

May 16, Tuesday				
8:30	REGISTRATION			
9:00	OPENING REMARKS	16GO-01	Introduction to the Innovative Interface Bonding Technology, Tadatomo Suga, The University of Tokyo	MC: N. Kawamata
9:20	SURFACE ACTIVATED BONDING (SAB)	16GO-02	Ab-Initio Local-Energy Analysis of Fe/TiC Interfaces; Masanori Kohyama, National Institute of Advanced Industrial Science and Technology (AIST)	Co-Chairs: M. Howlader, H. Takagi
9:40		16GO-03	Room Temperature SiC-SiC Direct Wafer Bonding by SAB Methods; Fengwen Mu, The University of Tokyo	
10:00		16GO-04	Plane-View Transmission Electron Microscopy of Si/GaAs Interfaces Fabricated by Surface-Activated Bonding at Room Temperature; Yutaka Ohno, Tohoku University	
10:20-10:40	COFFEE BRAEK			
10:40	SURFACE ACTIVATED BONDING (SAB)	16GO-05	Gas Cluster Ion Beam Irradiation for Wafer Bonding; Noriaki Toyoda, University of Hyogo	Co-Chairs: M. Takio, H. Yokoi
11:00		16GO-06	Enhancement of Light Transmittance for Wafers Bonded with Thin Al Films Using Atomic Diffusion Bonding and Subsequent Laser Irradiation; Masatsugu Ichikawa, Nichia Corporation	
11:20		16GO-07	3-Layered Au/SiO2 Hybrid Bonding with 6-μm-Pitch Au Electrodes for 3D Structured Image Sensors; Yuki Honda, NHK Science and Technology Research Laboratories	
11:40		16GO-08	Distributed Face Cooling Scheme for Tiny Laser Power Scale-up; Arvydas Kausas, Institute for Molecular Science	
12:00		16GO-09	Wafer Bonding Tool Including Dual Plasma Capability for In-situ Sputter Etching Prior to Aligned Bonding; Vytautas Masteika, Applied Microengineering Ltd.	
12:20-13:50	LUNCH			
13:50	MEMS and SENSOR INTEGRATION	16GO-10	[Keynote] Wafer-to-Wafer Bonding for Vacuum and Hermetic Packaging of Smart Sensors; Dorota Temple, RTI	Co-Chairs: W. Paik, E. Higurashi
14:30		16GO-11	Al-Al Wafer-Level Thermocompression Bonding Applied for MEMS; Maaike Takio, SINTEF	
14:50		16GO-12	Low-Temperature Solder Bonding and Thin Film Encapsulation for Wafer Level Packaged MEMS Aiming at Harsh Environment; Chengkuo Lee, National University of Sinpore	
15:10		16GO-13	Approaches for Wafer Level Packaging and Heterogeneous System Integration for CMOS and MEMS Sensors; Ronny Gerbach, X-FAB MEMS Foundry GmbH	
15:30		16GO-14	Bond Strength of 3D-Stacked Monocrystalline Silicon X-ray Mirrors; David Girou, cosine measurement systems	
15:50-16:10	COFFEE BRAEK			
16:10	LOW-TEMPERATURE BONDING and APPLICATIONS	16GO-15	[Keynote] Micro- & Nano-Systems Integration- the Next Frontier; Matir Howlader, Macmaster University	Co-Chairs: D. Temple, J. Mizuno
16:50		16GO-16	Fabric-Based Fine Pitch Interconnect Technology Using Anisotropic Conductive Films (ACFs); Kyung W. Paik, KAIST	
17:10		16GO-17	Low Temperature Cu/In Bonding for 3D Integration; Iuliana Panchenko, Technische Universität Dresden	
17:30		16GO-18	Study on Low Temperature Cu Bonding and Temporary Bond/De -Bond for RDL-First Fan-Out Panel Level Package; Cheng-Ta Ko, Unimicron Technology	
17:50		16GO-19	Wafer Bonding Defects Inspection by IR Microphotoelasticity in Reflection Mode; Alain Bosseboeuf, Université Paris Sud	

May 17, Wednesday				
8:30	BONDING PROCESS INTEGRATION	17GO-01	[Keynote] Low Temperature Direct Bonding Comparison; Frank Fournel, Leti	Co-Chairs: M. Groosky, T. Shimatsu
9:10		17GO-02	Low-Temperature Direct Bonding of Silicon to Quartz Glass Wafer via Sequential Wet Chemical Surface Activation; Chenxi Wang, Harbin Institute of Technology	
9:30		17GO-03	Novel Sequential Plasma Activation Method for Direct Glass Bonding; Ran He, The University of Tokyo	
9:50		17GO-04	Room Temperature Fabrication of Semiconductor Interfaces; Viorel Dragoi, EV Group	
10:10		17GO-05	Characterization of Inorganic Dielectric Layers for Low Thermal Budget Wafer-to-Wafer Bonding; Fumihiro Inoue, IMEC	
10:30-10:50	COFFEE BRAEK			
10:50-11:50	SHORT PRESENTAION for Poster			MC: N. Kawamata
11:50-13:20	LUNCH / POSTER			
13:20-14:40	STUDENT SESSION SHORT PRESENTAION for Poster			MC: N. Kawamata
14:40-15:30	POSTER			
15:30	HETERO- INTEGRATION	17GO-06	Various GaAs to Si Wafer Bonding Approaches for Solar Cells Applications; Vincent Larrey, Leti	Co-Chairs: H. Oppermann, N. Shigekawa
15:50		17GO-07	Transport Characteristics of Optically-Excited and Electrically-Injected Minority Electrons Across p-Si/n-SiC Hetero-Interfaces; Naoteru Shigekawa, Osaka City University	
16:10		17GO-08	Novel Integration Method for III–V Semiconductor Devices on Silicon Platform Based on Direct Bonding and MOVPE Growth; Kazuhiko Shimomura, Sophia University	
16:30		17GO-09	Tunneling Devices over Van der Waals Bonded Hetero-Interface; Rusen Yan, Cornell University	
16:50		17GO-10	N2-Plasma Activated Bonding for GaInAsP/SOI Hybrid Lasers; Nobuhiko Nishiyama, Tokyo Institute of Technology	
17:10		17GO-11	Integration of 200 mm Si-CMOS and III-V Materials through Wafer Bonding; Kwang Hong Lee, Singapore-MIT Alliance for Research and Technology	
17:30	RECEPTION (Bus Transfer to Tokyo Bay Cruise)			

May 18, Thursday				
8:30	STUDENT SESSION	18SO-01	[Keynote] Advanced Packaging for Wide Band Gap Pwer Semiconductors; Gudrun Feix , Technische Universität Berlin	Co-Chairs: K. Takeuchi, K. Jerchel
9:00		18SO-02	Low Temperature Cu-Cu Direct Bonding by (111) Oriented Nano-Twin Cu; Jing-Ye Juang , National Chiao Tung University	
9:15		18SO-03	Low-Temperature Low-Pressure Bonding by Nanocomposites; Jen-Hsiang Liu , National Chung Hsing University	
9:30		18SO-04	Sn-Bi Added Ag-Based Transient Liquid Phase Sintering for Low Temperature Bonding; Khairi Faiz Muhammad , Waseda University	
9:45		18SO-05	Optimized Ultra-Thin Manganin Alloy Passivated Fine-Pitch Damascene Compatible Cu-Cu Bonding at Sub 200°C for 3D IC Integration; Asisa Kumar Panigrahi , The Indian Institute of Technology	
10:00		18SO-06	A Low-Temperature Solid-State Bonding Method Using Cu Microcones Modified with Ag and Ag Buffer; Menglong Sun , Shanghai Jiao Tong University	
10:15-10:30	COFFEE BREAK			
10:30	STUDENT SESSION	18SO-07	[Keynote] Fabrication of Highly Efficient Four-Junction Solar Cells by Surface-Activated Wafer-Bonding; Felix Predan , Fraunhofer ISE	Co-Chairs: K. Jerchel, K. Takeuchi
11:00		18SO-08	Room Temperature Bonding and Debonding of PI Film and Glass Substrate Based on SAB Method; Kai Takeuchi , The University of Tokyo	
11:15		18SO-09	A Modified Water Glass Adhesive Bonding Method Using Spot Pressing Bonding Technique; Yang Xu , Institute of Microelectronics of Chinese Academy of Sciences	
11:30		18SO-10	Bonding Mechanism and Electrochemical Impedance of Directly Bonded Liquid Crystal Polymer and Copper; Arif UI Alam , Macmaster University	
11:45-13:40	LUNCH			
13:40	PACKAGING INTEGRATION	18GO-01	[Keynote] Tackling Low Temperature Bonding in Fine Pitch Applications; Hermann Oppermann , Fraunhofer IZM	Co-Chairs: F. Fournel, N. Toyoda
14:20		18GO-02	Low Temperature Metal-Metal Bonding for Heterogeneous Integration and Performance Scaling; Mark Goorsky , University of California	
14:40		18GO-03	Effects of Electromagnetic Radiation Exposure on Direct Cu Bonding; Jenn-Ming Song , National Chung Hsing University	
15:00		18GO-04	Feasibility Study on Ultrafine-Pitch Cu-Cu Bonding Using Directed Self- Assembly; Murugesan Mariappan , Tohoku University	
15:20		18GO-05	[Keynote] Next Generation Computing Systems with Heterogeneous Packaging Integration; John U. Knickerbocker , IBM - T.J. Watson Research Center	
16:00-16:30	COFFEE BRAEK			
16:30	TUTORIAL	18GO-06	Development of Thermoelectric Materials with Improved Figure of Merit for Better Conversion Efficiency; Helmut Baumgart , Old Dominion University	
17:30	AWARDS			
17:50	CLOSING REMARKS			
18:30	STUDENT RECEPTION (Restaurant Abreuvoir)			

SHORT PRESENTAION for Poster

10:50-12:00 May 17	Surface Activated Bonding (SAB)	17GP-01	Surface Activated Room-Temperature Bonding in Ar Gas Ambience for MEMS Encapsulation; Hideki Takagi, National Institute of Advanced Industrial Science and Technology (AIST)	MC: N. Kawamata
		17GP-02	Surface Activated Wafer Bonding of LiNbO ₃ and SiO ₂ /Si for LNOI on Si; Ryo Takigawa, Kyushu University	
	Atomic Diffusion Bonding (ADB)	17GP-03	Shear Strength of Room-Temperature-Bonded Sapphire and Metal Substrates Using Au Films; Hitoe Kon, Namiki Precision Jewel Co., Ltd.	
		17GP-04	Demonstration of Laser Oscillation of An Yb-Doped Y ₂ O ₃ Composite Disk by Use of Atomic Diffusion Bonding in Room Temperature; Takeshi Higashiguchi, Utsunomiya University	
		17GP-05	Room Temperature Bonding of InGaAs Wafers Using Thin Ge Films; Miyuki Uomoto, FRIS, Tohoku University	
	Electronic Properties of Bonding Interface	17GP-06	Electrical Conduction of Si/ITO/Si Junctions Fabricated by Surface Activated Bonding; Jianbo Liang, Osaka City University	
		17GP-07	Impacts of Bonding-Layer Resistance of Si Bottom Cells on Interface Resistance In InGaP/GaAs/Si Hybrid Triple-Junction Cells; Naoteru Shigekawa, Osaka City University	
		17GP-08	Development of GaAs/Si Current-Balanced Dual Junction Solar Cell Integrated by Surface-Activated Bonding; Kentaroh Watanabe, The University of Tokyo	
		17GP-09	Interface Properties of Surface Activated Bonded CNT Bumps and Au Substrate; Masahisa Fujino, The University of Tokyo	
	3D & Hetero Integration	17GP-10	2D Material Transfer Using Room Temperature Bonding; Takashi Matsumae, The University of Tokyo	
		17GP-11	Direct Transfer of Atomically Smooth Au Film onto Electroplated Patterns for Room-Temperature Au-Au Bonding in Atmospheric Air; Yuichi Kurashima, National Institute of Advanced Industrial Science and Technology	
		17GP-12	Stacking Wafer with Multi-Stepped Silicon Micro-Trenches to Deposit Superconducting Material for Magnetic Energy Storage; Minoru Sasaki, Toyota Technological Institute	
	Hydrophilic Bonding	17GP-13	Effect of Plasma Treatment for Removing Aliphatic Contaminants by Infrared Spectroscopy on MgO(100) and Quartz Substrates; Yuki Nagao, Japan Advanced Institute of Science and Technology	
		17GP-14	UV/Ozone-Assisted Bonding for InAs/GaAs Quantum Dot Lasers on Si; Yuan-Hsuan Jhang, The University of Tokyo	
		17GP-15	Direct Bond Optimisation via In Situ Water Vapour Injection and Controlled Anneal Ramp Rate; Vytas Masteika, Applied Microengineering Ltd.	
	Equipments and Characterization	17GP-16	Temporary Wafer Carrier for Thin Wafer Handling; Vytas Masteika, Applied Microengineering Ltd.	
		17GP-17	Automatic Maszara Testing Jig; Vytas Masteika, Applied Microengineering Ltd.	
		17GP-18	Fracture Behavior of the Σ 13 Grain Boundary of α -Alumina; Eita Tochigi, The University of Tokyo	

STUDENT SESSION: SHORT PRESENTATION for Poster

13:30-14:40 May 17	Surface Activated Bonding (SAB)	17SP-01	Ar+H ₂ atmospheric-Pressure Plasma Treatment for Au-Au Bonding and Influence of Air Exposure on Surface Contamination; Michitaka Yamamoto, The University of Tokyo	MC: N. Kawamata
		17SP-02	Hydrogen Radical Treatment for Indium Surface Oxide Removal and Re-oxidation Behaviour; Kohta Furuyama, The University Of Tokyo	
		17SP-03	Optimization of GCIB Irradiation Conditions for Surface Activated Bonding; Shota Ikeda, University of Hyogo	
		17SP-05	Surface Activated Bonding of Si Wafers at Liquid Nitrogen Temperature; Yasuhisa Morishita, The University of Tokyo	
		17SP-06	Electrical Properties of Al-Foil/4H-SiC Schottky Junctions Fabricated by Surface-Activated Bonding; Sho Morita, Osaka City University	
		17SP-07	A Study on Low Temperature SAM Modified POM Direct Bonding Affected by VUV/O ₃ Irradiation; Weixin Fu, Waseda University	
	Direct Cu Bonding	17SP-08	Cu-Cu Direct Bonding by Introducing Au Intermediate Layer; Hirokazu Noma, Waseda University	
		17SP-09	Low Temperature Direct Cu Bonding Assisted by Residual Stress; Zong-Yu Xie, National Chung Hsing University	
		17SP-10	Hydrogen Radical Treatment for Surface Oxide Removal of Copper Metal; Seongbin Shin, The University of Tokyo	
		17SP-11	Influence of Geometric Pattern Design and Surface Roughness on Thermal Performance of Copper to Copper Bonding; Kathleen Jerchel, The University of Tokyo	
	III-V Integration	17SP-12	Double Taper-type Mode Convertor for Direct Bonded III-V/SOI Hybrid Photonic Devices; Nobuhiko Nishiyama, Tokyo Institute of Technology	
		17SP-13	Bonding Temperature Dependence of GaInAsP/InP Wafer Grown on Directly Bonded InP/Si Substrate; Masaki Aikawa, Sophia University	
		17SP-14	Lasing Characteristics of MOVPE Grown 1.5mm GaInAsP LD Using Directly Bonded InP/Si Substrate; Natsuki Hayasaka, Sophia University	
		17SP-15	Analysis of the Influence of Interface Charges on the Electrical Characteristics of GaAs/GaN Junctions; Shoji Yamajo, Osaka City University	
	Wafer Bonding	17SP-16	Graphene-Mediated Wafer Bonding to Prepare Monolayer-Cored Double Heterostructures for High-Performance Nanophotonics; Takenori Naito, Kyoto University	
		17SP-17	Atomic Structure of Ti-Doped Alumina Grain Boundaries Fabricated in Air and Reducing Atmosphere; Saki Ishihara, The University of Tokyo	
		17SP-18	Wafer Bonding Using Smooth Titanium Thin Films in Air Atmosphere; Hayato Azuma, The University of Tokyo	
		17SP-19	Understanding the Environmental Influence on Semiconductor Wafer Bonding; Nagito Takehara, Kyoto University	
	Bonding for Nano-Micro System	17SP-20	Fabrication Processes of Magneto-Optic Waveguides with Si Guiding Layer for Optical Nonreciprocal Devices; Salinee Choowitsakunlert, Shibaura Institute of Technology	
		17SP-21	Grating Design for Packaged Wavelength Selective Infrared Emitter Using Surface Plasmon Polariton; Shuga Yahagi, Toyota Technical Institute	
		17SP-22	Fabrication and Evaluation of Molding and Bonding Tools for Au Micromirror Formation; Ryutaro Nishimura, The University of Tokyo	
	Thermal Reliability	17SP-23	Study on Low-cycle Fatigue Testing and Thermal Fatigue Life Prediction of Electroplated Copper Thin Film for Through Hole Via; Kazuki Watanabe, Shibaura Institute of Technology	
		17SP-24	Temperature Dependence of Fatigue Crack Propagation Rate of Pressureless Sintered Ag Nanoparticles; Ryo Kimura, Shibaura Institute of Technology	