CEA LETI, France) Study of metal line patterning strategy for 300 mm superconducting BEOL	O
15:05-15:25		Break
S4-Simulations and Modelling techniques		
15:25-15:55	Simon Elliott (Schrödinger, Ireland) Simulating conditions for the atomic level processing of metals	I
15:55-16:25	Andre Clausner (Fraunhofer IKTS Dresden, Germany) Advanced Characterisation and Modelling for Degradation Processes in Copper BEOL Stacks of next-generation Power Devices	I
16:25-16:45	Marco Zignale (CNR-IMM, Italy) Carrier profiles measurements on 4H-SiC MOSFETs by Scanning Spreading Resistance Microscopy and Scanning Capacitance Microscopy	O

S5-Advanced Characterization & Metrology I		
16:45-17:15	Frédéric Leroy (CINaM, France) Low energy electron microscopy: from basic principles to surface dynamics of semiconductors	I
17:15-17:35	Magali Gregoire (STMicroelectronics, France) Multi-step Siconi pre-clean advantages for Ni(Pt)Si film formation in the frame of advanced FDSOI technology development	O

WEDNESDAY MARCH 20, 2024

S6-Silicide/Contacts I		
08:30-09:00	Andre Vantomme (Katholieke Universiteit Leuven, Belgium) Controlling Ni silicide formation by ion implantation	I
09:00-09:20	Dominique Mangelinck (IM2NP-CNRS-AMU, France) Formation by nonlinear reactive diffusion of the amorphous Ni silicide upon rapid thermal anneals	O
09:20-09:40	Davide Fagiani (STMicroelectronics, Italy) Innovative approaches on TiSi-based contact development for μ Trench IGBT technology: C54-TiSi ₂ to TiSi phase transition	O
09:40-10:00	Helen Grampeix (CEA LETI, France) Silicidation of Next Generation of FD-SOI Devices: Effect of P Doping Level in epitaxial Si:P Films	O
10:00-10:20	Philippe Rodriguez (CEA LETI, France) Thermally Stable Ohmic Contacts on GeSn Layers	O
10:20-10:40		Break
S7-Advances in Packaging		
10:40-11:10	Figiri Hodaj (SIMaP, Grenoble, France) Fundamental issues of wetting and interfacial reactivity in electronic packaging	I
11:10-11:40	Silvia Braun (Fraunhofer ENAS, Germany) Electroplating of Aluminum using Ionic Liquids for Bonding, Via and RDL applications	I
11:40-12:00	Lucrezia Guarino (STMicroelectronics, Italy) Chip Package Interaction assessment of WLCSP process steps by 3D FEM Thermo-mechanical simulation	O
12:00-12:20	Seung-Boo Jung (Sungkyunkwan University, South Korea) Proposal Ultrafast Soldering of the BGA package for Carbon Neutrality	O
12:20-13:30		Lunch
S8-Memory devices for future applications		
13:30-14:00	Paolo Fantini (Micron technology, Italy) Memory Technology enabling the future computing systems	I
14:00-14:30	Sabina Spiga (CNR-IMM, Italy) Resistive switching memories for spiking neural networks	I
14:30-14:50	Seppie Van Dyck (Ghent University, Belgium) Strategic Superposition: Sb ₂ Te ₃ /TiTe ₂ Superlattices Possess a Low Thermal Conductivity Contrast, Ideal for PCM	O
14:50-15:10	Falk Schaller (Center for Microtechnologies, Germany) Parylene C as a memristive material for biocompatible memory and synaptic devices	O
15:10-15:30		Break
S9-Metallization II		
15:30-16:00	Bettina Wehring (Fraunhofer IPMS, Germany) Material screening for future diffusion barriers: modelling of binary and ternary metal alloys and detailed experimental analysis of their barrier performance	I
16:00-16:20	Aleksandar Radisic (imec, Belgium) Electrochemical Deposition of Nanotwinned Cu in Damascene Features	O
16:20-16:40	Kazuyoshi Ueno (Shibaura Institute of Technology, Japan) Investigation of carbon-cap formation by thermal CVD using ethanol for ruthenium and molybdenum	O
16:40-18:00		Poster Session

THURSDAY MARCH 21, 2024

S10-Silicide/Contacts II

08:30-08:50	Yao Yao (Uppsala University, Sweden) Investigation of superconductivity in ultrathin PtSi films formed by employing a novel self-alignment process	O
08:50-09:10	Fabriziofranco Morris (STMicroelectronics, France) Influence of annealing schemes on the formation and stability of Ni(Pt)Si thin films: partial, laser, total, and unique anneals	O
09:10-09:30	Karthick Sekar (IM2NP, Aix-Marseille Université, France) Effect of Ni on the formation of Co silicides from Co-Ni alloy	O
09:30-09:50	Nicolas Coudurier (CEA LETI, France) ITO and NiOx/ITO off-axis PVD deposition for transparent contact application	O

09:50-10:10

Break

S11-Advanced Characterization & Metrology II

10:10-10:40	Delphine Le Cunff (STMicroelectronics, France) Overview of Inline Metrology Challenges in IC manufacturing environment	I
10:40-11:10	Patrice Gergaud (CEA-LETI, France) Strain and lattice tilt mapping of GaN on Si nanowires at early stage of coalescence by synchrotron x-ray nano diffraction	I
11:10-11:30	Karen Dabertand (STMicroelectronics, France) Innovative correlative study based on NBS and EDS analyses for nanoscale characterizations of cobalt silicide film	O
11:30-11:50	Jean-Gabriel Mattei (STMicroelectronics, France) Usefulness of low voltage ion milling in the preparation of TEM lamellae in microelectronic industry	O

11:50-12:05

Closing remarks