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Symposium Program

November 4, 2014 (Tuesday)

Room A (Conference Hall I) Room B (Conference Hall II): Chairperson: Shigeru Nakagawa

10:00-12:15 Opening Remarks & Welcome Talk

Masahiro Aoyagi (General Chair, IEEE CPMT Symposium Japan; AIST)

10:15-11:15 Plenary Speech 1

Progress in Photonic and Electronic Convergence Technologies for Silicon Optical Interposers

Yasuhiko Arakawa (University of Tokyo)

11:15-12:15 Plenary Speech 2

Digital/Analog Micro Fluidic Devices and Systems for Bio/Chemical Applications

- Symmetry between Integrated Circuits and Micro Fluidic Systems -

Shuichi Shoji (Waseda University)

Room A (Conference Hall I) Room B (Conference Hall II)

13:15-15:45 Session 1 (Special): Bioelectronics

Chairperson: Yoshio Nogami (Toray Engineering Co. Ltd.), Kiyokazu Yasuda (Osaka University)

01-1 **(Invited) Visualization of tissue collagen with femtosecond laser : application to skin diagnosis and cell culture. . . 1**

Tsutomu Araki

(Department of Mechanical Science and Bioengineering, Graduate School of Engineering Science, Osaka University)

01-2 **(Invited) Micro Energy Harvester for Implantable Devices**

Haixia (Alice) Zhan

(Peking University)

01-3 **Optical Micro Sensors Integration and Application 3**

Nobutomo Morita¹ and Renshi Sawada²

(Graduate School of Systems Life Sciences, Kyushu University¹ and Department of Mechanical Engineering, Kyushu University²)

01-4 **Phase Stability Analysis of Swept Light Source with KTa_{1-x}Nb_xO₃ Electro-Optic Deflector toward Doppler Optical Coherence Tomography 7**

Shinya Hasegawa¹, Mitsuru Shinagawa¹, Seiji Toyoda², Masahiro Ueno², Yuzo Sasaki² and Junya Kobayashi²

(Faculty of Science and Engineering, Hosei University¹ and NTT Device Innovation Center, NTT Corporation²)

01-5 **(Invited) High-Density Wafer-level Heterogeneous Devices System Integration Pseudo-SoC Technology for Wearable Smart Intelligent Vital Signs Sensor Application**

Hiroshi Yamada

(Toshiba Corporation)

Room A (Conference Hall I)

16:15-17:50 Session 2: Cooling/Thermal

Chairperson: Kishio Yokouchi (FUJITSU INTERCONNECT TECHNOLOGIES LIMITED)

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A new method using metal meshes to present finer surface roughness levels 11**

Yasuhiro Saito, Satoru Suzuki and Takanori Komuro

(Department of Electrical and Electronic Engineering, Kanagawa Institute of Technology)

02-2 **Lifetime Evaluation of Ultra-thin Polymer Pulsating Heat Pipe 15**

Susumu OGATA, Eiji SUKEGAWA and Takahiro KIMURA

(Fujitsu Laboratories Ltd.)

Room B (Conference Hall II)

16:15-17:50 Session 3: Photonics Interposer

Chairperson: Shigenori Aoki (Fujitsu Laboratories Ltd.), Christophe Kopp (CEA LETI)

03-1 **(Invited) Low power consumption Optical I/O core using hybrid integration of Si photonics circuits and electronics circuits for next generation optical interconnect**

Kazuhiko Kurata

(Photonics Electronics Technology Research Association (PETRA))

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Hsiang-Han Hsu and Shigeru Nakagawa

(IBM Research - Tokyo)

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	<i>Norio Chujo¹, Yutaka Uematsu¹ and Moritoshi Yasunaga²</i> (<i>Yokohama Research Laboratory, Hitachi, Ltd.¹ and Graduate School of Systems and Information Engineering, Univ. of Tsukuba²</i>)	

Room C (Conference Hall III)

16:15-17:50 Session 4: Materials/Bonding I

Chairperson: Osamu Suzuki (NAMICS CORPORATION), Takeyasu Saito (Osaka Prefecture University)

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	<i>Koichi Nagamoto^{1,2}, Tsutomu Hara¹, Hiroshi Sakuma² and Kiyoshi Ishii²</i> (<i>Research Center, LINTEC Corporation¹ and Department of Electrical and Electronics Engineering, Utsunomiya University²</i>)	
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November 5, 2014 (Wednesday)

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10:00-12:00 Session 5: RF Electrical Interconnect

Chairperson: Hideyuki Ohashi (Mitsubishi Electric Corp.), Yutaka Uematsu (Hitachi Ltd.)

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Room B (Conference Hall II)

10:00-12:00 Session 6: Si Photonics

Chairperson: Takaaki Ishigure (Keio University), Jeroen Duis (TE Connectivity)

06-1	(Invited) Opportunities and challenges for silicon photonics integration and packaging	
	<i>Christophe Kopp</i> (<i>CEA LETI</i>)	
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Room C (Conference Hall III)

13:00-15:00 Session 7: Materials/Bonding II

Chairperson: Masahiro Inoue (Gunma Univ.), Taiji Sakai (FUJITSU Lab.)

- 07-1 **(Invited) Evolution of electrical conductivity of porous silver with short annealing time**
Kim S Siow¹ and Abu Samah Zuruzi²
(Institute of Microengineering and Nanoelectronics, Universiti Kebangsaan Malaysia¹ and Engineering Product Development Pillar, Singapore University of Technology and Design²)
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Room A (Conference Hall I)

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Chairperson: Hideki Osaka (Hitachi, Ltd.), Daisuke Iguchi (Fuji Xerox Co., Ltd.)

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Room B (Conference Hall II)

13:00-15:00 Session 9: Photonics Link

Chairperson: Hideyuki Nasu (Furukawa Electric Co., Ltd.), Takatoshi Yagisawa (Fujitsu Laboratories Ltd.)

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(Yokohama Research Laboratory, Hitachi, Ltd¹ and Hitachi, Ltd., Information & Telecommunication Systems Company, Global MONOZUKURI Division²)

Room C (Conference Hall III)

10:00-12:00 Session 10: Advanced Packaging I

Chairperson: Shoji Uegaki (ASE Group), Kenji Takahashi (Toshiba Corporation)

- 10-1 **(Invited) Pluralism in Innovation – FC Cu Pillar and FOWLP**
John Hunt, William Chen, Scott Chen and Simon Wang
(ASE Group)
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Shuzo Akejima
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(Tsukuba Research Laboratory, Hitachi Chemical¹ and 3D System Integration Program, imec²)

Room A (Conference Hall I)

15:15-17:15 Session 11: Power Integrity/Signal Integrity II

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Room B (Conference Hall II)

15:15-17:15 Session 12: Optical Transceiver

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*(Central Research Laboratory, Hitachi, Ltd.¹, Yokohama Research Laboratory, Hitachi, Ltd.² and Cable Materials
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Room C (Conference Hall III)

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November 6, 2014 (Thursday)

Room A (Conference Hall I) Room B (Conference Hall II): Chairperson: Masahiro Aoyagi (AIST)

9:30-10:30 Plenary Speech 3

Assembly and Packaging – A Differentiator For System Integration

Bernd Römer (Infineon Technologies AG)

Room A (Conference Hall I) Room B (Conference Hall II): Chairperson: Samson Melamed (AIST)

10:30-12:00 Tutorial

"Exploitation, Design, and Test of 2.5D- and 3D-Stacked ICs"

Paul Franzon (NCSSU)

Room A (Conference Hall I)

13:00-15:00 Session 14: 3D Technology

Chairperson: Yinghui Wang (*The University of Tokyo*), Samson Melamed (*AIST*)

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(*Inst. of Tech. and Science, The Univ. of Tokushima¹ and Dept. of Electrical Engineering, National Taiwan University of Science and Technology²*)

Room B (Conference Hall II)

13:00-15:00 Session 15: Technology for Optical Interconnect

Chairperson: Shigeru Nakagawa (*IBM Research - Tokyo*), Yasunobu Matsuoka (*Hitachi, Ltd.*)

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