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The Leading International Components, Packaging and Manufacturing Technology Symposium

November 9-11, 2022

A Hybrid Event of On-site and Virtual Meetings
On-site Venue: Kyoto Univ. Clock Tower Centennial Hall, Kyoto, Japan



Advanced Program

Last update: September 20, 2022

November 9, 2022 (Wednesday)

	Hall I&II	Room III	Room IV
	Remote discussion via interactive voice	Remote discussion via chat	Remote discussion via chat
9:00		Registration	
10:10		Opening Remark (General Chair)	
10:25		Award Ceremony	
10:40-11:30	Hall I & II Chairperson TBD Plenary Speech I		
10:40	Plenary Speech I : Electronic-Photonic Integration Brad Booth (Microsoft Corporation)		P-05
11:30-12:20	Hall I & II Chairperson TBD Plenary Speech II		
11:30	Plenary Speech II : TBD		P-06
12:20	Lunch (free time)		
13:20-15:15	Session 1: Co-Packaged Optics Chairperson TBD TBD	Session 2: Advanced PKG I Chairperson TBD TBD	
13:20	56-Gb/s PAM4 x 8-channel VCSEL-Based Optical Transceiver for Co-Packaged Optics Ryo Otsubo, Yuta Ishige, Kazuya Nagashima, Hideyuki Nasu (Furukawa Electric Co., Ltd)	38 Targeted Sample Preparation and Analysis of Advanced Packaging using Correlated X-Ray Microscopy and Laser FIB Vignesh Viswanathan ¹ , Etsuo Maeda ² , Chisato Yamamoto ² , Takehide Oda ² , Longan Jiao ³ 1) Carl Zeiss Pte Ltd., 2) Carl Zeiss Co. Ltd. 3) Carl Zeiss (Shanghai) Co. Ltd.	5
13:45	Testing station using a 0.3-mm-pitch LGA interface for a 25-Gbaud x 16-channel CPO transceiver Yuta Ishige, Kazuya Nagashima, Ryo Otsubo, Hideyuki Nasu (Furukawa Electric Co., Ltd)	34 PCB Embedding Technology for the Miniaturization of complex electronic Systems Thomas Löher ¹ , David Schütze ² , Malte Spanier ² , Andreas Ostmann ¹ , Martin Schneider-Ramelow ² 1) Fraunhofer IZM 2) Technische Universität Berlin	21
14:10	Novel Packaging Structure Using VCSEL Array and Multi-Core Fiber for Co-Packaged Optics Takatoshi Yagisawa, Makoto Miyoshi, Jumpei Miike, Tomonori Azuma, Yoshiyuki Harada, Satoshi Ide, Ken Morito (Fujitsu Optical Components Limited)	36 Low Temperature Fluxless Cu Bonding with Cu Micropillar Array Han Jiang, Liguang Zhao, Changqing Liu, Zhaoxia Zhou (Loughborough University)	9
14:35	Design of CPO Daughter Board with FPGA and 25-Gbaud x 16-Channel Ultra-Compact Optical Transceivers Kei Takahashi ¹ , Kensuke Miura ¹ , Hikaru Nakajima ¹ , Naoki Soya ¹ , Satoru Torimitsu ¹ , Yuta Ishige ¹ , Kazuya Nagashima ¹ , Hideyuki Nasu ¹ , Shoji Fukutomi ² 1) Furukawa Electric Co., Ltd 2) Furukawa Network Solutions Corporation	48 Low-temperature and rapid direct bonding through nano-Ag coating for high-temperature and high-power density electronics packaging Canyu Liu, Allan Liu, Zhaoxia Zhou, Changqing Liu (Loughborough University)	14
15:00	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition	Interview with the Authors (Discussion after the session)	
15:15	Coffee break + Sponsor's Exhibition		
15:25-17:20	Session 3: Bioelectronics Chairperson Beomjoon Kim (The University of Tokyo) Shigenori Aoki (LINTEC Corporation)	Session 4: Optical Waveguide technology Chairperson TBD TBD	
15:25	(Invited) Chemical sensors based on organic field-effect transistors for real-sample analysis Tsuyoshi Minami (The University of Tokyo)	i-07 Design and Fabrication of Three-dimensional Polymer Optical Waveguide-based Fan-in/out Device for Multicore Fibers Yuto Yamaguchi, Sho Yakabe, Takaaki Ishigure (Keio University)	17
15:50	(Invited) Rubber-like stretchable electronics for skin-conformable wearable devices Naoji Matsuhisa (The University of Tokyo)	i-08 Fabrication for Y-branched Polymer Optical Waveguide Using the Imprint Method and Its Application for Mode Division Multiplexing Devices Shinnosuke Ono, Takaaki Ishigure (Keio University)	20
16:15	Microfluidic technology for making strings made of cells Katsuo Mogi, Hiroyuki Kimura, Naoki Takada (Tokyo Denki University)	30 Optical polymer waveguides with precise core location by mechanical planarization of bottom clad layer for efficient and uniform optical coupling Taro Itatani, Takeru Amano (AIST)	47
16:40	Studying the effect of electrodes on the electrical impedance measurement of meat Dang Thanh Trung, Nguyen Phan Kien, Hoang ChuDuc (Hanoi University of Science & Technology)	11 (Invited) Optical coupling structures printed with Two-Photon-Polymerization Jörg Smolenski (Nanoscribe GmbH & Co. KG)	i-12
17:05	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition	Interview with the Authors (Discussion after the session)	
17:20	Coffee break + Sponsor's Exhibition		
17:30-18:20	Hall I & II Chairperson Beomjoon Kim (The University of Tokyo) & Takaaki Ishigure (Keio University) Plenary Speech III		
17:30	Plenary Speech III: Microfabricated Optical Probes for Neuromodulation Chang-Hyeon Ji (Ewha Womans University)		P-02
19:00	Welcome Reception		
21:00	Close		

November 10, 2022 (Thursday)

	Hall I&II Remote discussion via interactive voice	Room III Remote discussion via chat Registration	Room IV Remote discussion via chat
9:00	Hall I & II Chairperson Eiji Higurashi (Tohoku University) & Shinya Takyu(Lintec corporation) Plenary Speech IV		
9:20-10:10	Plenary Speech IV:Semiconductor Packaging - The Future is Now! Madhavan Swaminathan (Georgia Institute of Technology)		
9:20	P-01		
10:10-11:00	Hall I & II Chairperson TBD Plenary Speech V		
10:10	Plenary Speech V: Heterogenous Package Integration for Consumer and Automotive Sensor Adrian Arcedera (Amkor Technology, Inc.)		
10:10	P-03		
11:00	Coffee break + Sponsor's Exhibition		
11:10-12:40	Session 5: Advanced PKG II Chairperson TBD TBD	Session 6: Silicon Photonics Transceivers & Laser Sources Chairperson TBD TBD	
11:10	Surface Activated Bonding of ALD Al2O3 films Junsha Wang ¹ , Ryo Takigawa ² , Tadatomo Suga ¹ 1) Meisei University, 2) Kyushu University	41 (Invited) Packaging technologies for high-bandwidth silicon photonic datacom transceivers Hiren Thacker (Cisco Systems, Inc.)	I-10
11:35	Control of Adsorbed Water on Wafers for Surface Activated Bonding Kai Takeuchi ¹ , Junsha Wang ¹ , Akira Yamauchi ² , Tadatomo Suga ¹ 1) Meisei University, 2) Bondtec. Co. Ltd.	46 8-channel CWDM TOSA for CPO External Laser Sources Taketsugu Sawamura ¹ , Kazuhiko Kashima ¹ , Kyoko Nagai ¹ , Nitidet Thudsalingkamsaku ² , Rattanaporn Suksomboon ² , Sanguan Anantathanasarn ² , Hideyuki Nasu ¹ 1) Furukawa Electric Co., Ltd 2) Furukawa FITEL (Thailand) Co.,Ltd,	19
12:00	Study on DFN Package Interfacial Delamination Between Lead Frame and Epoxy Mold Compound Siyang Wu, ShwuMiin Tan, Jianlu Xue, Zhigang Li (Nexperia China Ltd.)	2 Low-loss, polarization-independent spot-size converter manufacturable with a 0.18 μm CMOS process Reona Motoji, Hirota Uemura, Naoki Matsui, Dan Maeda, Tomoya Sugita (Kyocera Corporation)	22
12:25	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition		
12:40	Platinum Sponsors' Seminar (with a light meal) @Hall I & II		
13:40-15:10	Session 7: Automotive Chairperson Yutaka Uematsu (Hitachi, Ltd.) Masayoshi Yamamoto (Nagoya University)	Session 8: Emerging process Chairperson Shinya Takyu (LINTEC Corporation) Naoko Araki (Daicel Corporation)	
13:40	(Invited) Trends in reverb chamber Testing Garth D'Abreu (ETS-Lindgren)	(Invited) TBD Tsutomu Matsumoto (Yokohama National University)	I-02
14:05	Electromagnetic Noise Evaluation of Transceiver IC and Communication Modules in CAN-FD Communication Shohei Nishida, Yuki Fukumoto, Tohlu Matsushima (Kyushu Institute of Technology)	33 Direct write electrospinning on insulating surfaces Céline Mandon, Laura Bourdon, Saloua Saghir, Selma Bounabi, Julia Brando, Vincent Salles (Université Claude Bernard Lyon 1)	15
14:30	Improving traffic participant safety using connected active safety techniques and cooperative perception Robert Gee (Continental Automotive Systems, Inc.)	31 Sidewall Chipping Investigation & Challenges on 100um Thin Low-K Wafer with DAF hongbin xia (Nexperia)	4
14:55	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition		
15:10	Coffee break + Sponsor's Exhibition		
15:20-16:10	Hall I & II Masayoshi Yamamoto (Nagoya University) & Yutaka Uematsu (Hitachi, Ltd.) Plenary Speech VI		
15:20	Plenary Speech VI: Dynamic Wireless Power Transfer to accelerate carbon neutrality ~Latest Trends in Japan and the world~ Kaori Takahashi (Mitsubishi Research Institute, Inc.)		
15:20	P-04		
16:10-17:05	Hall I & II Chairperson Shinya Takyu (LINTEC Corporation) & Eiji Higurashi (Tohoku University) IEEE EPS Special Speech I & II		
16:10	IEEE EPS Special Speech I: TBD Kitty Pearsall (Boss Precision, Inc.)		
16:10	S-03		
16:25	IEEE EPS Special Speech II: TBD Chris Bailey (University of Greenwich)		
16:25	S-02		
17:10-18:00	Early Career Researcher's (ECR) Session - On-demand viewing available		
	On-site/ on-demand poster presentation		
	Micro-displacement sensing technique using Fabry-Pérot interferometer with a relay optical fiber Yuya Mori, Takeru Fukahori, Ryo Nagase (Chiba Institute of Technology)	7 Study on electrical characterization of hexagonal-BN Riki Yamanishi ¹ , Soshi Motoda ¹ , Satoko Shinkaj ¹ , Satoshi matsumoto ¹ , Masataka Hasegawa ² 1) Graduate School of Kyushu Institute of Technology 2) National Institute of Advanced Industrial Science and technology	10 Polymer Tapered Pillar Grown from SMF Core for Silicon-photonics Chip Coupling Taiga Kurisawa ¹ , Yoshiki Kamiura ¹ , Chiemi Fujikawa ¹ , Osamu Mikami ² 1) Tokai University 2) Universiti Teknologi Malaysia
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	Polymer Microlens with Pillar as Spot Size Expander Applicable to Silicon Photonics Yoshiki Kamiura ¹ , Taiga Kurisawa ¹ , Chiemi Fujikawa ¹ , Osamu Mikami ² 1) Tokai University 2) Universiti Teknologi Malaysia	25 Driver's Sleepiness Estimation Using Millimeter Wave Radar and Camera Katsuki Kubo, Toshio Ito (Shibaura Institute of Technology)	26 Self-localization with Omnidirectional Camera using Colored Point Cloud Shell Yamauchi, Toshio Ito (Shibaura Institute of Technology)
			28
	Fabrication for low-loss polymer optical waveguide with vertically 90° bent core Daiki Suemori, Maho Ishi, Naohiro Kohm, Takaaki Ishigure (Keio University)	32 Investigation of fabrication conditions for Y-branched polymer optical waveguides using the Mosquito method Kentaro Sekitani, Ryosuke Hatai, Takaaki Ishigure (Keio University)	35 Research on Implementing of Human Ethics in Automated Driving Using Driver's Choice Behavior Kaito Kusakari, Toshio Ito (Shibaura Institute of Technology)
			40
	Detectability of Open Defects at Interconnects between Dies in 3D Stacked ICs with Relaxation Oscillators Masao Ohmatsu ¹ , Fumiya Sako ¹ , Yuki Ikiri ¹ , Hiroyuki Yotsuyanagi ¹ , Shyue-Kung Lu ² , Masaki Hashizume ¹ 1) Tokushima University 2) National Taiwan University	44	
18:10	Close		

November 11, 2022 (Friday)

	Hall I&II	Room III	Room IV
	Remote discussion via interactive voice	Remote discussion via chat	Remote discussion via chat
9:00		Registration	
9:20		ECR Award Ceremony	
9:30-10:10	Hall I & II Chairperson Shinya Takyu (LINTEC Corporation) & Eiji Higurashi (Tohoku University) IEEE EPS Special Speech III		
9:30	IEEE EPS Special Speech III 2.5D/3D EMI/EMC Recent Developments in 5G and B5G Sam Karikalan (Broadcom Inc.)		S-01
10:10-10:50	Hall I & II Chairperson TBD Special Speech		
10:10	Heterogeneous Integration Special Speech : Heterogeneous Integration Enabling High Performance AI Hardware Dr. Takashi Hisada (IBM Research-Tokyo)		S-04
10:50	Coffee break + Sponsor's Exhibition		
11:00-12:55	Session 9: Novel materials Chairperson Kei Murayama (SHINKO ELECTRIC INDUSTRIES CO., LTD.) Satomi Kawamoto (Namics Corporation)	Session 10: Bioelectronics Chairperson Yoshio Nogami (Nogami Inter Connect Co.Ltd.) Beomjoon Kim (The University of Tokyo)	Session 11: High-Speed Electrical Interconnect Chairperson Yoichiro Kurita (Tokyo Institute of Technology) Ryo Sakamaki (AIST)
11:00	(Invited) Development of oxide glass-ceramic derived all-solid-state Na battery Tsuyoshi Honma (Nagaoka University of Technology)	I-03 Development of a simple glucose sensor patch using low melting-point polymer's porous microneedles for pre-diabetic patients Yosuke Koma, Yuko Tsuruma, Jongho Park, Shigenori Aoki, Shinya Takyu, Beomjoon Kim (LINTEC Corporation Tokyo)	12 (Invited) AI-Accelerator Proof of Concept by a Multi-IP Chip Project Shin-ichi O'uchi (AIST)
11:25	(Invited) Advanced Insulation Materials for Next IC Package Shiro Tatsumi (Ajinomoto Co., Inc.)	I-04 Fabrication for circular cross-sectional microchannels and their application for on-off valves Kaori Uehara, Yutaka Hori, Takaaki Ishigure (Keio University)	18 A Study on Alternative Substrate for FCBGA Li-Chieh Hung ¹ , PO-I Wu ¹ , Hung-Chun Kuo ¹ , Ming-Fong Jhong ¹ , Chen-Chao Wang ¹ , Si Min Wang ² 1) ASE 2) Fengjia Chia University
11:50	Solder Joint solder gap elimination in Flipchip Leadless Package Lay Yeap Lim ¹ , Chia Yeong Loo ¹ , Werner Reiss ² 1) Infineon Technologies Sdn Bhd 2) Infineon Technologies AG	1 An Oxytocin sensor based on an organic field-effect transistor functionalized with a molecularly imprinted polymer Qi Zhou, Tsuyoshi Minami (The University of Tokyo)	42 A housing design to optimize heat dissipation and reduced noise for LTE card module in communication terminal Atsushi Nakamura, Takashi Yajima, Hideki Osaka Ultimate Technologies Incorporated
12:15	New die bonding material with PSQ as a main agent having high heat dissipation for LED device application Yoshiki Furukawa, Manabu Miyawaki, Susumu Miura, Hironori Shizuhata, Naoya Saiki (Lintec corporation)	3 Porosity control of polylactic acid porous microneedles using microfluidic technology Boyu Qin, Jongho Park, Heyi Jing, Lellei Bao, Beomjoon Kim (The University of Tokyo)	45 Introducing Sum of Squares Partial Fractions: Application in Passive Modeling of Interconnects in Heterogeneous Integration Francisco Coronado, Arif Engin (San Diego State University)
12:40	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition	Interview with the Authors (Discussion after the session)	Interview with the Authors (Discussion after the session)
12:55	Lunch (free time)		
13:55-15:50	Session 12: Power Electronics Chairperson TBD TBD	Session 13: Integrated Photonics technology Chairperson TBD TBD	
13:55	(Invited) Application of SiC power devices to ultra-high voltage equipment Takashi Nakamura (NexFi Technology Inc., Osaka University)	I-06 (Invited) JEDEC compatible high temperature thermoplastic to benefit mass scalability and design freedom for production of optical elements Florian Jung (SHPP Germany GmbH)	I-11
14:20	Evaluation of electrical and thermal properties of POL-kw by simulation and actual measurement Youichi Nishihara, Shingo Hayashibe, Bando Koji (SHINKO ELECTRIC INDUSTRIES CO., LTD.)	39 International standards to enable the exploitation of emerging integrated photonic technologies for future hyperscale data centres Richard Pitwon ¹ , Bernard Lee ² 1) Resolute Photonics 2) Senko Advanced Components	43
14:45	A LOAD VARIABLE NOISE-SOURCE EQUIVALENT CIRCUIT MODEL FOR DC-DC CONVERTER BASED ON CUBIC SPLINE INTERPOLATION METHOD Shuqi Zhang, Kengo Iokibe, Yoshitaka Toyota (Okayama University)	16 Demonstration of small-aperture cavity-resonator-integrated guided-mode resonance mirror with grating apodization for vertical-external-cavity surface-mounted laser Akari Watanabe ¹ , Keisuke Ozawa ¹ , Shunsuke Teranishi ¹ , Aika Taniguchi ¹ , Junichi Inoue ¹ , Kenji Kintaka ² , Shogo Ura ¹ 1) Kyoto Institute of Technology 2) National Institute of Advanced Industrial Science and Technology	23
15:10	(Invited) Material Solutions for High-reliability and High-temperature Power Electronics Aarief Syed-Khaja (Heraeus Germany GmbH & Co. KG)	I-05 Time of flight three-dimensional imaging camera using compressive sampling technique with sparse frequency intensity modulation light source Quang Duc Pham ¹ , Yoshio Hayasaki ² 1) Vietnam National University 2) Utsunomiya University	13
15:35	Interview with the Authors (Discussion after the session) + Sponsor's Exhibition	Interview with the Authors (Discussion after the session)	
15:50	Close		