3DIC 2024 Program Schedule
September 25-27, 2024 — as of September 13, 2024
Conference Venue: September 25, 2024 at Hotel Metroloplitan Sendai
September 26-27, 2024 at Sendai Kakusai Hotel

Session Date	Location	Session	Session time	Presentation time	paper_id	Category	paper_title	Authors	Affiliations
25-Sep-24	Hotel Metropolitan Sendai	Opening Remark	13:00-13:10					T. Tanaka	Tohoku University
		Keynote Talk I	13:10-13:50	13:10-13:50		Keynote	AI Computing Trends for Mobile Processor Design	Bor-Sung Liang	MediaTek
		Keynote Talk II	13:50-14:30	13:50-14:30		Keynote	IBM NorthPole: Brain-Inspired Neural Inference Architecture Intertwining Compute with Memory	Takanori Ueda	IBM Research - Tokyo
		Coffee Break	14:30-14:45						
		Keynote Talk III	14:45-15:25	14:45-15:25		Keynote	AI & 3D Integration Technologies (Tentative)	Mitsumasa Koyanagi	Tohoku University
		Invited Talk I	15:25-15:55	15:25-15:55		Invited	Si-Substrate Backside of an IC Chip for Performance Improvements and Security	Makoto Nagata	Kobe Univ.
		Invited Talk II	15:55-16:25	15:55-16:25		Invited	3D-Stacked 1Megapixel Time-Gated SPAD Image Sensor with 2D Interactive Gating Network for Image Alignment-Free Sensor Fusion	Ayman Abdelghafar, Kazuhiro Morimoto, Naoki Isoda, Hiroshi Sekine, Junji Iwata, Tetsuya Itano, Yasushi Matsuno, Katsuhito Sakurai, Takeshi Ichikawa	Canon Inc.
		Invited Talk III	16:25-16:55	16:25-16:55		Invited	Superconducting Titanium Nitride in Through-Silicon Vias for 3D Integration of Qubits	Alexandra Schewski, Ulrich Schaber, Armin Klumpp	Fraunhofer EMFT
		Session 1: Quantum Technology	16:55-17:35	16:55-17:15	4036	Lecture	Electrochemical Deposition of Indium Thin-Films for Scalable 3D Quantum Chiplets	Jowesh Goundar, La Mai, Yugi Otake, Yuki Mori, Hideo Kosaka, Fumihiro Inoue	Yokohama National University
				17:15-17:35	4008	Lecture	3D Stacked Spin Qubit and TCAD Simulations	Tetsufumi Tanamoto	Teikyo University
		Banquet	18:00-20:00						
26-Sep-24	Sendai Kokusai Hotel	Keynote Talk IV	08:50-09:30	08:50-09:30		Keynote	CHIPS - NAPMP: Overview and Next Steps	George Orij	National Advanced Packaging Manufacturing Program (NAPMP)
		Invited Talk IV	09:30-10:00	09:30-10:00		Invited	Development of Hybrid Bonding: Perspectives on Material Selection, Structural Design, and Applications	Kuan-Neng Chen	National Yang Ming Chiao Tung University
		Invited Talk V	10:00-10:30	10:00-10:30		Invited	3D Flash Memory fabricated using CBA (CMOS Directly Bonded to Array) technology	Shigeki Kobayashi	Kioxia
		Coffee Break	10:30-10:45						
		Session 2: Process Technology for Hybrid Bonding	10:45-11:05	10:45-11:05	4016	Lecture	A Temporary Bonding De-Bonding Tape with High Thermal Resistance, Easy Peeling and Excellent TTV for 3DIC	Moeki Nakano, Shigenori Nagahama, Toshio Takahashi, Takuya Yamamoto	SEKISUI CHEMICAL CO., LTD ,
			11:05-11:25	11:05-11:25	4009	Lecture	A novel Direct Transfer Bonding process with particle less tapes for Die to Wafer integration	Tomoka Kirihata (1), Masanori Yamagishi (1), Ichiro Sano (2), Haruka Morita (2), Yusuke Fumita (1), Shinya Takyu (1)	(1) LINTEC Corporation (2) TAZMO CO.,LTD.
			11:25-11:45	11:25-11:45	4003	Lecture	Advanced Technology Development of Squeeze Effect Non-Contact Handling Tool for Semiconductor Chips	Hayato Hishinuma (1), Masaaki Miyatake (2), Hiroshi Kikuchi (1), Yuta Tobari (1)	(1) Yamaha Robotics Holdings Co., Ltd. (2) Tokyo University of Science
		Lunch	11:45-13:00						
		Poster Session Core time*	13:00-14:30	13:00-14:30	4010	Poster	Antioxidative Cu Electrodeposition for 3D Interconnects with Hybrid Bonding	Ryo Aizawa (1), Masahiro Sawa (1), Jinta Nampo (1), Yurina Fukumoto (1), Murugesan Mariappan (2), Takafumi Fukushima (2)	(1) JCU Corporation (2) Tohoku University
					4031	Poster	Room-Temperature and Compressive Force-Free Metal-Metal Direct Bonding for Heterogeneous Integration of Micro-LED Array on 3D-IC	Jiayi Shen, Chang Liu, Tetsu Tanaka, Takafumi Fukushima	Tohoku University
					4037	Poster	Plasma Hydrophilic Treatment for Improved Wafer Bonding Strength via Polysilazane	Daiki Nemoto, Kai Takeuchi, Eiji Higurashi	Tohoku University
					4019	Poster	Cost-Effective Low-Temperature Hybrid Bonding Using Layer Transfer Technology	Yu-Lun Liu, Chun-Ta Li, Tzu-Han Sun, Chien-Kang Hsiung, Kuan-Neng Chen	National Yang Ming Chiao Tung University
					4018	Poster	Characteristics of Ozone-Ethylene Radical Pretreatment for Hybrid Bonding Without Water Rinsing Processes	B. Tanaka (1), T. Shino (2), M. Murugesan (1), T. Tanaka (1), T. Fukushima (1)	(1) Tohoku University (2) MEIDEN NANOPROCESS INNOVATIONS
					4007	Poster	Detectability of Resistive Open Defects with Analog Relaxation Oscillators Under Unit-to-Unit Variations of Dies	Yuya Yamahashi (1), Yuto Ohtera (1), Hiroyuki Yotsuyanagi (1), Shyue-Kung Lu (2), Masaki Hashizume (3)	(1) Tokushima University (2) National Taiwan University of Science and Technology (3) The Open University of Japan
					4022	Poster	Gate Driver IC for GaN Power Devices Suitable for 3D Power IC	Satoshi Matsumoto (1), Yusuke Ohgush (2)	(1) Tokyo Metropolitan University (2) Kyushu Institute of Technology
					~~4034~~	~~Poster~~	~~Design Enablement of Heterogenous Integration for 3DIC~~	~~Ahmed Hossam-ELdeen, Sudipta Das, Giuliano Sisto~~	~~imec~~
					4025	Poster	3D SRAM Design & Optimization with Open Source Memory Compiler	Yuanqing Cheng (1), Sunan Chen (1), Chao Wu (2), Yuan Guan (2)	(1) Beihang University (2) Beijing Smartchip Microelectronics Technology Co., Ltd.
					4021	Poster	Machine Learning-Based Diagnosis of Defects in Chiplet Interconnects	Junming Li, Huaguo Liang, Xianrui Dou, Le Yu, Zhengfeng Huang, Yingchun Lu, Cuiyun Jiang	Hefei University of Technology
					4027	Poster	Creep Behavior of Low-Temperature Sn-in Solder Using Nanoindentation Test	Shunya Nitta, Hiroaki Tatsumi, Hiroshi Nishikawa	Osaka University
					4014	Poster	16-Layer 3D Stacking Based on Self-Assembly Technology for HBM Application	Zehua Du (1), Hiroshi Kikuchi (2), Hishinuma Hayato (2), Tetsu Tanaka (1), Takafumi Fukushima (1)	(1) Tohoku University (2) Yamaha Robotics Holdings Co. Ltd.
					4029	Poster	Temporary Adhesive Effect on Multichip Thinning for Rapid Prototyping of 3D-IC from 2D-IC Fabricated in Foundry Shuttle Services	Akihiro Tominaga, Jiayi Shen, Chang Liu, Tetsu Tanaka and Takafumi Fukushima	Tohoku University

Poster Session is scheduled on September 26. Poster session core time is 13:00-14:30, September 26.

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					4038	Poster	Activation of Copper Surfaces by VUV-Redox Method Using a Xenon Excimer lamp	Shinichi Endo	Ushio Inc.,
					4012	Poster	Clean Dicing: an Alternative Blade Dicing Technique for Minimising Particles in 3D Heterogeneous Integration	Akito Hiro, Damien Jon Leech, Geert Schoofs, John Slabbekoorn, Alain Phommahaxay, Koen Kennes, Gerald Beyer, Eric Beyne	Imec
					4006	Poster	Impact of 2-Dimensional Materials for 3D Power IC	Satoshi Matsumoto (1)(3), Masataka Hasegawa (2), Ayano Furue (1),	(1) Tokyo Metropolitan University (2) AirMembrane Corporation (3) Kyushu Institute of Technology
					4035	Poster	Thermal Flow Simulation and Measurements of 3D Si Chip Stacks with TSVs	Shuhei Yokota , Rikuu Hasegawa , Kazuki Monta, Takaaki Okidono, Takuji Miki , Makoto Nagata	Kobe Unversity
					4033	Poster	Suppression of TSV-Induced Stress by Using Negative Thermal Expansion Material	Hisashi Kino (1), Takafumi Fukushima (2), Tetsu Tanaka (2)	(1) Kyushu University (2) Tohoku University
					4030	Poster	TSV Formation Using a Direct Cu Electroplating on Electroless Plated Barrier Layer with a Low Resistivity	Yuko Ishii, Takanobu Hamamura, Tomohiro Shimizu, Takeshi Ito, Shoso Shingubara	Kansai University
		Panel Session	14:30-15:15	14:30-15:15		Panel	CAD tools for 3DIC	Moderator: Paul D. Franzon Panelists: Juan Rey (Siemens EDA), Robert Patti (Nhanced Semicon), Mitsu Koyanagi (Tohoku U)	North Carolina State University
		Coffee Break	15:15-15:30						
		Invited Talk VI	15:30-16:00	15:30-16:00		Invited	Advanced packaging process technologies for heterogeneous integration	Noriaki Matsunaga	Applied Materials Japan
		Invited Talk VII	16:00-16:30	16:00-16:30		Invited	Fan-Out Panel Level Packaging revisited	Ole Hölck	Fraunhofer IZM
		Session 3: Advanced Interposers	16:30-17:30	16:30-16:50	4011	Lecture	Process development for a novel low loss and non-PFAS photo imageable dielectric for RF silicon interposer applications	Hamideh Jafarpoorchekab, Xiao Sun, Angel Uruena, Siddhartha Sinha, Nelson Pinho, Andy Miller, Nadine Collaert	Imec
				16:50-17:10	4015	Lecture	Ultra-High Density Deep Trench Capacitor (DTC) for 3DIC Integration	Hsin-Li Cheng, Jyun-Ying Lin, Ting-Chen Hsu, Chun-Yen Peng, Felix Ying-Kit Tsui, Shih-Fen Huang	TSMC
				17:10-17:30	4013	Lecture	Direct Sputtered Copper Seed Layer Formation on Low Dielectric Resin to Reduce Transmission Loss	Akihiro Shimizu (1), Kazuhiro Fukada (2), Shinichi Endo (1), Mitsunori Abe (3), Akiko Matsui (3)	(1) Ushio Inc. (2) Shibaura Machine Co. (3) NTT Devices Cross Technologies Corporation
		Exhibition	10:00-18:00	10:00-18:00					
27-Sep-24	Sendai Kokusai Hotel	Keynote Talk V	08:40-09:20	08:40-09:20		Keynote		Robert Patti	NHanced Semiconductors
		Session 4: Design&Thermal Management	09:20-10:20	09:20-09:40	4005	Lecture	Towards 3D AI Hardware: Fine-Grain Hardware Characterization of 3D Stacks for Heterogeneous System Integration & AI Systems	Eren Kurshan (1), Paul Franzon (2)	(1) Princeton University (2) North Carolina State University
				09:40-10:00	4032	Lecture	A Novel Multi-Chip Cooling System Using Direct On-Chip Jet Impingement for High-Performance Interposer Packages	Akshat Hetal Patel, Ketan Yogi, Gopinath Sahu, Tiwei Wei	Purdue University
				10:00-10:20	4026	Lecture	Thermal Analysis of Reflow Process for PIC-Embedded Package Substrate with 2.3D RDL Interposer for Co-Packaged Optics	A. Noriki (1), H. Uemura (2), H. Kuwatsuka (1), N. Matsui (2), R. Motoji (2), D. Maeda (2), T. Sugita (2), F. Nakamura (1), T. Amano (1)	(1) National Institute of Advanced Industrial Science and Technology (AIST) (2) Kyocera Corporation
		Coffee Break	10:20-10:35	10:20-10:35					
		Session 5: Bumpless and Hybrid Bonding Technology	10:35-12:15	10:35-10:55	4020	Lecture	Low-Temperature Adhesive Hybrid Bonding Technology with Novel Area-Selective Passivation Layer	Tzu-Han Sun, Yu-Lun Liu, Chun-Ta Li, Wen-Tzu Tsai, Mu-Ping Hsu, Kuan-Neng Chen	National Yang Ming Chiao Tung University
				10:55-11:15	4002	Lecture	Face-Down and Heterogeneous Chip Bonding Technology on Waffle Wafer for Bumpless Chip-on-Wafer (COW) Package	Yoshiaki Satake (1)(2), Tatsuya Funaki (1)(2), Wataru Doi (1)(2), Hajime Kato (2)(3), Shogo Okita (2)(3), Takayuki Ohba (2)	(1) Murat a Manufacturing Co., Ltd. (2) Tokyo Institute of Technology (3) Panasonic Connect Co., Ltd.
				11:15-11:35	4017	Lecture	Die-to-Wafer Hybrid Bonding Impact at mm-Wave Frequencies	Mohammad Alsukour (1) (2), Olivier Valorge (1), Margot Faure (1), Loïc Vincent (3), Victor Milon (4), Pascal Chevalier (4) Jean Daniel Arnould (2), Emmanuel Pistono (2), Christophe Dubarry (1)	(1) CEA-LETI, Univ. Grenoble Alpes (2) TIMA, Univ. Grenoble Alpes, CNRS (3) CIME, Univ. Grenoble Alpes, CNRS (4) STMicroelectronics
				11:35-11:55	4028	Lecture	Impact of Cu Pad Density on Cu-CMP and Bonding Yield for Chip-to-Wafer Hybrid Bonding	M. Murugesan (1), H. Hashimoto (1), K. Mihara (2), F. Inoue (3), A. Uedono (4), T. Hare (2), T. Fukushima (1)	(1) Tohoku University (2) Toray Engineering Co. Ltd. (3) Yokohama National University (4) The University of Tsukuba
				11:55-12:15	4024	Lecture	Surface Modification for Ultrasonic Cu-to-Cu Direct Bonding	Wei Ting Chen Chih Hsien Chiu, Jenn Ming Song	National Chung Hsing University
		Award Ceremony and Closing Remark	12:15-12:30						
	Aobayama campus Tohoku Univ.	NanoTerasu Visit in Japanese	14:00-15:00						
		NanoTerasu Visit in English	15:00-16:00						

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