

Program WaferBond'25

Conference on Wafer Bonding for Microsystems, 3D- and Wafer Level Integration

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Tuesday 2025-12-02 Pre-Evening-Reception			
17:00-19:00	Lab Tours Fraunhofer		Fraunhofer ENAS Chemnitz
18:00-21:00	Pre-Evening Reception		
Wednesday 2025-12-03 1st Day WaferBond '25			
09:00	R. Knechtel	Technical Chair	Welcome and Opening
09:05	S. Bergk	Stadt Chemnitz	Welcome by the European Capital of Culture Chemnitz
09:20	M. Wiener	Fraunhofer ENAS	Invited: Novel Wafer Bonding Technologies for Next-Generation of Applications
Session 1	Fundamentals I		Chair: R. Knechtel
09:40	Frank Fournel	CEA Leti	Invited: Plasma free silica hydrophilic molecular direct bonding using chemical booster
10:10	U. Jain	IMEC	Multiscale dynamics in wafer bonding: mechanisms driving the bond front
10:30			Break
Session 2	Keynotes Session		Chair:
11:00	B. Persson	FZ Jöhlich	Invited: Multiscale Contact Mechanics with application to adhesion
11:30	N. Shigekawa	Osaka Metropolitan University	Invited: Wafer bonding of diamond for improving heat dissipation characteristics of semiconductor devices
12:00	G. Beyer	IMEC	Invited: Deep Pitch Scaling of wafer-to-wafer and die-to-wafer Cu/SiCN hybrid bonding
12:30	Lunch Break		
13:30	Silicon Science Award Presentation CIS e.V.		
Session 3	Applications I		
13:50	C. Besançon	III-V Lab	Invited: III-V Integration on Silicon by MOVPE Regrowth on an InP Seed Layer Directly Bonded onto Silicon for Photonics Applications
14:20	J. Amthor	BOSCH	ASICap Technology for Accelerometers – Challenges in Miniaturization
14:40	Poster Flash		Posters P1-P12
15:30	Break		
Session 4	Low Temperture Bonding and Activation I		
16:00	T. Suga	Meisel University	Effects of the Surface Activation on Low Temperature Bonding
16:20	K. Abadie	CEA Leti	Adhesion measurement of surface activated bonding
16:40	Poster Flash		Posters P13-P24
17:30	Bus Transfer		
18:00	Social Event		
	smac - Museum Tour and Dinner		
22:00			

Thursday 2025-12-04 2nd Day WaferBond '25			
Room Kuchwald II	Session 5 3D Integration I		
	08:30	E. Deloffre	STMicroelectronics
	08:50	Ch. Floetgen	EV Group
	09:10	A. Gang	Fraunhofer IZM ASSID
	09:30	R. Ogata	Yokohama National University
	09:50	M. Vacon	CEA Leti
Room Kuchwald II	Session 6 Applications II		
	08:30	P. Birckigt	Fraunhofer IOF
	08:50	S. Dempwolf	X-FAB
	09:10	M. Danner	EV Group
	09:30	M. Zugermeier	X-FAB
	09:50	L. Oggioni	STMicroelectronics
Break			
Room Kuchwald II	Session 7 3D Integration II		
	10:40	M. Pires	EV Group
	11:00	Y. Li	KTH Stockholm
	11:20	M. Lykova	Fraunhofer ENAS
	11:40	Ch. Zeidler	Fraunhofer IMS
	Lunch Break		
Room Kuchwald II	Session 8 Low Temperture Bonding and Activation II		
	10:40	A. Talneau	CNRS
	11:00	J. Lee	KOKUSAI ELECTRIC CORPORATION
	11:20	M. Domethshumer	EV Group
	11:40	P. Nazari	Fraunhofer ENAS
	Break		
Room Kuchwald II	Session 9 Metrology and Charaterization		
	13:00	Ch. Benndorf	Fraunhofer IMWS
	13:20	Q. Guillet	CEA Leti
	13:40	Ph. Schmidt	SUSS MT
	14:00	M. Herms	PVA Tepla
	14:20	Th. Ortlepp	CIS Erfurt
Room Kuchwald II	Session 10 Fundamentals II		
	13:00	T. Shimatsu	Tohoku University
	13:20	C. Licitra	CEA Leti
	13:40	M. Huber	Fraunhofer ENAS
	14:00	M. Uomoto	Tohoku University
	14:20	R. Knechtel	Schmalkalden UAS
Room Kuchwald II	Session 11 Applications II		
	15:40	T. Fukushima	Tohoku
	16:10	F. Selbmann	Fraunhofer ENAS
	16:30	R. Knechtel	Technical Chair
	Closing Remarks		

Posters			
P1	A. Messaoudi	CEA Leti	The role of surface modification induced by plasma treatment for SiO2/SiO2 direct bonding
P2	M. Dautriat	CEA Leti	Direct bonding of polymer thin films: benefit of hydrophily
P3	S. Takl	Tohoku University	Atomic diffusion bonding of wafers using Ti and other films: initial film growth and bonding strength
P4	H. Hijazi	CEA Leti	NaOH treatment for plasma-free low temperature Cu/SiO2 hybrid bonding: investigation of electrical properties
P5	N. Shigekawa	Osaka Metropolitan University	Improvement in heat dissipation characteristics of β -Ga2O3 devices directly bonded to diamonds
P6	A. Rodrigues	SAL	Advances in Photonic Debonding for Wafer-Level Packaging: A Comparative Study of Thermoplastic and Thermoset Adhesives
P7	C. Rothhardt	Fraunhofer IOF	High precision glass bonding for optical applications in space
P8	Y. Tian	Chinese Academy of Sciences	N Polar GaN-AlN-Diamond structure fabricated by modified surface active bonding and selective dry etching
P9	E. Glöck	Fraunhofer IOF	Plasma activated direct bonding of lithium niobate for photonic waveguide fabrication
P10	A. Thies	Ferdinand-Braun-Institute	Microfabricated Alkali Vapor Cells for small footprint applications
P11	S. Akaram	Fraunhofer ENAS	Impact of plasma activation and patterns on bondfront propagation on fusion/hybrid wafer bonding
P12	Th. Stöttinger	EV Group	Detailed Analysis of Classical TCB and PABW of Ti-Ti Interfaces for Advanced Logic Applications
P13	D. Eßer	SUSS MT	Tapeframe Effects on ICP Plasma Activation for Fusion and Hybrid Die Bonding: A Process Perspective
P14	L. Sanchez	CEA Leti	Water assisted die hybrid bonding
P15	T. Matsumae	AIST Japan	Thermo-compression bonding of Cu/diamond for advanced cooling system
P16	H. Yang	Chinese Academy of Sciences	Direct Observation of Surface Microstructural Evolution on Plasma-Activated SiO2 for 3D Bonding
P17	L. Marcus	Schmalkalden UAS	Strength Testing Wafer Bonded MEMS
P18	A. Mapelli	Convofis	Infrared Structured Illumination Microscopy for Bonded Wafer Inspection and Metrology
P19	K. Noguchi	Tohoku University	Thermal stability of SiC chips and unpolished Cu substrate interfaces formed by atomic diffusion bonding
P20	T. Jackel	Fraunhofer ENAS	Investigations on low-temperature aluminium thermocompression bonding using surface passivation technique on chip and wafer
P21	E. Moule	CEA Leti	Evidence of brittle-to-ductile transition in InP using direct wafer bonding
P22	M. Goorsky	University of California LA	X-Ray diffraction methods and STEM characterization of multilayer bonded piezoelectric layers
P23	S. Gholizadeh	EPFL	Vacuum encapsulation of piezoelectric suspended microchannel resonators
P24	K. Maniya	Watlow	Thermal Solutions for Next-Generation Wafer Bonding