



# 14<sup>th</sup> IEEE CPMT Symposium Japan (ICSJ2025)

The Leading International Components, Packaging and Manufacturing Technology Symposium

November 12-14, 2025

Ritsumeikan University's Suzaku Campus, Kyoto, Japan



## Advance Program (Last update: August 30, 2025)

### November 12, 2025 (Wednesday)

| 4F/5F Main Hall I |                                                                                                                                                                                                                                                                                                                                                                                                         | 1F Room I                                                                                                                                                                                                                                                                                                                                                                                                    | 1F Room II                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00              |                                                                                                                                                                                                                                                                                                                                                                                                         | Registration                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                   |
| 10:10             | Opening Remark (General Chair, Hideyuki Nawata)                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 10:25             | Greeting speech (IEEE EPS Jr. President, Kitty Pearsall)                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 10:35             | Award Ceremony                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 10:50-12:30       | Plenary Speech I & II<br>Hall I<br>Hideyuki Nasu (Furukawa Electric Co., Ltd) and Takaaki Ishigure (Keio University)                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 10:50             | Plenary Speech I: TBD<br>Sir David Neil Payne (University of Southampton)                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                              | P-01                                                                                                                                                                                                                                                                                                                                                              |
| 11:40             | Plenary Speech II: Paradigm Shifts in Silicon Photonics<br>Roel Baets (Ghent University - imec)                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                              | P-02                                                                                                                                                                                                                                                                                                                                                              |
| 12:40-12:55       |                                                                                                                                                                                                                                                                                                                                                                                                         | Platinum Sponsors' Seminar 1 (with a light meal) @Meeting Room 1<br>TBD                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                   |
| 12:55-13:10       |                                                                                                                                                                                                                                                                                                                                                                                                         | Platinum Sponsors' Seminar 2 (with a light meal) @Meeting Room 1<br>TBD                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                   |
| 13:30-15:25       | Session 1: Photonics I (Photonics Packaging / Si Photonics)<br>Chairperson<br>Hidetoshi Numata (IBM Research - Tokyo)<br>Hideyuki Nasu (Furukawa Electric Co., Ltd.)                                                                                                                                                                                                                                    | Session 2: Process and Material Technologies for Hybrid Bonding<br>Chairperson<br>Shinya Takyu (LINTEC Corporation)<br>Mashahisa Fujino (Institute of Microelectronics)                                                                                                                                                                                                                                      | Session 3: High-Speed Package and System (Signal and Power Integrity)<br>Chairperson<br>Kazuyuki Nakagawa (Renesas Electronics Corporation)<br>Yutaka Uematsu (Hitachi, Ltd.)                                                                                                                                                                                     |
| 13:30             | (Invited) Efficient AI System Scale-Up with Co-Packaged Optics: Opportunities & Challenges<br>Sunil Priyadarshi<br>Intel                                                                                                                                                                                                                                                                                | 01-01 (Invited) "Solution Proposal and Discussion on C2W-HB Toward to Practical Use"~Introduction of Polymer Dielectric and Mounting Technology~<br>Takenori Fujiwara<br>Toray Industries, Inc.                                                                                                                                                                                                              | 02-01 (Invited) Inductors in Power over Data Line (PoDL) for In-Vehicle Networks<br>Thomas Schamberger<br>TDK Electronics AG                                                                                                                                                                                                                                      |
| 13:55             | Underfill with High Thermal Conductivity in Silicon Photonic Chiplets for Co-Packaged Optics (CPO) Devices<br>Dai-Fei Li, Wen-Yu Teng, Liang-Yih Hung, Andrew Kang, Yu-Po Wang, Don-Son Jiang<br>Siliconware Precision Industries Co., Ltd.                                                                                                                                                             | 02-02 (Invited) Direct Transfer Bonding Overcoming the Challenges of Integrating delicate and Ultra-Thin Chips with 50-nm Scale Accuracy<br>Ichiro Sano<br>TAZMO CO., LTD.                                                                                                                                                                                                                                   | 03-02 Ultra-Small 145 GHz Coaxial Connector: Edge-Mount PCB Integration and Performance<br>Hitoshi Onoduka, Yu-Cen Sun, Yushi Kirii<br>Yuetsu Seiki Co., Ltd.                                                                                                                                                                                                     |
| 14:20             | Development of Simultaneous Electrical and Optical Mounting for Co-Packaged Optics Modules<br>Hisaaki Nishimura, Mizuki Tonomura, Misa Takahashi, Megumi Oishi, Fumiaki Haraguchi, Tokuro Ozawa, Takeshi Yokoyama, Tomoyuki Akahoshi<br>KYOCERA Corporation                                                                                                                                             | 03-01 (Invited) Design and Development of Carrier Tapes for Direct Transfer Bonding Process<br>Tomoka Kiriata<br>LINTEC Corporation                                                                                                                                                                                                                                                                          | 03-03 Effect of Thermal Distribution on Signal and Power Integrity Analysis of Large Complex 3D-IC System<br>Anushruti Jaiswal, Yu Tomonaga<br>Ansys                                                                                                                                                                                                              |
| 14:45             | (Invited) TBD<br>Christopher Striemer<br>AIM Photonics                                                                                                                                                                                                                                                                                                                                                  | 04-01 Chemical resistant dicing tape for hybrid bonding process<br>Ryoh Takahashi, Koki Maruno, Kazutoshi Furuzono, Naoki Takahara, Seiji Kai<br>Resonac Corporation                                                                                                                                                                                                                                         | 04-02 Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                                                                            |
| 15:10             | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 15:25             | Coffee break + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 15:40-17:35       | Session 4: Photonics II (Laser)<br>Chairperson<br>Nobuo Ohata (Mitsubishi Electric Corporation)<br>Junichi Inoue (Kyoto Institute of Technology)                                                                                                                                                                                                                                                        | Session 5: Next Generation Packaging Technologies I<br>Chairperson<br>Eiji Higurashi (Tohoku University)<br>Naoko Araki (Daicel Corporation)                                                                                                                                                                                                                                                                 | Session 6: High-Speed / RF Package and System<br>Chairperson<br>Yoichiro Kurita (Tokyo Institute of Technology)<br>Wataru Shiroi (Renesas Electronics Corporation)                                                                                                                                                                                                |
| 15:40             | (Invited) Optical Signal Processing (OSP) for pluggable transceivers and co-packaged optics (CPO)<br>Yosef Ben Ezra<br>Newphotonics, CTO & Founder                                                                                                                                                                                                                                                      | 04-01 New Optical Adhesive Design for CPO Packaging Solutions<br>Fumiya Suzuki, Masashi Kajiwara, Takashi Yamaguchi, Masayoshi Otomo, Noriyuki Sakai<br>Namics Corporation                                                                                                                                                                                                                                   | 05-01 Radiation-Induced Destructive Effects on COTS FPGA in GEO Satellite Environments<br>Yuzo Yajima <sup>1</sup> , Eisuke Haraguchi <sup>1</sup> , Shigenori Tani <sup>1</sup> , Hiroshi Kinoda <sup>1</sup> , Hiroaki Miyake <sup>2</sup><br>1) Mitsubishi Electric Corporation<br>2) Tokyo City University                                                    |
| 16:05             | Ultrathin Chips of III-V Bonding Process Using Laser Peel Transfer Technology for Co-Packaged Optics<br>Haruka Fujishige <sup>1</sup> , Takumi Ikehara <sup>1</sup> , Tatsuya Okada <sup>1</sup> , Yoshiaki Arai <sup>1</sup> , Junpei Oniki <sup>2</sup> , Yukari Jo <sup>2</sup> , Daichi Miyazaki <sup>2</sup> , Takenori Fujiwara <sup>2</sup><br>1) Toray Engineering<br>2) Toray Industries, Inc. | 04-02 High I/O Density Solution on Flip Chip Substrate for Advanced Package<br>Yuan Chang Ni <sup>1</sup> , Hung Kun Chen <sup>1</sup> , Yu Cheng Pai <sup>1</sup> , Cheng Yu Kang <sup>1</sup> , Jen Shang Chen <sup>2</sup> , Wei Ching Chu <sup>2</sup> , Yu-Po Wang <sup>1</sup> , Don-Son Jiang <sup>1</sup><br>1) Siliconware Precision Industries Co., Ltd.<br>2) Kinsus Interconnect Technology Corp | 05-02 Efficient Integral-Equation Methodology for Signal Integrity Analysis of Large-Scale IC Packages<br>Hans Schreckenbach, Lucas Banting, Andre Fecteau, Troy Lowry, Nima Chamanara, Santosh Janaki Raman, David Abraham, Max Hughson, Nick Gedder, Jonatan Aronsson<br>CEMWorks Inc.                                                                          |
| 16:30             | An 8-Channel MM VCSEL-based Linear-Drive CPO Transceiver for Compute and Backend Interconnects in AI/ML systems<br>Sho Yoneyama, Wataru Yoshida, Kazuya Nagashima, Kensho Nishizaki, Hideyuki Nasu<br>Furukawa Electric Co., Ltd.                                                                                                                                                                       | 04-03 Development of heat-resistant UV curable dicing tape<br>Reo Ozeki, Sayaka Tsuchiyama, Akio Fukumoto<br>LINTEC corporation                                                                                                                                                                                                                                                                              | 05-03 An Adjustable Energy-Recovering Electrical-Balance Duplexer for In-Band Full-Duplex Transceivers in the 6G FR3 Band<br>Hsin-Chieh Lin <sup>1</sup> , Chih-Hao Chuang <sup>2</sup> , Yan-Qi Weng <sup>2</sup> , Da-Chiang Chang <sup>1</sup> , Hwann-Kaeo Chiou <sup>2</sup><br>1) National Institutes of Applied Research<br>2) National Central University |
| 16:55             | (Invited) Integrated Comb Lasers for Co-Packaged Optics<br>Frank Smyth<br>Pilot Photonics                                                                                                                                                                                                                                                                                                               | 04-04 A Study of Moisture Effects on Fan-out Package<br>Chau-Wen Cheng, Chung-Hung Lai, Yao-Hsin Chou, Chin-Li Kao<br>Advanced Semiconductor Engineering, Inc.                                                                                                                                                                                                                                               | 05-04 (Invited) TBD                                                                                                                                                                                                                                                                                                                                               |
| 17:20             | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 17:35-18:15       | Special Speech I<br>Hall I<br>Chairperson Shinya Takyu (LINTEC Corporation) and Hideyuki Nawata (Nissan Chemical Corporation)                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 17:35             | Artifact Metrics and Individual Management of Semiconductor Packages<br>Tsutomu Matsumoto (AIST)                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                              | S-03                                                                                                                                                                                                                                                                                                                                                              |
| 19:15             | Welcome Reception                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |
| 21:15             | Close                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                   |

November 13, 2025 (Thursday)

|             | 4F/5F Main Hall I                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1F Room I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1F Room II                                                                                                                                                                                                                                              |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Registration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                         |
| 9:20        | Guest speech (President of Ritsumeikan University, Yoshio Nakatani)                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 9:30-10:20  | Plenary Speech III<br>Hall I<br>Chairperson Shoji Uegaki (Crane Research) and Taiji Sakai (TSMC Japan 3DIC R&D Center, Inc.)                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 9:30        | Plenary Speech III : TBD<br>Shimpei Yamaguchi (TSMC Japan 3DIC R&D Center)                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | P-03                                                                                                                                                                                                                                                    |
| 10:20       | Coffee break + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
|             | Session 7: Advanced PKG I                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Session 8: Next Generation Packaging Technologies II                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                         |
| 10:30-12:00 | Chairperson<br>Taiji Sakai (TSMC Japan 3DIC R&D Center, Inc.)<br>Chinami Marushima (IBM Japan, Ltd.)                                                                                                                                                                                                                                                                                                                                                                                  | Chairperson<br>Jun Maeda (LINTEC Corporation)<br>Satomi Kawamoto (Namics Corporation)                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                         |
| 10:30       | Generation of the thermal digital twin model for an IC chip.<br>Shuainan Lin <sup>1)</sup> , Yanbo Tang <sup>1)</sup> , Jiajia Su <sup>2)</sup> , Junan Ji <sup>2)</sup> , Boping Wu <sup>1)</sup> , Cheng Yang <sup>1)</sup><br>1) JCET Group Co., Ltd.<br>2) Shanghai Southchip Semiconductor Technology Co., LTD.                                                                                                                                                                  | 07-01<br>Extraction Techniques of Dielectric Characterization of Materials up to E-band Frequency<br>Chia Chu Lai, Ho chuan Lin, Vito Lin, Andrew Kang, Yu Po Wang, Don Son Jiang<br>Siliconware Precision Industries Co., Ltd.                                                                                                                                                                                                                                                                                                | 08-01                                                                                                                                                                                                                                                   |
| 10:55       | Study of Structural Evaluation in Fan-Out Large Body Size Packaging<br>Bradley Liu, Teny Shih, Vito Lin, Sam Lin, Yu-Po Wang<br>Siliconware Precision Industries Co., Ltd.                                                                                                                                                                                                                                                                                                            | 07-02<br>Measurement and Analysis of Substrate Integrated Waveguide Using Low Temperature Co-fired Ceramics at 250 GHz<br>Nobuki Hiramatsu <sup>1)</sup> , Hiroshi Uchimura <sup>1)</sup> , Tuchjuta Ruckkwaen <sup>1)</sup> , Masahiro Tomisako <sup>1)</sup> , Kouhei Hirose <sup>1)</sup> , Naoki Hirayama <sup>1)</sup> , Issei Watanabe <sup>2)</sup> , Kunio Sakakibara <sup>3)</sup><br>1) Kyocera Corporation, 2) National Institute of Information and Communications Technology<br>3) Nagoya Institute of Technology | 08-02                                                                                                                                                                                                                                                   |
| 11:20       | Induction-bonded silver sinter layers for multi-die applications: characterization and evaluation<br>Patrick Rochala <sup>1)</sup> , Martin Kroll <sup>1)</sup> , Christian Hofmann <sup>2)</sup> , Tom Petzold <sup>2)</sup> , Till Clausmeyer <sup>1)</sup><br>1) Chemnitz University of Technology<br>2) Fraunhofer Institute for Electronic Nano Systems ENAS                                                                                                                     | 07-03<br>Die Attach Solder Fatigue Study in Clipbond Power Package<br>Vegneswary Ramalingam, Haima Santican, Hazrul Alang Abd Hamid, Nazirul Izzat Mohd Arifen<br>Nexperia Malaysia Sdn Bhd                                                                                                                                                                                                                                                                                                                                    | 08-03                                                                                                                                                                                                                                                   |
| 11:45       | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 12:00-12:15 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Platinum Sponsors' Seminar 3 (with a light meal) @Meeting Room 1<br>SENKO Advance Co., Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                         |
| 12:15-12:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Platinum Sponsors' Seminar 4 (with a light meal) @Meeting Room 1<br>SURUGA SEIKI CO., LTD.                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                         |
|             | Session 9: Advanced PKG II                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Session 10: Photonics III (Optical Waveguide)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Session 11: Bio electronics                                                                                                                                                                                                                             |
| 13:00-14:55 | Chairperson<br>Takafumi Fukushima (Tohoku University)<br>Kenji Takahashi (AIST)                                                                                                                                                                                                                                                                                                                                                                                                       | Chairperson<br>Hideyuki Nawata (Nissan Chemical Corporation)<br>Motohito Takezaki (Hakusan Inc.)                                                                                                                                                                                                                                                                                                                                                                                                                               | Chairperson<br>Beomjoon Kim (University of Tokyo)<br>Shigenori Aoki (LINTEC Corporation)                                                                                                                                                                |
| 13:00       | A Novel Negative-Tone Chemically Amplified Photoresist of High Resolution and Chemical Resistance for Fine Copper Wirings<br>Yuanfei Liu, Masahiko Ebihara, Irwansyah, Masahiro Miyasaka<br>Resonac Corporation                                                                                                                                                                                                                                                                       | 09-01<br>Extremely low bending loss (<0.5 dB at 1-mm bending radius) GI core polymer optical waveguide<br>Masahiro Karakawa <sup>1)</sup> , Takaaki Ishigure <sup>2)</sup><br>1) Ajinomoto Co., INC.<br>2) Keio University                                                                                                                                                                                                                                                                                                     | 10-01<br>(Invited) Development of a Rumen Bacteria Microbial Fuel Cell for Cattle Health and Methane Emission Monitoring Devices<br>Michitaka Yamamoto<br>The University of Tokyo                                                                       |
| 13:25       | Development of 1.6 μm Fine-Pitch RDL Damascene Process using Low-NA i-Line Stepper and a New Negative-tone Photosensitive Dielectric Material<br>Lili Wang <sup>1)</sup> , Murat Pak <sup>1)</sup> , Go Inoue <sup>2)</sup> , Kaho Shibasaki <sup>2)</sup> , Ayano Okuda <sup>2)</sup> , Kenyu Sugita <sup>2)</sup> , Nobuhiro Ishikawa <sup>2)</sup> , Toshiyuki Ogata <sup>2)</sup> , Andy Miller <sup>1)</sup> , Eric Beyne <sup>1)</sup><br>1) imec<br>2) TAIYO HOLDINGS CO., LTD | 09-02<br>Application of graphene-doped polymer optical waveguides to wavelength convertor<br>Ken Kuboyama, Takaaki Ishigure, Naoki Yamaguchi, Shinji Yamashita, Sze Set<br>Keio University                                                                                                                                                                                                                                                                                                                                     | 10-02<br>X-rays detection module, with Indium bumps interconnections, manufactured on a die level packaging line<br>Abdenacer AIT MANI, Patrick PERAY, Nadia MILOUD-ALI, Andrea BRAMBILLA, Arnaud PEIZERAT, Kim ABDOUL-CARIME, Loick VERGER<br>CEA-LETI |
| 13:50       | Thermal Conductivity-Aware Design Approach of Non-Conductive Film Layers for Enhanced Vertical Heat Dissipation in 3D HBM Packages<br>Yuna Lee, Sang Won Yoon<br>Seoul National University                                                                                                                                                                                                                                                                                            | 09-03<br>Low Wavelength Dependent Polymer Waveguide type Multiplexer for MDM Link<br>Takumi Kanai, Takaaki Ishigure<br>Keio University                                                                                                                                                                                                                                                                                                                                                                                         | 10-03<br>Fabrication of Flexible Embedded Electrochemical Sensor for Interstitial Fluid Biomarker Monitoring using Pattern Transfer Method<br>Boyu Qin, Jongho Park, Beomjoon Kim<br>The University of Tokyo                                            |
| 14:15       | Non-Invasive Corrosion Quantification in Electronic Packages Using Smith Charts<br>Tae Yeob Kang, Minkyu Kang, Namgyeong Kim<br>The University of Suwon                                                                                                                                                                                                                                                                                                                               | 09-04<br>Miniaturization of 1x2 and 1x4 branched multimode polymer optical waveguide for MUX device in SWDM links<br>Koki Atsumi, Takaaki Ishigure<br>Keio University                                                                                                                                                                                                                                                                                                                                                          | 10-04<br>Multi-Sensor Integrated Urethane Foam Package for Wearable Vital Sensing in Everyday Setting<br>Suguru Sato, Naoto Tomita, Jarred Fastier-Wooler, Shun Muramatsu, Michitaka Yamamoto, Toshihiro Itoh<br>The University of Tokyo                |
| 14:40       | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 14:55       | Coffee break + Sponsor's Exhibition                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 15:10-15:50 | IEEE EPS Special Speech I<br>Hall I<br>Chairperson Shinya Takyu (LINTEC Corporation) and Eiji Higurashi (Tohoku University)                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 15:10       | IEEE EPS Special Speech I: Co-Packaged Optics – 3D Heterogeneous Integration of Photonic IC and Electronic IC<br>John H Lau (Unimicron Technology Corporation)                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S-01                                                                                                                                                                                                                                                    |
| 15:50-16:30 | IEEE EPS Special Speech II<br>Hall I<br>Chairperson Shinya Takyu (LINTEC Corporation) and Eiji Higurashi (Tohoku University)                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                         |
| 15:50       | IEEE EPS Special Speech II: Aging of Lead-Free Solders<br>Jeffrey Suhling (Auburn University)                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S-02                                                                                                                                                                                                                                                    |

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| 16:40-17:40 | <b>Early Career Researcher's (ECR) Session (Open Forum with Beer) @ 1F Cafeteria</b>                                                                                                                                                                                                                                                                                                              |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |
|             | <b>Chairperson Takaaki Ishigure (Keio University)</b>                                                                                                                                                                                                                                                                                                                                             |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |
|             | Poster presentation                                                                                                                                                                                                                                                                                                                                                                               |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |
|             | Packaging Technology for Ion Trap Quantum Processor Chips<br>Nila Krishnakumar <sup>1)</sup> , Friederike Giebel <sup>1)</sup> , Eike Iseke <sup>1)</sup> , Konstantin Thronberens <sup>1)</sup> , Jacob Stupp <sup>2)</sup> , Nora D. Stahr <sup>2)</sup> , Christian Ospelkaus <sup>1),2)</sup><br>1) Physikalisch-Technische Bundesanstalt<br>2) Gottfried Wilhelm Leibniz University Hannover | ECR-01 | System accuracy of an automated 5-axis system for mosquito dispensed waveguides<br>Laura Fuetterer, Andreas Evertz, Ludger Overmeyer<br><br>Leibniz University Hannover                 | ECR-02 | Investigations into the use of synthetic image data for the automated active alignment of micro-optics<br>Anna-Lena Fritze, Ludger Overmeyer<br><br>Leibniz University Hannover                                                                                                                                                                            | ECR-03 |
|             | Direct Thermal Imaging of Localized Heating in Thinned InP Laser Diodes<br>Kiyoto Taniguchi <sup>1),2)</sup> , Taro Itatani <sup>2)</sup> , Joji Maeda <sup>1)</sup> , Akihiro Noriki <sup>2)</sup> , Takeru Amano <sup>2)</sup><br>1) Tokyo University of Science<br>2) AIST                                                                                                                     | ECR-04 | Deep Learning with de-embedded S-parameters for Assessing Crack Propagation in Solder Joints<br>Namgyeong Kim, Minkyu Kang, Hyunwoo Nam, Tae Yeob Kang<br><br>The University of Suwon   | ECR-05 | Investigation of Polarization Performance in Polymer Optical Splitters for Co-Packaged Optics<br>Yudai Nagano <sup>1),2)</sup> , Taro Itatani <sup>2)</sup> , Fumi Nakamura <sup>2)</sup> , Akihiro Noriki <sup>2)</sup> , Takeru Amano <sup>2)</sup> , Joji Maeda <sup>1)</sup> , Satoshi Suda <sup>2)</sup><br>1) Tokyo University of Science<br>2) AIST | ECR-06 |
|             | 3-D Optical Interconnection of Bent Waveguide and Micro-Mirror by Planar Semiconductor Process<br>Keito Kikuchi <sup>1),2)</sup> , Taro Itatani <sup>2)</sup> , Yoshinobu Okano <sup>1)</sup> , Akihiro Noriki <sup>2)</sup> , Takeru Amano <sup>1),2)</sup><br>1) Tokyo University of Science<br>2) AIST                                                                                         | ECR-07 | Non-destructive Diagnosis of Cracks in SMD Capacitors Using Deep Learning on Impedance Spectra<br>Minkyu Kang, Namgyeong Kim, Hyunwoo Nam, Tae Yeob Kang<br><br>The University of Suwon | ECR-08 | Quantum dot doped polymer optical waveguide amplifier<br>Hayato Kitta, Takaaki Ishigure<br><br>Keio University                                                                                                                                                                                                                                             | ECR-09 |
|             | Core Position Accuracy Improvement of Polymer Optical Waveguide fabricated using the Mosquito-Method<br>Airi Nakao, Takaaki Ishigure<br>Keio University                                                                                                                                                                                                                                           | ECR-10 | Steeply bent core single-mode polymer waveguide with low bending loss fabricated using the Mosquito method<br>Ayu Tanimoto, Takaaki Ishigure<br>Keio University                         | ECR-11 | Investigation of surface activation conditions using VUV light to enable room-temperature Au-Au bonding<br>Mika Ogino, Kai Takeuchi, Eiji Higurashi<br>Tohoku University                                                                                                                                                                                   | ECR-12 |
|             | Close                                                                                                                                                                                                                                                                                                                                                                                             |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |
|             | Close                                                                                                                                                                                                                                                                                                                                                                                             |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |
|             | Close                                                                                                                                                                                                                                                                                                                                                                                             |        |                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                                                                                            |        |

November 14, 2025 (Friday)

| 4F/5F Main Hall I |                                                                                                                                                                                                                                                                                                            | 1F Room I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                     | 1F Room II                                                                                                                                                                                                                                  |       |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 9:00              | Registration                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 9:20              | ECR Award Ceremony                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 9:30-10:10        | Special Speech II<br>Hall I<br>Chairperson Taiji Sakai (TSMC Japan 3DIC R&D Center, Inc.) and Kenji Takahashi (AIST)                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 9:30              | Special Speech II: TBD<br>Mr. Noriaki Matsunaga (Applied Materials Inc.)                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             | S-04  |
| 10:10             | Coffee break + Sponsor's Exhibition                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 10:25-12:20       | Session 12: IEEE EPS Technical session<br>Glass Substrate<br>Chairperson<br>Shigenori Aoki (LINTEC Corporation)<br>Takashi Hisada (Rapidus)                                                                                                                                                                | Session 13: Advanced PKG IIII<br>Chairperson<br>TBD<br>TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Session 14: Power Electronics I<br>Chairperson<br>Kentaro Kaneko (Ritsumeikan University)<br>Masafumi Yokoyama (SUMITOMO CHEMICAL COMPANY, LIMITED)                                 |                                                                                                                                                                                                                                             |       |
|                   | (Invited) TBD                                                                                                                                                                                                                                                                                              | (Invited) TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (Invited) Wafer Bonding of Diamond for Improving Heat Dissipation of Properties of Nitride Devices<br>Naoteru Shigekawa, Jianbo Liang, Yutaka Ohno<br>Osaka Metropolitan University |                                                                                                                                                                                                                                             |       |
| 10:50             | (Invited) TBD                                                                                                                                                                                                                                                                                              | Digital-Twin-Driven Machine Learning for Thermal Optimization of Flip-Chip Packages<br>Mohammad Rafiee, Vysak Nair<br><br>University of Ottawa                                                                                                                                                                                                                                                                                                                                                             | 13-02                                                                                                                                                                               | Material and Process Characterization to Enable Heavy Copper Wire Bonding on Power Modules<br>Randolph Estal Flauta, Jing Chen, Howie Ding, Rito Wang, Shixing Zhu, Tino Minotti, King Man Tai, Joe Zhou, Haibin Chen<br>Nexperia Hong Kong | 14-02 |
| 11:15             | (Invited) TBD                                                                                                                                                                                                                                                                                              | Laser-Induced Forward Transfer of Thin Micro-Chiplets in quasi-contact mode<br>Harindra Kumar Kannoja Harindra Kumar Kannoja, Geert Van Steenberge<br>IMEC                                                                                                                                                                                                                                                                                                                                                 | 13-03                                                                                                                                                                               | Study of Factor Effect on Surge Current Test Performance for Clip-Bonded Semiconductor Devices by Simulation<br>Nick Chenchao ZHONG, Thomas IGEL-HOLTZENDORFF, Haibo FAN, Tim BOETTCHER, Owen Yi Kei LAW<br>Nexperia Hong Kong              | 14-03 |
| 11:40             | (Invited) TBD                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 12:05             | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 12:20-13:20       | Lunch (free time)                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 13:20-15:15       | Session 15: Photonics IV<br>(Optical connection)<br>Chairperson<br>Nobuo Ohata (Mitsubishi Electric Corpolation)<br>Takaaki Ishigure (Keio University)                                                                                                                                                     | Session 16: Power Electronics II<br>Chairperson<br>Kentaro Kaneko (Ritsumeikan University)<br>Hiroki Imabayashi (University of Fukui)                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
|                   | (Invited) Silicon Photonics and Advanced Packaging at the Heart of HPC<br>Sandeep Sane<br><br>Lightmatter                                                                                                                                                                                                  | (Invited) Development of Planar-Gate Vertical GaN MOSFETs<br>Ryo Tanaka, Tsurugi Kondo, Nao Suganuma, Katunori Ueno, Shinya Takashima<br>Fuji Electric Co.,Ltd.                                                                                                                                                                                                                                                                                                                                            | 16-01                                                                                                                                                                               |                                                                                                                                                                                                                                             |       |
| 13:45             | 40-channel Detachable Optical Connector Enabling Ultra-high Density Connectivity in Co-packaged Optics<br>Yuki Fujimaki, Shosuke Ikeda, Kengo Watanabe, Tsunetoshi Saito, Masaki Kotoku<br><br>Furukawa Electric Co., Ltd.                                                                                 | EMI Mitigation and Inductance Reduction in SiC-Based Power Modules through Layout-Aware Redesign<br>Raymond Borres <sup>1)</sup> , Thiyyu Warnakulasooriya <sup>1)</sup> , Sihoon Choi <sup>1)</sup> , Koichi Shigematsu <sup>1)</sup> , Masayoshi Yamamoto <sup>1)</sup> , Ang-Ying Lin <sup>2)</sup> , Yan Bo Fang <sup>2)</sup> , Chien Wei Chang <sup>2)</sup> , Po-Kai Chiu <sup>2)</sup> , Yan-Cheng Liu <sup>2)</sup><br>1) Nagoya University<br>2) Industrial Technology Research Institute (ITRI) | 16-02                                                                                                                                                                               |                                                                                                                                                                                                                                             |       |
| 14:10             | Single Mode Multifiber Expanded Beam Connector for Immersion Cooling System Using GRIN Lens<br><br>Alexander William Setiawan Putra <sup>1)</sup> , Yusuke Ishibashi <sup>1)</sup> , Motohito Takezaki <sup>1)</sup> , Kazutaka Aboshi <sup>2)</sup><br>1) Hakusan Inc.<br>2) Nippon Sheet Glass Co., LTD. | Research on low thermal resistance/high reliability technology for ultra-compact double-sided cooled SiC power modules<br>Akira Kitamura, Yoshihiro Tateishi, Shoichiro Otani, Satoharu Tanai, Keita Suzuki, Tetsuo Endoh, Yoshikazu Takahashi<br>Tohoku University                                                                                                                                                                                                                                        | 16-03                                                                                                                                                                               |                                                                                                                                                                                                                                             |       |
| 14:35             | Evaluation of fabricating polymer waveguides for die-to-die optical connections<br>Honoka Shima, Masaharu Kato, Kazunao Yamamoto, Masaki Matsumoto, Yuji Furuta, Hisashi Kaneda<br><br>Shinko Electric Industries Co., Ltd.                                                                                | Additive fan-out packaging for discrete components<br>Edsger C.P. Smits, Arjun Wadhwa, Milan Saalmink, Marieke Burghoorn, Iris Kerkhof, Ruben Pranger, Francesca Chiappini, Jeroen van den Brand<br>CITC / TNO                                                                                                                                                                                                                                                                                             | 16-04                                                                                                                                                                               |                                                                                                                                                                                                                                             |       |
| 15:00             | Interview with the Authors (Discussion after the session) + Sponsor's Exhibition                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |
| 15:15             | Close                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                     |                                                                                                                                                                                                                                             |       |