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TABLE OF CONTENTS

1: Interposer Technologies

Chairs: Subhash L. Shinde, *Sandia National Laboratory*
John Knickerbocker, *IBM Corporation*

| | |
|--|----|
| Integration Study of Die Strength and Various Bumping Volume and Reliability Performance on 2.5D Silicon Interposer Assembly | 1 |
| Shih-Liang Peng, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chen-Yu Huang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Ming-Hsien Yang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Stephen Tseng, <i>Siliconware Precision Industries Co., Ltd.</i> ; J.Y. Lai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Terren Lu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Hsien-Wen Chen, <i>Siliconware Precision Industries Co., Ltd.</i> ; Steve Chiu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Stephen Chen, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| Process Integration, Improvements, and Testing of Si Interposers for Embedded Computing Applications | 8 |
| S. Goodwin, <i>RTI International</i> ; J. Lannon, Jr., <i>RTI International</i> ; A. Hilton, <i>RTI International</i> ; A. Huffman, <i>RTI International</i> ; M. Lueck, <i>RTI International</i> ; E. Vick, <i>RTI International</i> ; G. Cunningham, <i>RTI International</i> ; D. Malta, <i>RTI International</i> ; C. Gregory, <i>RTI International</i> ; D. Temple, <i>RTI International</i> | |
| Mechanically Flexible Interconnects with Highly Scalable Pitch and Large Stand-off Height for Silicon Interposer Tile and Bridge Interconnection | 13 |
| Chaoqi Zhang, <i>Georgia Institute of Technology</i> ; Hyung Suk Yang, <i>Georgia Institute of Technology</i> ; Muhammad S. Bakir, <i>Georgia Institute of Technology</i> | |
| Advancements in Fabrication of Glass Interposers | 20 |
| Aric Shorey, <i>Corning Incorporated</i> ; Philippe Cochet, <i>Rudolph Technologies</i> ; Alan Huffman, <i>RTI International</i> ; John Keech, <i>Corning Incorporated</i> ; Matt Lueck, <i>RTI International</i> ; Scott Pollard, <i>Corning Incorporated</i> ; Klaus Ruhmer, <i>Rudolph Technologies</i> | |
| Large Area Interposer Lithography | 26 |
| Warren Flack, <i>Ultratech, Inc.</i> ; Robert Hsieh, <i>Ultratech, Inc.</i> ; Gareth Kenyon, <i>Ultratech, Inc.</i> ; Manish Ranjan, <i>Ultratech, Inc.</i> ; John Slabbekoorn, <i>IMEC</i> ; Andy Miller, <i>IMEC</i> ; Eric Beyne, <i>IMEC</i> ; Medhat Toukhy, <i>AZ Electronics Materials USA Corporation</i> ; PingHung Lu, <i>AZ Electronics Materials USA Corporation</i> ; Chunwei Chen, <i>AZ Electronics Materials USA Corporation</i> | |
| Minimizing Interposer Warpage by Process Control and Design Optimization | 33 |
| Mikael Detalle, <i>IMEC</i> ; B. Vandeveld, <i>IMEC</i> ; P. Nolmans, <i>IMEC</i> ; J. De Messemaeker, <i>IMEC</i> ; M. Gonzalez, <i>IMEC</i> ; A. Miller, <i>IMEC</i> ; A. La Manna, <i>IMEC</i> ; G. Beyer, <i>IMEC</i> ; E. Beyne, <i>IMEC</i> | |
| High Performance IPDs (Integrated Passive Devices) and TGV (Through Glass Via) Interposer Technology Using the Photosensitive Glass | 41 |
| Jong-Min Yook, <i>Korea Electronics Technology Institute</i> ; Dongsu Kim, <i>Korea Electronics Technology Institute</i> ; Jun Chul Kim, <i>Korea Electronics Technology Institute</i> | |

2: Advances in Copper Pillar & Solder Based Flip Chip Technologies

Chairs: Tom Gregorich, *Micron*
Bernd Ebersberger, *Intel Corporation*

Challenges and Opportunities of Chip Package Interaction with Fine Pitch Cu Pillar for 28nm 47
Andy Bao, *Qualcomm, Inc.*; Lily Zhao, *Qualcomm, Inc.*; Yangyang Sun, *Qualcomm, Inc.*; Michael Han, *Qualcomm, Inc.*; Geoffrey Yeap, *Qualcomm, Inc.*; Steve Bezuk, *Qualcomm, Inc.*; Pat Holmes, *Qualcomm, Inc.*; Cecille Alcira, *Qualcomm, Inc.*; Xuefeng Zhang, *Qualcomm, Inc.*; Kenny Lee, *Qualcomm, Inc.*

Electromigration for Advanced Cu Interconnect and the Challenges with Reduced Pitch Bumps 50
Nokibul Islam, *STATS ChipPAC, Inc.*; Gwang Kim, *STATS ChipPAC, Inc.*;
KyungOe Kim, *STATS ChipPAC, Inc.*

Electromigration Performance of Cu Pillar Bump for Flip Chip Packaging with Bump on Trace by Using Thermal Compression Bonding 56
Kuei Hsiao (Frank) Kuo, *Siliconware Precision Industries Co., Ltd.*; Jason Lee, *Siliconware Precision Industries Co., Ltd.*; F.L. Chien, *Siliconware Precision Industries Co., Ltd.*; Rick Lee, *Siliconware Precision Industries Co., Ltd.*; Cindy Mao, *Siliconware Precision Industries Co., Ltd.*; John Lau, *ITRI*

Flip-Chip Bonding Alignment Accuracy Enhancement Using Self-Aligned Interconnection Elements to Realize Low-Temperature Construction of Ultrafine-Pitch Copper Bump Interconnections 62
Bui Thanh Tung, *Nanoelectronics Research Institute; Institute for Photonics-Electronics Convergence System Technology*; Naoya Watanabe, *Nanoelectronics Research Institute*; Fumiki Kato, *Nanoelectronics Research Institute*; Katsuya Kikuchi, *Nanoelectronics Research Institute*; Masahiro Aoyagi, *Nanoelectronics Research Institute; Institute for Photonics-Electronics Convergence System Technology*

Development of Second-Level Connection Method for Large-Size CPU Package 68
Shunji Baba, *Fujitsu Advanced Technologies, Ltd.*; Masateru Koide, *Fujitsu Advanced Technologies, Ltd.*; Manabu Watanabe, *Fujitsu Advanced Technologies, Ltd.*; Kenji Fukuzono, *Fujitsu Advanced Technologies, Ltd.*; Tsuyoshi Yamamoto, *Fujitsu Advanced Technologies, Ltd.*; Seiki Sakuyama, *Fujitsu Laboratories, Ltd.*; Kozo Shimizu, *Fujitsu Laboratories, Ltd.*; Keishiro Okamoto, *Fujitsu Laboratories, Ltd.*; Daisuke Mizutani, *Fujitsu Laboratories, Ltd.*

Development of Fine Pitch Area Array Cu Pillar/Lead Free Solder Bumps for Large 28nm Die in Large Organic Flip Chip Packages 74
John Osenbach, *LSI Corporation*; Sue Emerich, *LSI Corporation*; S. Cate, *LSI Corporation*; D. Brady, *Amkor Technology, Inc.*; Seung Min Hwang, *Amkor Technology, Inc.*; J. Dang, *Kyocera America Inc.*; D. Crouthamel, *LSI Corporation*

ELK Delaminate Improvement Methodology on Cu Pillar Interconnect BOP Structure 81
Nistec Chang, *Siliconware Precision Industries Co., Ltd.*; Albert Lan, *Siliconware Precision Industries Co., Ltd.*; Mark Liao, *Siliconware Precision Industries Co., Ltd.*; Eason Chen, *Siliconware Precision Industries Co., Ltd.*

3: Dynamic Mechanical Characterization

Chairs: Darvin R. Edwards, *Edwards Enterprises*
Tim Chaudhry, *Broadcom Corporation*

Transient Dynamics Model and 3D-DIC Analysis of New-Candidate for JEDEC JESD22-B111 Test Board 85
Pradeep Lall, *Auburn University*; Kalyan Dornala, *Auburn University*; Di Zhang, *Auburn University*; Dongji Xie, *Nvidia Corporation*; Andy Zhang, *Texas Instruments, Inc.*

Interconnect Reliability Prediction for Wafer Level Packages (WLP) for Temperature Cycle and Drop Load Conditions 100
Tong Cui, *Qualcomm Technologies, Inc.*; Ahmer Syed, *Qualcomm Technologies, Inc.*; Beth Keser, *Qualcomm Technologies, Inc.*; Rey Alvarado, *Qualcomm Technologies, Inc.*; Steven Xu, *Qualcomm Technologies, Inc.*; Mark Schwarz, *Qualcomm Technologies, Inc.*

| | |
|---|-----|
| A Novel Drop Test Methodology for Highly Stressed Interconnects in Automotive Electronic Control Units | 108 |
| M.H. Shirangi, <i>Robert Bosch GmbH</i> ; Simo G. Tsebo, <i>Robert Bosch GmbH</i> ; Z. Wang, <i>Bosch Automotive Products (Suzhou) Co., Ltd.</i> ; R. Unnikrishnan, <i>RWTH Aachen University</i> ; T. Heinrich, <i>Robert Bosch GmbH</i> | |
| Early-State Crack Detection Method for Heel-Cracks in Wire Bond Interconnects | 114 |
| Michael Krüger, <i>Technical University Berlin</i> ; Stefan Trampert, <i>Fraunhofer IZM</i> ; Andreas Middendorf, <i>Technical University Berlin</i> ; Stefan Schmitz, <i>Fraunhofer IZM</i> ; Klaus-Dieter Lang, <i>Technical University Berlin</i> | |
| Accelerated Vibration Reliability Testing of Electronic Assemblies Using Sine Dwell with Resonance Tracking | 119 |
| Quang Su, <i>Binghamton University</i> ; James Pitarresi, <i>Binghamton University</i> ; Mohammad Gharaibeh, <i>Binghamton University</i> ; Aaron Stewart, <i>Binghamton University</i> ; Gaurang Joshi, <i>Binghamton University</i> ; Martin Anselm, <i>Universal Instruments Corporation</i> | |
| Crack Monitoring and Life Modeling Technique Towards High Thermal Cyclic and Mechanical Reliability of fcBGA Solder Joint | 126 |
| Dongji Xie, <i>Nvidia Corporation</i> ; Zhongming Wu, <i>Nvidia Corporation</i> ; Min Woo, <i>Nvidia Corporation</i> ; Tom McMullen, <i>Nvidia Corporation</i> | |
| Fatigue Properties of Lead-Free Solder Joints in Electronic Packaging Assembly Investigated by Isothermal Cyclic Shear Fatigue | 133 |
| Huili Xu, <i>University of Texas, Arlington</i> ; Intel Corporation; Tae-Kyu Lee, <i>Cisco Systems, Inc.</i> ; Choong-Un Kim, <i>University of Texas, Arlington</i> | |
| 4: Bio & Flexible Electronics | |
| Chairs: Joana Maria, <i>IBM Corporation</i> | |
| C.S. Premachandran, <i>GLOBALFOUNDRIES</i> | |
| MEMS-Based Implantable Heart Monitoring System with Integrated Pacing Function | 139 |
| Fjodors Tjulkins, <i>Buskerud and Vestfold University College</i> ; Anh Tuan Thai Nguyen, <i>Buskerud and Vestfold University College</i> ; Erik Andreassen, <i>Buskerud and Vestfold University College</i> ; SINTEF Materials and Chemistry; Nils Hoivik, <i>Buskerud and Vestfold University College</i> ; Knut Aasmundtveit, <i>Buskerud and Vestfold University College</i> ; Lars Hoff, <i>Buskerud and Vestfold University College</i> ; Ole Johannes Grymyr, <i>Oslo University Hospital Intervention Centre</i> ; Per Steinar Halvorsen, <i>Oslo University Hospital Intervention Centre</i> ; Kristin Imenes, <i>Buskerud and Vestfold University College</i> | |
| Archipelago Platform for Skin-Mounted Wearable and Stretchable Electronics | 145 |
| Yung-Yu Hsu, <i>MC10, Inc.</i> ; Cole Papakyrikos, <i>MC10, Inc.</i> ; Milan Raj, <i>MC10, Inc.</i> ; Mitul Dalal, <i>MC10, Inc.</i> ; Pinghung Wei, <i>MC10, Inc.</i> ; Xianyan Wang, <i>MC10, Inc.</i> ; Gil Huppert, <i>MC10, Inc.</i> ; Briana Morey, <i>MC10, Inc.</i> ; Roozbeh Ghaffari, <i>MC10, Inc.</i> | |
| Inkjet Printing in Manufacturing of Stretchable Interconnects | 151 |
| Toni Liimatta, <i>Tampere University of Technology</i> ; Eerik Halonen, <i>Tampere University of Technology</i> ; Hannu Sillanpää, <i>Tampere University of Technology</i> ; Juha Niittynen, <i>Tampere University of Technology</i> ; Matti Mäntysalo, <i>Tampere University of Technology</i> | |
| Ultra Small Hearing Aid Electronic Packaging Enabled by Chip-in-Flex | 157 |
| John Dzarnoski, <i>Starkey Hearing Technologies</i> ; Susie Johansson, <i>Starkey Hearing Technologies</i> | |
| Fabrication of Silicon Based Microfluidics Device for Cell Sorting Application | 165 |
| Bivragh Majeed, <i>IMEC</i> ; Chengxun Liu, <i>IMEC</i> ; Lut Van Acker, <i>IMEC</i> ; Robert Daily, <i>IMEC</i> ; Tomokazu Miyazaki, <i>JSR Micro NV</i> ; Deniz Sabuncuoglu, <i>IMEC</i> ; Liesbet Lagae, <i>IMEC</i> | |
| A Novel 3D Neural Probe with Integrated Channel and Its Package | 170 |
| Xingming Fu, <i>Wuhan University</i> ; Yong Xu, <i>Wayne State University</i> ; Yuefa Li, <i>Wayne State University</i> ; Jinshen Zhang, <i>Wayne State University</i> ; Xiaobing Luo, <i>Huazhong University of Science & Technology</i> ; Sheng Liu, <i>Wuhan University</i> | |

| | |
|--|-----|
| CMOS Multiplexer for Portable Biosensing System with Integrated Microfluidic Interface | 173 |
| Tetiana Voitsekhivska, <i>Technical University, Dresden</i> ; Eike Suthau, <i>Technical University, Dresden</i> ; Klaus-Juergen Wolter, <i>Technical University, Dresden</i> | |
| 5: Silicon Photonics & LEDs | |
| Chairs: Fuad Doany, <i>IBM Corporation</i> Stefan Weiss, <i>II-VI Laser Enterprise GmbH</i> | |
| Assembly of Mechanically Compliant Interfaces between Optical Fibers and Nanophotonic Chips | 179 |
| Tymon Barwicz, <i>IBM Corporation</i> ; Yoichi Taira, <i>IBM Corporation</i> ; Hidetoshi Numata, <i>IBM Corporation</i> ; Nicolas Boyer, <i>IBM Corporation</i> ; Stephane Harel, <i>IBM Corporation</i> ; Swetha Kamlapurkar, <i>IBM Corporation</i> ; Shotaro Takenobu, <i>Asahi Glass Corporation</i> ; Simon Laflamme, <i>IBM Corporation</i> ; Sebastian Engelmann, <i>IBM Corporation</i> ; Yurii Vlasov, <i>IBM Corporation</i> ; Paul Fortier, <i>IBM Corporation</i> | |
| Proposal of Integrated-Optic Wavelength-Selective Modulator Based on Coupling-Efficiency Control of Distributed Bragg Reflector in Straight Waveguide | 186 |
| Shogo Ura, <i>Kyoto Institute of Technology</i> ; Testunosuke Miura, <i>Kyoto Institute of Technology</i> ; Satoshi Kawanami, <i>Kyoto Institute of Technology</i> ; Kenji Kintaka, <i>National Institute of Advanced Industrial Science and Technology</i> ; Kosuke Asai, <i>Kyoto Institute of Technology</i> ; Kenzo Nishio, <i>Kyoto Institute of Technology</i> ; Yasuhiro Awatsuji, <i>Kyoto Institute of Technology</i> | |
| Porous Silicon Technology, a Breakthrough for Silicon Photonics: From Packaging to Monolithic Integration | 194 |
| M. Balucani, <i>Sapienza University of Rome</i> ; A. Klyshko, <i>Sapienza University of Rome</i> ; K. Kholostov, <i>Sapienza University of Rome</i> ; A. Benedetti, <i>Sapienza University of Rome</i> ; A. Belardini, <i>Sapienza University of Rome</i> ; C. Sibilia, <i>Sapienza University of Rome</i> ; M. Izzi, <i>Enea Casaccia Research Centre Rome</i> ; M. Tucci, <i>Enea Casaccia Research Centre Rome</i> ; H. Bandarenka, <i>Belarusian State University of Informatics and Radioelectronics</i> ; V. Bondarenko, <i>Belarusian State University of Informatics and Radioelectronics</i> | |
| High Power Density LED Modules with Silver Sintering Die Attach on Aluminum Nitride Substrates | 203 |
| Marc Schneider, <i>Karlsruhe Institute of Technology</i> ; Benjamin Leyrer, <i>Karlsruhe Institute of Technology</i> ; Christian Herbold, <i>Karlsruhe Institute of Technology</i> ; Stefan Maikowske, <i>Karlsruhe Institute of Technology</i> | |
| Effect of Optical Design on the Thermal Management for the Smart TV LED Backlight Systems | 209 |
| Kivanc Karsli, <i>Vestel AS</i> ; Mehmet Arik, <i>Ozyegin University</i> | |
| Wafer Level LED Packaging with Optimal Light Output and Thermal Dissipation for High-Brightness Lighting | 215 |
| Liang Wang, <i>Invensas Corporation</i> ; Gabe Guevara, <i>Invensas Corporation</i> ; Hala Shaba, <i>Invensas Corporation</i> ; Roseann Alatorre, <i>Invensas Corporation</i> ; Rey Co, <i>Invensas Corporation</i> ; Ron Zhang, <i>Invensas Corporation</i> | |
| High Power Laser Packaging Challenges and Standardization | 221 |
| Eric Zhou, <i>LDX Optronics, Inc.</i> ; Jeffrey Morris, <i>LDX Optronics, Inc.</i> ; Hanguo Wang, <i>University of California, Los Angeles</i> | |

6: Adhesives, Underfills, and Thermal Interface Materials

Chairs: Don Frye, *ATMI*
C. Robert Kao, *National Taiwan University*

Novel Highly Moisture Resistant Optical Adhesives and Their High Power Resistivity 230
Seiko Mitachi, Tokyo University of Technology; Kazushi Kimura, Yokohama Rubber Co. Ltd.

Engineered Thermal Interface Material 236
Lyndon Larson, Dow Corning Corporation; Yin Tang, Dow Corning Corporation; Loren Durfee, Dow Corning Corporation; Cassandra Hale, Dow Corning Corporation; David Plante, Dow Corning Corporation; Sushumna Iruvanti, IBM Corporation; Rebecca Wagner, IBM Corporation; Taryn Davis, IBM Corporation; Hai Longworth, IBM Corporation; Annique LaVoie, IBM Corporation; Richard Langlois, IBM Corporation

Degradation Mechanisms in Electronic Mold Compounds Subjected to High Temperature in Neighborhood of 200°C 242
Pradeep Lall, Auburn University; Shantanu Deshpande, Auburn University; Yihua Luo, Auburn University; Mike Bozack, Auburn University; Luu Nguyen, Texas Instruments; Masood Murtuza, Texas Instruments

Time, Temperature, and Mechanical Fatigue Dependence on Underfill Adhesion 255
Joseph Cremaldi, Tulane University; Michael Gaynes, IBM Corporation; Peter Brofman, IBM Corporation; Noshir Pesika, Tulane University; Eric Lewandowski, IBM Corporation

Study on Isotropic Electrically Conductive Adhesive for Medical Device Applications 263
Shawn Shi, Medtronic, Inc.; Scott Sleeper, Medtronic, Inc.; Chunho Kim, Medtronic, Inc.

Effect of Aligned Nanofiber in Nanofiber Solder Anisotropic Conductive Films (ACFs) on the Solder Ball Movement for Flex-on-Flex (FOF) Assembly 271
Tae-Wan Kim, Korea Advanced Institute of Science and Technology (KAIST); Sang-Hoon Lee, Korea Advanced Institute of Science and Technology (KAIST); Kyung-Wook Paik, Korea Advanced Institute of Science and Technology (KAIST)

Adhesive Enabling Technology for Directly Plating Metal on Molding Resin 279
Kwonil Kim, Atotech USA, Inc.; Kenichiroh Mukai, Atotech USA, Inc.; Brian Eastep, Atotech USA, Inc.; Lee Gaherty, Atotech USA, Inc.; Anirudh Kashyap, Atotech USA, Inc.; Lutz Brandt, Atotech USA, Inc.

7: Interposers & 3D Integration

Chairs: Katsuyuki Sakuma, *IBM Corporation*
Lou Nicholls, *Amkor Technology, Inc*

Modeling, Design, and Demonstration of Low-Temperature Cu Interconnections to Ultra-Thin Glass Interposers at 20 μm Pitch 284
Tao Wang, Georgia Institute of Technology; Vanessa Smet, Georgia Institute of Technology; Makoto Kobayashi, Namics Corporation; Venky Sundaram, Georgia Institute of Technology; P. Mardkondeya Raj, Georgia Institute of Technology; Rao Tummala, Georgia Institute of Technology

| | |
|--|-----|
| Low-Cost TSH (Through-Silicon Hole) Interposers for 3D IC Integration | 290 |
| John H. Lau, <i>Industrial Technology Research Institute (ITRI)</i> ; Ching-Kuan Lee, <i>Industrial Technology Research Institute (ITRI)</i> ; Chau-Jie Zhan, <i>Industrial Technology Research Institute (ITRI)</i> ; Sheng-Tsai Wu, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Lin Chao, <i>Industrial Technology Research Institute (ITRI)</i> ; Ming-Ji Dai, <i>Industrial Technology Research Institute (ITRI)</i> ; Ra-Min Tain, <i>Industrial Technology Research Institute (ITRI)</i> ; Heng-Chieh Chien, <i>Industrial Technology Research Institute (ITRI)</i> ; Chun-Hsien Chien, <i>Industrial Technology Research Institute (ITRI)</i> ; Ren-Shin Cheng, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Wei Huang, <i>Industrial Technology Research Institute (ITRI)</i> ; Yuan-Chang Lee, <i>Industrial Technology Research Institute (ITRI)</i> ; Zhi-Cheng Hsiao, <i>Industrial Technology Research Institute (ITRI)</i> ; Wen-Li Tsai, <i>Industrial Technology Research Institute (ITRI)</i> ; Pai-Cheng Chang, <i>Industrial Technology Research Institute (ITRI)</i> ; Huan-Chun Fu, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Mei Cheng, <i>Industrial Technology Research Institute (ITRI)</i> ; Li-Ling Liao, <i>Industrial Technology Research Institute (ITRI)</i> ; Wei-Chung Lo, <i>Industrial Technology Research Institute (ITRI)</i> ; Ming-Jer Kao, <i>Industrial Technology Research Institute (ITRI)</i> | |
| Cu Pattern Density Impacts on 2.5D TSI Warpage Using Experimental and FEM Analysis | 297 |
| C.T. Yeh, <i>United Microelectronics Corporation</i> ; C.Y. Wu, <i>United Microelectronics Corporation</i> ; C.F. Lin, <i>United Microelectronics Corporation</i> ; K.M. Chen, <i>United Microelectronics Corporation</i> ; M.J. Lin, <i>United Microelectronics Corporation</i> ; Y.C. Lin, <i>United Microelectronics Corporation</i> ; C.L. Kuo, <i>United Microelectronics Corporation</i> | |
| A Resilient 3-D Stacked Multicore Processor Fabricated Using Die-Level 3-D Integration and Backside TSV Technologies | 304 |
| K.W. Lee, <i>Tohoku University</i> ; H. Hashimoto, <i>Tohoku University</i> ; M. Onishi, <i>Tohoku University</i> ; Y. Sato, <i>Tohoku University</i> ; M. Murugesan, <i>Tohoku University</i> ; J.-C. Bae, <i>Tohoku University</i> ; T. Fukushima, <i>Tohoku University</i> ; T. Tanaka, <i>Tohoku University</i> ; M. Koyanagi, <i>Tohoku University</i> | |
| 3D Stacking Induced Mechanical Stress Effects | 309 |
| V. Cherman, <i>IMEC</i> ; G. Van der Plas, <i>IMEC</i> ; J. De Vos, <i>IMEC</i> ; A. Ivankovic, <i>IMEC</i> ; <i>KU Leuven</i> ; M. Lofrano, <i>IMEC</i> ; V. Simons, <i>IMEC</i> ; M. Gonzalez, <i>IMEC</i> ; K. Vanstreels, <i>IMEC</i> ; T. Wang, <i>IMEC</i> ; R. Daily, <i>IMEC</i> ; W. Guo, <i>IMEC</i> ; G. Beyers, <i>IMEC</i> ; A. La Manna, <i>IMEC</i> ; I. De Wolf, <i>IMEC</i> ; E. Beyne, <i>IMEC</i> | |
| Six-Die Stacking: Three-Dimensional Interconnects Using Au and Pillar Bumps | 316 |
| Fei-Jain Wu, <i>Chipbond Technology Corporation</i> ; Lung-Hua Ho, <i>Chipbond Technology Corporation</i> ; Chih-Ming Kuo, <i>Chipbond Technology Corporation</i> ; Chia-Jung Tu, <i>Chipbond Technology Corporation</i> ; Chih-Hsien Ni, <i>Chipbond Technology Corporation</i> ; Shih-Chieh Chang, <i>Chipbond Technology Corporation</i> ; Chuan-Yu Wu, <i>Chipbond Technology Corporation</i> ; Kung-An Lin, <i>Chipbond Technology Corporation</i> ; Wei-Hsin Wu, <i>Chipbond Technology Corporation</i> ; Yung Shen Wu, <i>Chipbond Technology Corporation</i> | |
| TSV-Less 3D Stacking of MEMS and CMOS via Low Temperature Al-Au Direct Bonding with Simultaneous Formation of Hermetic Seal | 324 |
| S.L. Chua, <i>Nanyang Technological University</i> ; A. Razzaq, <i>Nanyang Technological University</i> ; K.H. Wee, <i>DSO National Laboratory</i> ; K.H. Li, <i>Nanyang Technological University</i> ; H. Yu, <i>Nanyang Technological University</i> ; C.S. Tan, <i>Nanyang Technological University</i> | |
| 8: Flip Chip Packaging & Advanced Substrate | |
| Chairs: Young-Gon Kim, <i>IDT</i> | |
| Omar Bchir, <i>Qualcomm, Inc.</i> | |
| Chip Package Interaction: An Experiment Study on White Bump Mitigation Using Flat Laminates | 332 |
| Yi Pan, <i>IBM Corporation</i> ; Jeffrey A. Zitz, <i>IBM Corporation</i> ; David L. Questad, <i>IBM Corporation</i> ; Kamal K. Sikka, <i>IBM Corporation</i> | |
| Design and Package Technology Development of Face-to-Face Die Stacking as a Low Cost Alternative for 3D IC Integration | 338 |
| Zhe Li, <i>Altera Corporation</i> ; Yuan Li, <i>Altera Corporation</i> ; John Xie, <i>Altera Corporation</i> | |

| | |
|--|-----|
| From C4 to Micro-Bump: Adapting Lead Free Solder Electroplating Processes to Next-Gen Advanced Packaging Applications | 342 |
| <i>Julia Woertink, Dow Electronic Materials; Yi Qin, Dow Electronic Materials; Jonathan Prange, Dow Electronic Materials; Pedro Lopez-Montesinos, Dow Electronic Materials; Inho Lee, Dow Electronic Materials; Yil-Hak Lee, Dow Electronic Materials; Masaaki Imanari, Dow Electronic Materials; Jianwei Dong, Dow Electronic Materials; Jeffrey Calvert, Dow Electronic Materials</i> | |
| Development of New 2.5D Package with Novel Integrated Organic Interposer Substrate with Ultra-Fine Wiring and High Density Bumps | 348 |
| <i>Kiyoshi Oi, Shinko Electric Industries Company, Ltd.; Satoshi Otake, Shinko Electric Industries Company, Ltd.; Noriyoshi Shimizu, Shinko Electric Industries Company, Ltd.; Shoji Watanabe, Shinko Electric Industries Company, Ltd.; Yuji Kunimoto, Shinko Electric Industries Company, Ltd.; Takashi Kurihara, Shinko Electric Industries Company, Ltd.; Toshinori Koyama, Shinko Electric Industries Company, Ltd.; Masato Tanaka, Shinko Electric Industries Company, Ltd.; Lavanya Aryasomayajula, GLOBALFOUNDRIES, Inc.; Zafer Kutlu, GLOBALFOUNDRIES, Inc.</i> | |
| Package Embedded Decoupling Capacitor Impact on Core Power Delivery Network for ARM SoC Application | 354 |
| <i>Ga Won Kim, Samsung Semiconductor Inc.; Max (Sungwan) Min, Samsung Semiconductor Inc.; Melinda (Ling) Yang, Samsung Semiconductor Inc.; Anil Gundurao, Samsung Semiconductor Inc.; Eileen You, Samsung Semiconductor Inc.; Harpreet Gill, Samsung Semiconductor Inc.; Seungyong Cha, Samsung Electronics Corporation; Younghoon Kim, Samsung Electronics Corporation; Se-Ho You, Samsung Electronics Corporation; Seungbae Lee, Samsung Electronics Corporation; Woonghwan Ryu, Samsung Electronics Corporation</i> | |
| Embed Glass Interposer to Substrate for High Density Interconnection | 360 |
| <i>Dyi-Chung Hu, Unimicron Technology Corporation; Yin-Po Hung, Unimicron Technology Corporation; Yu-Hua Chen, Unimicron Technology Corporation; Ra-Min Tain, Unimicron Technology Corporation; Wei-Chung Lo, Industrial Technology Research Institute (ITRI)</i> | |
| First Demonstration of a Surface Mountable, Ultra-Thin Glass BGA Package for Smart Mobile Logic Devices | 365 |
| <i>Venky Sundaram, Georgia Institute of Technology; Yoichiro Sato, Asahi Glass Company; Toshitake Seki, NGK Spark Plug Co., Ltd.; Yutaka Takagi, NGK Spark Plug Co., Ltd.; Vanessa Smet, Georgia Institute of Technology; Makoto Kobayashi, Namics Corporation; Rao Tummala, Georgia Institute of Technology</i> | |
| 9: Interconnect Reliability | |
| Chairs: Tz-Cheng Chiu, <i>National Cheng Kung University</i> Vikas Gupta, <i>Texas Instruments</i> | |
| Towards a Quantitative Mechanistic Understanding of the Thermal Cycling of SnAgCu Solder Joints | 371 |
| <i>D. Schmitz, Binghamton University; S. Shirazi, Binghamton University; L. Wentlent, Binghamton University; S. Hamasha, Binghamton University; L. Yin, GE Global Research; A. Qasaimeh, Tennessee Tech University; P. Borgesen, Binghamton University</i> | |
| Exploration of Aging Induced Evolution of Solder Joints Using Nanoindentation and Microdiffraction | 379 |
| <i>Mohammad Hasnine, Auburn University; Jeffrey C. Suhling, Auburn University; Barton C. Prorok, Auburn University; Michael J. Bozack, Auburn University; Pradeep Lall, Auburn University</i> | |
| Assessing Adhesive Induced Risk for BGAs in Temperature Cycling | 395 |
| <i>Guruprasad Arakere, Intel Corporation; Milena Vujosevic, Intel Corporation; Min Pei, Intel Corporation</i> | |
| Characteristics of Ceramic BGA Using Polymer Core Solder Balls | 404 |
| <i>Hiroya Ishida, Sekisui Chemical Co., Ltd.; Kiyoto Matsushita, Sekisui Chemical Co., Ltd.</i> | |

| | |
|---|-----|
| Lifetime Prediction of Cu-Al Wire Bonded Contacts for Different Mould Compounds | 411 |
| René Rongen, <i>NXP Semiconductors</i> ; G.M. O'Halloran, <i>NXP Semiconductors</i> ; Amar Mavinkurve, <i>NXP Semiconductors</i> ; Leon Goumans, <i>NXP Semiconductors</i> ; Mark-Luke Farrugia, <i>NXP Semiconductors</i> | |
| The Corrosion Performance of Cu Alloy Wire Bond on Al Pad in Molding Compounds of Various Chlorine Contents under Biased-HAST | 419 |
| Ying-Ta Chiu, <i>ASE Group</i> ; Tzu-Hsing Chiang, <i>ASE Group</i> ; Yin-Fa Chen, <i>ASE Group</i> ; Ping-Feng Yang, <i>ASE Group</i> ; Louie Huang, <i>ASE Group</i> ; Kwang-Lung Lin, <i>National Cheng Kung University</i> | |
| The Effect of Nickel Microalloying on Thermal Fatigue Reliability and Microstructure of SAC105 and SAC205 Solders | 425 |
| Richard Coyle, <i>Alcatel-Lucent</i> ; Richard Parker, <i>iNEMI</i> ; Babak Arfaei, <i>Universal Instruments</i> ; Francis Mutuku, <i>Binghamton University</i> ; Keith Sweatman, <i>Nihon Superior Co., Ltd.</i> ; Keith Howell, <i>Nihon Superior Co., Ltd.</i> ; Stuart Longgood, <i>Delphi</i> ; Elizabeth Benedetto, <i>Hewlett Packard Company</i> | |
| 10: Novel Materials & Processes | |
| Chairs: | |
| Ivan Shubin, <i>Oracle</i> | |
| Bing Dang, <i>IBM Corporation</i> | |
| Flexible Non-Volatile Cu/CuxO/Ag ReRAM Memory Devices Fabricated Using Ink-Jet Printing Technology | 441 |
| Simin Zou, <i>Auburn University</i> ; Michael C. Hamilton, <i>Auburn University</i> | |
| Ultra-High Refractive Index LED Encapsulant | 447 |
| Chia-Chi Tuan, <i>Georgia Institute of Technology</i> ; Ziyin Lin, <i>Georgia Institute of Technology</i> ; Yan Liu, <i>Georgia Institute of Technology</i> ; Kyoung-Sik Moon, <i>Georgia Institute of Technology</i> ; Sehoon Yoo, <i>Korea Institute of Industrial Technology</i> ; Myong-Gi Jang, <i>El Lighting Co. Ltd.</i> ; Ching-Ping Wong, <i>Georgia Institute of Technology</i> ; Chinese University of Hong Kong | |
| A Novel Methodology for Wafer-Specific Feed-Forward Management of Backside Silicon Removal by Wafer Grinding for Optimized Through Silicon Via Reveal | 452 |
| Tyson Alvanos, <i>Disco Hi Tec America, Inc.</i> ; John Garant, <i>IBM Corporation</i> ; Yu Iijima, <i>Disco Hi Tec America, Inc.</i> ; Richard Indyk, <i>IBM Corporation</i> ; Christopher Rosenthal, <i>Lasertec USA, Inc.</i> ; Osamu Sato, <i>Lasertec Corporation</i> ; Naoki Sugase, <i>Lasertec Corporation</i> ; Hideo Takizawa, <i>Lasertec Corporation</i> ; Frank Wei, <i>Disco Hi Tec America, Inc.</i> | |
| Thermal Characterization of Power Devices Using Graphene-Based Film | 459 |
| Pengtu Zhang, <i>Chalmers University of Technology</i> ; East China University of Science and Technology; Nan Wang, <i>Chalmers University of Technology</i> ; Carl Zandén, <i>Chalmers University of Technology</i> ; Lilei Ye, <i>Smart High Tech AB</i> ; Yifeng Fu, <i>Smart High Tech AB</i> ; Johan Liu, <i>Chalmers University of Technology</i> | |
| High Performance Phase Change Thermal Interface Materials Based on Porous Graphitic Carbon Spheres-Paraffin Wax Composite | 464 |
| Zhihua Cao, <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences</i> ; University of Science and Technology of China; Kai Zhang, <i>Hong Kong University of Science and Technology</i> ; Gauping Zhang, <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences</i> ; Matthew M.F. Yuen, <i>Hong Kong University of Science and Technology</i> ; Ping Gu, <i>University of Science and Technology of China</i> ; Xianzhu Fu, <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences</i> ; Rong Sun, <i>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences</i> ; C.P. Wong, <i>Chinese University of Hong Kong</i> | |
| High Sensitivity In-Plane Strain Measurement Using a Laser Scanning Technique | 470 |
| Hanshuang Liang, <i>Arizona State University</i> ; Teng Ma, <i>Arizona State University</i> ; Cheng Lv, <i>Arizona State University</i> ; Hoa Nguyen, <i>Arizona State University</i> ; George Chen, <i>Arizona State University</i> ; Hao Wu, <i>Arizona State University</i> ; Rui Tang, <i>Arizona State University</i> ; Hanqing Jiang, <i>Arizona State University</i> ; Hongbin Yu, <i>Arizona State University</i> | |

| | |
|--|-----|
| Biophysicochemical Evaluation of Passivation Layers for the Packaging of Silicon Microsystems in Medical Devices | 478 |
| Jorge Mario Herrera Morales, <i>CEA-LETI</i> ; Jean-Charles Souriau, <i>CEA-LETI</i> ; David Ratel, <i>CEA-LETI</i> ; François Berger, <i>CEA-LETI</i> ; Gilles Simon, <i>CEA-LETI</i> | |
| 11: Innovative Packaging Technologies | |
| Chairs: Paul Tiner, <i>Texas Instruments</i> Shichun Qu, <i>Fairchild Semiconductor</i> | |
| A New Era in Manufacturable, Low-Temperature and Ultra-Fine Pitch Cu Interconnections and Assembly without Solders | 484 |
| Vanessa Smet, <i>Georgia Institute of Technology</i> ; Makoto Kobayashi, <i>Namics Corporation</i> ; Tao Wang, <i>Georgia Institute of Technology</i> ; Pulugurtha Markondeya Raj, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Enabling Fine Pitch Cu & Ag Alloy Wire Bond Assessment for 28nm Ultra Low-k Structure | 490 |
| John D. Beleran, <i>United Test and Assembly Center, Ltd.</i> ; Ninoy Milanec II, <i>United Test and Assembly Center, Ltd.</i> ; Gaurav Mehta, <i>United Test and Assembly Center, Ltd.</i> ; Nathapong Suthiwongshunthorn, <i>United Test and Assembly Center, Ltd.</i> ; Ranjan Rajoo, <i>GLOBALFOUNDRIES, Inc.</i> ; Chan Kai Chong, <i>GLOBALFOUNDRIES, Inc.</i> | |
| Assembly of Multiple Chips on Flexible Substrate Using Anisotropic Conductive Film for Medical Imaging Applications | 498 |
| Hoang-Vu Nguyen, <i>Buskerud and Vestfold University College</i> ; Trym Eggen, <i>GE Vingmed Ultrasound AS</i> ; Bjørnar Sten-Nilsen, <i>GE Vingmed Ultrasound AS</i> ; Kristin Imenes, <i>Buskerud and Vestfold University College</i> ; Knut E. Aasmundtveit, <i>Buskerud and Vestfold University College</i> | |
| High Frequency High Current Point of Load Modules with Integrated Planar Inductors | 504 |
| Wenli Zhang, <i>Virginia Polytechnic Institute and State University</i> ; Yipeng Su, <i>Virginia Polytechnic Institute and State University</i> ; David Gilham, <i>Virginia Polytechnic Institute and State University</i> ; Mingkai Mu, <i>Virginia Polytechnic Institute and State University</i> ; Qiang Li, <i>Virginia Polytechnic Institute and State University</i> ; Fred C. Lee, <i>Virginia Polytechnic Institute and State University</i> | |
| Integrated Microprobe Array and CMOS MEMS by TSV Technology for Bio-Signal Recording Application | 512 |
| Lei-Chun Chou, <i>National Chiao Tung University</i> ; Shih-Wei Lee, <i>National Chiao Tung University</i> ; Po-Tsang Huang, <i>National Chiao Tung University</i> ; Chih-Wei Chang, <i>University of California, Los Angeles</i> ; Shang-Lin Wu, <i>National Chiao Tung University</i> ; Jin-Chern Chiou, <i>National Chiao Tung University</i> ; China Medical University; Ching-Te Chuang, <i>National Chiao Tung University</i> ; Wei Hwang, <i>National Chiao Tung University</i> ; <i>Advanced Semiconductor Engineering, Inc.</i> ; Chung-Hsi Wu, <i>Advanced Semiconductor Engineering, Inc.</i> ; Kuo-Hua Chen, <i>Advanced Semiconductor Engineering, Inc.</i> ; Chi-Tsung Chiu, <i>Advanced Semiconductor Engineering, Inc.</i> ; Ho-Ming Tong, <i>Advanced Semiconductor Engineering, Inc.</i> ; Kuan-Neng Chen, <i>National Chiao Tung University</i> | |
| Material Characterization of a Novel Lead-Free Solder Material - SACQ | 518 |
| Tak-Sang Yeung, <i>Broadcom Corporation</i> ; Henry Sze, <i>Broadcom Corporation</i> ; Keith Tan, <i>Broadcom Corporation</i> ; Javed Sandhu, <i>Broadcom Corporation</i> ; Chong-Wei Neo, <i>Broadcom Corporation</i> ; Edward Law, <i>Broadcom Corporation</i> | |
| Lithography Challenges for 2.5D Interposer Manufacturing | 523 |
| Klaus Ruhmer, <i>Rudolph Technologies, Inc.</i> ; Philippe Cochet, <i>Rudolph Technologies, Inc.</i> ; Roger McCleary, <i>Rudolph Technologies, Inc.</i> ; Rich Rogoff, <i>Rudolph Technologies, Inc.</i> ; Rajiv Roy, <i>Rudolph Technologies, Inc.</i> | |

12: Power Integrity & Passive Component Modeling

Chairs: Wendem Beyene, *Rambus Inc.*
Daniel de Araujo, *Nimbic, Inc.*

- Package Embedded Inductors for Integrated Voltage Regulators** 528
William J. Lambert, *Intel Corporation*; Michael J. Hill, *Intel Corporation*; Kaladhar Radhakrishnan, *Intel Corporation*; Leigh Wojewoda, *Intel Corporation*; Anne E. Augustine, *Intel Corporation*
- Power Supply Filter for PLL Circuit in Digital Systems** 535
Nam Pham, *IBM Corporation*; Faraydon Pakbaz, *IBM Corporation*; Zhenrong Jin, *IBM Corporation*; Lloyd Walls, *IBM Corporation*
- Coaxial Through-Package-Vias (TPVs) for Enhancing Power Integrity in 3D Double-Side Glass Interposers** 541
Gokul Kumar, *Georgia Institute of Technology*; P. Markondeya Raj, *Georgia Institute of Technology*; Joungyun Cho, *Korea Advanced Institute of Science and Technology (KAIST)*; Saumya Gandhi, *Georgia Institute of Technology*; Parthasarathi Chakraborti, *Georgia Institute of Technology*; Venky Sundaram, *Georgia Institute of Technology*; JoungHo Kim, *Korea Advanced Institute of Science and Technology (KAIST)*; Rao Tummala, *Georgia Institute of Technology*
- Modeling of Switching Noise and Coupling in Multiple Chips of 3D TSV-Based Systems** 548
Huanyu He, *Rensselaer Polytechnic Institute*; Xiaoxiong Gu, *IBM Corporation*; Jian-Qiang Lu, *Rensselaer Polytechnic Institute*
- Characterization of On-Die Power Supply Noise in FCBGA (Flip-Chip Ball Grid Array) Packages** 554
Hyunho Baek, *University of Florida*; William R. Eisenstadt, *University of Florida*
- An Enhanced Power Integrity Analysis Flow Based on the Interdependence between Simultaneous Switching Output Noise and Static IR Drop** 560
Minghui Han, *Samsung Display*; Amir Amirkhany, *Samsung Display*; Wei Xiong, *Samsung Display*
- Improving the Target Impedance Method for PCB Decoupling of Core Power** 566
Guang Chen, *Altera Corporation*; Dan Oh, *Altera Corporation*
- ## 13: 3D Process Integration & Die Stacking
- Chairs:** Rozalia Beica, *Yole Developpement*
Jianwei Dong, *Dow Electronic Materials*
- Process Development to Enable 3D IC Multi-Tier Die Bond for 20µm Pitch and Beyond** 572
Y.H. Hu, *TSMC*; C.S. Liu, *TSMC*; M.T. Chen, *TSMC*; M.D. Cheng, *TSMC*; H.J. Kuo, *TSMC*; M.J. Lii, *TSMC*; A. LaManna, *IMEC*; K.J. Rebibis, *IMEC*; T. Wang, *IMEC*; S.V. Huylenbroeck, *IMEC*; R. Daily, *IMEC*; G. Capuz, *IMEC*; D. Velenis, *IMEC*; G. Beyer, *IMEC*; E. Beyne, *IMEC*; Doug C.H. Yu, *TSMC*
- Factors in the Selection of Temporary Wafer Handlers for 3D/2.5D Integration** 576
Bing Dang, *IBM Corporation*; Bucknell Webb, *IBM Corporation*; Cornelia Tsang, *IBM Corporation*; Paul Andry, *IBM Corporation*; John Knickerbocker, *IBM Corporation*
- Optimization and Challenges on TSV MEOL Integration** 582
DoHyeong Kim, *Amkor Technology Korea, Inc.*; DongHun Lee, *Amkor Technology Korea, Inc.*; YoungChul Seo, *Amkor Technology Korea, Inc.*; JungSoo Park, *Amkor Technology Korea, Inc.*; SeungChul Han, *Amkor Technology Korea, Inc.*; BoRa Jang, *Amkor Technology Korea, Inc.*; JooHyun Khim, *Amkor Technology Korea, Inc.*; YoungSuk Chung, *Amkor Technology Korea, Inc.*; SeongMin Seo, *Amkor Technology Korea, Inc.*; ChoonHeung Lee, *Amkor Technology Korea, Inc.*

| | |
|---|-----|
| TSV Integration on 20nm Logic Si: 3D Assembly and Reliability Results | 590 |
| Rahul Agarwal, <i>GLOBALFOUNDRIES, Inc.</i> ; Dave Hiner, <i>Amkor Technology, Inc.</i> ; Sureshwar Kannan, <i>GLOBALFOUNDRIES, Inc.</i> ; KiWook Lee, <i>Amkor Technology, Inc.</i> ; DoHyeong Kim, <i>Amkor Technology, Inc.</i> ; JongSik Paek, <i>Amkor Technology, Inc.</i> ; SungGeun Kang, <i>Amkor Technology, Inc.</i> ; Yong Son, <i>Amkor Technology, Inc.</i> ; Sebastian Dej, <i>GLOBALFOUNDRIES, Inc.</i> ; Dan Smith, <i>GLOBALFOUNDRIES, Inc.</i> ; Sara Thangaraju, <i>GLOBALFOUNDRIES, Inc.</i> ; Jens Paul, <i>GLOBALFOUNDRIES, Inc.</i> | |
| TSV MEOL (Mid End of Line) and Packaging Technology of Mobile 3D-IC Stacking | 596 |
| Duk Ju Na, <i>STATS ChipPAC, Ltd.</i> ; Kyaw Oo Aung, <i>STATS ChipPAC, Ltd.</i> ; Won Kyung Choi, <i>STATS ChipPAC, Ltd.</i> ; Tsuyoshi Kida, <i>Renesas Electronics Company</i> ; Toshihiko Ochiai, <i>Renesas Electronics Company</i> ; Tomoaki Hashimoto, <i>Renesas Electronics Company</i> ; Michitaka Kimura, <i>Renesas Electronics Company</i> ; Keiichirou Kata, <i>Renesas Electronics Company</i> ; Seung Wook Yoon, <i>STATS ChipPAC, Ltd.</i> ; Andy Chang Bum Yong, <i>STATS ChipPAC, Ltd.</i> | |
| Thermally Enhanced 3 Dimensional Integrated Circuit (TE3DIC) Packaging | 601 |
| S. Snyder, <i>Harris Corporation GCSD</i> ; J. Thompson, <i>Harris Corporation GCSD</i> ; A. King, <i>Harris Corporation GCSD</i> ; E. Walters, <i>Harris Corporation GCSD</i> ; P. Tyler, <i>Harris Corporation GCSD</i> ; M.R. Weatherspoon, <i>Harris Corporation GCSD</i> | |
| Filler Trap and Solder Extrusion in 3D IC Thermo-Compression Bonded Microbumps | 609 |
| Yingxia Liu, <i>University of California, Los Angeles</i> ; Menglu Li, <i>University of California, Los Angeles</i> ; Dong Wook Kim, <i>Qualcomm, Inc.</i> ; Sam Gu, <i>Qualcomm, Inc.</i> ; Dilworth Y. Parkinson, <i>Lawrence Berkeley National Laboratory</i> ; Justin Blair, <i>Lawrence Berkeley National Laboratory</i> ; K.N. Tu, <i>University of California, Los Angeles</i> | |
| 14: TSV Fabrication & Its Reliability Impact | |
| Chairs: Li Li, <i>Cisco Systems, Inc.</i> Wei-Chung Lo, <i>ITRI</i> | |
| Correlation between Cu Microstructure and TSV Cu Pumping | 613 |
| Joke De Messemaeker, <i>IMEC</i> ; Olalla Varela Pedreira, <i>IMEC</i> ; Harold Philipsen, <i>IMEC</i> ; Eric Beyne, <i>IMEC</i> ; Ingrid De Wolf, <i>IMEC</i> ; Tom Van der Donck, <i>KU Leuven</i> ; Kristof Croes, <i>IMEC</i> | |
| TSV Reliability Model under Various Stress Tests | 620 |
| Ben-Je Lwo, <i>National Defense University</i> ; Frank M.-S. Lin, <i>National Defense University</i> ; Kuo-Hsin Huang, <i>National Defense University</i> | |
| Development of Process and Design Criteria for Stress Management in Through Silicon Vias | 625 |
| O. Hölck, <i>Fraunhofer IZM</i> ; M. Nuss, <i>Fraunhofer IZM</i> ; A. Grams, <i>Fraunhofer IZM</i> ; T. Prewitz, <i>Fraunhofer IZM</i> ; P. John, <i>Fraunhofer IZM</i> ; C. Fiedler, <i>Fraunhofer IZM</i> ; M. Böttcher, <i>Fraunhofer IZM</i> ; H. Walter, <i>Fraunhofer IZM</i> ; M.J. Wolf, <i>Fraunhofer IZM</i> ; O. Wittler, <i>Fraunhofer IZM</i> ; K.-D. Lang, <i>Technical University Berlin</i> | |
| High-Speed Wet Etching of Through Silicon Vias (TSVs) in Micro- and Nanoscale | 631 |
| Liyi Li, <i>Georgia Institute of Technology</i> ; Ching-Ping Wong, <i>Georgia Institute of Technology</i> ; Chinese University of Hong Kong | |
| Replacing the PECVD-SiO₂ in the Through-Silicon Via of High-Density 3D LSIs with Highly Scalable Low Cost Organic Liner: Merits and Demerits | 636 |
| Murugesan Mariappan, <i>NICHE, Tohoku University</i> ; Takafumi Fukushima, <i>NICHE, Tohoku University</i> ; JiChel Beatrix, <i>NICHE, Tohoku University</i> ; Hiroyuki Hashimoto, <i>NICHE, Tohoku University</i> ; Yutaka Sato, <i>NICHE, Tohoku University</i> ; Kangwook Lee, <i>NICHE, Tohoku University</i> ; Tetsu Tanaka, <i>NICHE, Tohoku University</i> ; Mitsumasa Koyanagi, <i>NICHE, Tohoku University</i> | |
| Investigation of a TSV-RDL In-line Fault-Diagnosis System and Test Methodology for Wafer-level Commercial Production | 641 |
| Runiu Fang, <i>Peking University</i> ; Min Miao, <i>Beijing Information Science and Technology University</i> ; Xin Sun, <i>Peking University</i> ; Yunhui Zhu, <i>Peking University</i> ; Guanjiang Wang, <i>Peking University Shenzhen Graduate School</i> ; Yichao Xu, <i>Peking University Shenzhen Graduate School</i> ; Minggang Sun, <i>Beijing Information Science and Technology University</i> ; Yufeng Jin, <i>Peking University</i> | |

| | |
|---|-----|
| Bonding Technologies for Chip Level and Wafer Level 3D Integration | 647 |
| Katsuyuki Sakuma, <i>IBM Corporation</i> ; Spyridon Skordas, <i>IBM Corporation</i> ; Jeffrey Zitz, <i>IBM Corporation</i> ; Eric Perfecto, <i>IBM Corporation</i> ; William Guthrie, <i>IBM Corporation</i> ; Luc Guerin, <i>IBM Corporation</i> ; Richard Langlois, <i>IBM Corporation</i> ; Hsichang Liu, <i>IBM Corporation</i> ; Koushik Ramachandran, <i>IBM Corporation</i> ; Wei Lin, <i>IBM Corporation</i> ; Kevin Winstel, <i>IBM Corporation</i> ; Sayuri Kohara, <i>IBM Corporation</i> ; Kuniaki Sueoka, <i>IBM Corporation</i> ; Matthew Angyal, <i>IBM Corporation</i> ; Troy Graves-Abe, <i>IBM Corporation</i> ; Daniel Berger, <i>IBM Corporation</i> ; John Knickerbocker, <i>IBM Corporation</i> ; Subramanian Iyer, <i>IBM Corporation</i> | |
| 15: Solder Joint Reliability | |
| Chairs: Keith Newman, <i>Hewlett-Packard Company</i> Toni Mattila, <i>Aalto University</i> | |
| Dependence of Solder Joint Reliability on Solder Volume, Composition and Printed Circuit Board Surface Finish | 655 |
| Babak Arfaei, <i>Universal Instruments Corporation</i> ; Francis Mutuku, <i>Binghamton University</i> ; Keith Sweatman, <i>Nihon-Superior</i> ; Ning-Cheng Lee, <i>Indium Corporation</i> ; Eric Cotts, <i>Binghamton University</i> ; Richard Coyle, <i>Alcatel-Lucent</i> | |
| The Effects of Aging on the Fatigue Life of Lead Free Solders | 666 |
| Muhannad Mustafa, <i>Auburn University</i> ; Jordan C. Roberts, <i>Auburn University</i> ; Jeffrey C. Suhling, <i>Auburn University</i> ; Pradeep Lall, <i>Auburn University</i> | |
| Solder Joint Height Impact on Temperature Cycle Reliability of BGA Components with Thermal Enabling Load | 684 |
| Yun Ge, <i>Intel Corporation</i> ; Jeffery Cook, <i>Intel Corporation</i> ; Min Pei, <i>Intel Corporation</i> ; Milena Vujosevic, <i>Intel Corporation</i> ; Bite Zhou, <i>Intel Corporation</i> ; Suddhasattwa Nad, <i>Intel Corporation</i> | |
| Controlling the Sn Grain Morphology of SnAg C4 Solder Bumps | 690 |
| Gregory Parks, <i>Binghamton University</i> ; Minhua Lu, <i>IBM Corporation</i> ; Eric Perfecto, <i>IBM Corporation</i> ; Eric Cotts, <i>Binghamton University</i> | |
| The Impact of Microstructure Evolution, Localized Recrystallization and Board Thickness on Sn-Ag-Cu Interconnect Board Level Shock Performance | 697 |
| Tae-Kyu Lee, <i>Cisco Systems, Inc.</i> ; Weidong Xie, <i>Cisco Systems, Inc.</i> ; Thomas R. Bieler, <i>Michigan State University</i> ; Choong-Un Kim, <i>University of Texas, Arlington</i> | |
| Thermal Cycle Fatigue Life Prediction for Flip Chip Solder Joints | 703 |
| Robert Darveaux, <i>Skyworks Solutions, Inc.</i> | |
| High Thermo-Mechanical Fatigue and Drop Impact Resistant Ni-Bi Doped Lead Free Solder | 712 |
| Jae Hong Lee, <i>MK Electron, Ltd.</i> ; Santosh Kumar, <i>MK Electron, Ltd.</i> ; Hui Joong Kim, <i>MK Electron, Ltd.</i> ; Young Woo Lee, <i>MK Electron, Ltd.</i> ; Jeong Tak Moon, <i>MK Electron, Ltd.</i> | |
| 16: Advances in Signal Integrity & High-Speed System Design | |
| Chairs: Xiaoxiong (Kevin) Gu, <i>IBM Corporation</i> Kemal Aygun, <i>Intel Corporation</i> | |
| Optimal Relaxation of I/O Electrical Requirements under Packaging Uncertainty by Stochastic Methods | 717 |
| Xu Chen, <i>University of Illinois, Urbana-Champaign</i> ; Juan S. Ochoa, <i>University of Illinois, Urbana-Champaign</i> ; José E. Schutt-Ainé, <i>University of Illinois, Urbana-Champaign</i> ; Andreas C. Cangellaris, <i>University of Illinois, Urbana-Champaign</i> | |
| An Accurate and Convenient Lumped/Discrete Port De-Embedding Method for the 3D Integration and Packaging Full-Wave Modeling by Splitting and Absorbing the Error-Cancelling Network | 723 |
| Zhaoqing Chen, <i>IBM Corporation</i> | |

| | |
|--|---|
| Design, Modeling, and Characterization of Passive Channels for Data Rates of 50 Gbps and Beyond | 730 |
| Wendemagegnehu Beyene, <i>Rambus, Inc.</i> ; Yeon-Chang Hahm, <i>Rambus, Inc.</i> ; Dave Secker, <i>Rambus, Inc.</i> ; Don Mullen, <i>Rambus, Inc.</i> ; Yuriy Shlepnev, <i>Simberian Inc.</i> | |
| Low Loss Conductors for CMOS and Through Glass/Silicon Via (TGV/TSV) Structures Using Eddy Current Cancelling Superlattice Structure | 736 |
| Arian Rahimi, <i>University of Florida</i> ; Yong-Kyu Yoon, <i>University of Florida</i> | |
| Modeling, Design, Fabrication and Characterization of First Large 2.5D Glass Interposer as a Superior Alternative to Silicon and Organic Interposers at 50 Micron Bump Pitch | 742 |
| Brett Sawyer, <i>Georgia Institute of Technology</i> ; Hao Lu, <i>Georgia Institute of Technology</i> ; Yuya Suzuki, <i>Zeon Corporation</i> ; Yutaka Takagi, <i>NGK Spark Plug Co. Ltd.</i> ; Makoto Kobayashi, <i>Namics Corporation</i> ; Vanessa Smet, <i>Georgia Institute of Technology</i> ; Taiji Sakai, <i>Fujitsu Laboratories Ltd.</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Coupling Impact of Single Ended Signals to LVDS Interface | 748 |
| June Feng, <i>Altera Corporation</i> ; Chooi Ian Loh, <i>Altera Corporation</i> ; Edward Lin, <i>Altera Corporation</i> ; Ellen Du, <i>Altera Corporation</i> ; Guang Chen, <i>Altera Corporation</i> ; Dan Oh, <i>Altera Corporation</i> | |
| Analysis on Interference between Multi-Giga Bit Display Serial Link and RF Components in Smart Mobile Device | 753 |
| Youchul Jeong, <i>Silicon Image Inc.</i> ; Jaemin Kim, <i>Silicon Image Inc.</i> ; Baegin Sung, <i>Silicon Image Inc.</i> | |
| 17: Emerging Wireless Technologies & Design | |
| Chairs: | Amit P. Agrawal, <i>Cisco Systems, Inc.</i> Lih-Tyng Hwang, <i>National Sun Yat-Sen University</i> |
| Novel Highly-Efficient and Misalignment Insensitive Wireless Power Transfer Systems Utilizing Strongly Coupled Magnetic Resonance Principles | 759 |
| Daerhan Daerhan, <i>Florida International University</i> ; Olutola Jonah, <i>Florida International University</i> ; Hao Hu, <i>Florida International University</i> ; Stavros V. Georgakopoulos, <i>Florida International University</i> ; Manos M. Tentzeris, <i>Georgia Institute of Technology</i> | |
| A Wireless Charging and Near-field Communication Combination Module for Mobile Applications | 763 |
| Hiroki Shibuya, <i>Renesas Electronics Corporation</i> ; Tatsuaki Tsukuda, <i>Renesas Electronics Corporation</i> ; Hiroko Suzuki, <i>Renesas Electronics Corporation</i> ; Tadashi Shimizu, <i>Renesas Electronics Corporation</i> ; Masahiro Dobashi, <i>Renesas Electronics Corporation</i> ; Shinji Nishizono, <i>Renesas Electronics Corporation</i> ; Mikio Baba, <i>Renesas Electronics Corporation</i> ; Hideki Sasaki, <i>Renesas Electronics Corporation</i> ; Katsushi Terajima, <i>Renesas Electronics Corporation</i> | |
| Enhanced-Performance Wireless Conformal "Smart Skins" Utilizing Inkjet-Printed Carbon-Nanostructures | 769 |
| Taoran Le, <i>Georgia Institute of Technology</i> ; Ziyin Lin, <i>Georgia Institute of Technology</i> ; C.P. Wong, <i>Georgia Institute of Technology</i> ; M.M. Tentzeris, <i>Georgia Institute of Technology</i> | |
| Novel THz Imaging Array Using High Resistivity Metasurfaces | 775 |
| Kyoung Youl Park, <i>Michigan State University</i> ; Premjeet Chahal, <i>Michigan State University</i> | |
| Magneto-Dielectric Characterization and Antenna Design | 782 |
| Kyu Han, <i>Georgia Institute of Technology</i> ; Madhavan Swaminathan, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; Himani Sharma, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> ; Vijay Nair, <i>Intel Corporation</i> | |

| | |
|---|---|
| Flexible Liquid Crystal Polymer Based Complementary Split Ring Resonator Loaded Quarter Mode Substrate Integrated Waveguide Filters for Compact and Wearable Broadband RF Applications | 789 |
| David E. Senior, <i>Universidad Tecnológica de Bolívar; University of Florida</i> ; Arian Rahimi, <i>University of Florida</i> ; Pitfee Jao, <i>University of Florida</i> ; Yong-Kyu Yoon, <i>University of Florida</i> | |
| A Dual-Band Power Amplifier Based on Composite Right/Left-Handed Matching Networks | 796 |
| Kyriaki Niotaki, <i>Centre Tecnologic de Telecomunicacions de Catalunya</i> ; Ana Collado, <i>Centre Tecnologic de Telecomunicacions de Catalunya</i> ; Apostolos Georgiadis, <i>Centre Tecnologic de Telecomunicacions de Catalunya</i> ; John Vardakas, <i>Iquadrat S. L.</i> | |
| 18: WLCSP, Flip Chip, and PoP | |
| Chairs: | Valerie Oberson, <i>IBM Corporation</i> Sa Huang, <i>Medtronic Corporation</i> |
| Wafer-Level Non Conductive Films for Exascale Servers | 803 |
| A. Horibe, <i>IBM Corporation</i> ; S. Kohara, <i>IBM Corporation</i> ; H. Mori, <i>IBM Corporation</i> ; Y. Orii, <i>IBM Corporation</i> ; S. Kawamoto, <i>Namics Corporation</i> ; H. Sone, <i>Namics Corporation</i> ; M. Hoshiyama, <i>Namics Corporation</i> | |
| Bump Geometric Deviation on the Reliability of BOR WLCSP | 808 |
| Yumin Liu, <i>Fairchild Semiconductor Corporation</i> ; Yong Liu, <i>Fairchild Semiconductor Corporation</i> ; Shichun Qu, <i>Fairchild Semiconductor Corporation</i> | |
| Experimental Identification of Warpage Origination During the Wafer Level Packaging Process | 815 |
| Chunsheng Zhu, <i>Chinese Academy of Sciences</i> ; Wenguo Ning, <i>Chinese Academy of Sciences</i> ; Heng Lee, <i>Chinese Academy of Sciences</i> ; Jiaotuo Ye, <i>Chinese Academy of Sciences</i> ; Gaowei Xu, <i>Chinese Academy of Sciences</i> ; Le Luo, <i>Chinese Academy of Sciences</i> | |
| A Stress-Based Effective Film Technique for Wafer Warpage Prediction of Arbitrarily Patterned Films | 821 |
| Gregory T. Ostrowicki, <i>Texas Instruments, Inc.</i> ; Siva P. Gurrum, <i>Texas Instruments, Inc.</i> | |
| Drop Test and TCT Reliability of Buffer Coating Material for WLCSP | 829 |
| Nobuhiro Anzai, <i>Asahi Kasei E-Materials Corporation</i> ; Mitsuru Fujita, <i>Asahi Kasei E-Materials Corporation</i> ; Atsushi Fujii, <i>Asahi Kasei E-Materials Corporation</i> | |
| Optimization of Compression Bonding Processing Temperature for Fine Pitch Cu-Column Flip Chip Devices | 836 |
| Yonghyuk Jeong, <i>STATS ChipPAC, Inc.</i> ; Joonyoung Choi, <i>STATS ChipPAC, Inc.</i> ; Youjoung Choi, <i>STATS ChipPAC, Inc.</i> ; Nokibul Islam, <i>STATS ChipPAC, Inc.</i> ; Eric Ouyang, <i>STATS ChipPAC, Inc.</i> | |
| Reliability Improvement Methods of Solder Anisotropic Conductive Film (ACF) Joints Using Morphology Control of Solder ACF Joints | 841 |
| Yoo-Sun Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Seung-Ho Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Jiwon Shin, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| 19: Progress in 3D Integration | |
| Chairs: | Shawn Shi, <i>Medtronic Corporation</i> Mark Gerber, <i>Texas Instruments</i> |
| Development of the Technology to Control the Spatial Distribution of Plasma Using Double ICP Coil | 846 |
| T. Sakuishi, <i>ULVAC, Inc.</i> ; NMEMS Technology Research Organization; T. Murayama, <i>ULVAC, Inc.</i> ; NMEMS Technology Research Organization; Y. Morikawa, <i>ULVAC, Inc.</i> ; NMEMS Technology Research Organization; K. Suu, <i>ULVAC, Inc.</i> ; NMEMS Technology Research Organization | |

| | |
|--|--|
| Defect Detection in Through Silicon Vias by GHz Scanning Acoustic Microscopy: Key Ultrasonic Characteristics | 850 |
| Alain Phommahaxay, <i>IMEC</i> ; Ingrid De Wolf, <i>IMEC</i> ; <i>KU Leuven</i> ; Tatjana Djuric, <i>PVA TePla Analytical Systems GmbH</i> ; Peter Hoffrogge, <i>PVA TePla Analytical Systems GmbH</i> ; Sebastian Brand, <i>Fraunhofer IWM</i> ; Peter Czurratis, <i>PVA TePla Analytical Systems GmbH</i> ; Harold Philipsen, <i>IMEC</i> ; Gerald Beyer, <i>IMEC</i> ; Herbert Struyf, <i>IMEC</i> ; Eric Beyne, <i>IMEC</i> | |
| Temporary Spin-on Glass Bonding Technologies for Via-Last/Backside-Via 3D Integration Using Multichip Self-Assembly | 856 |
| H. Hashiguchi, <i>Tohoku University</i> ; T. Fukushima, <i>Tohoku University</i> ; A. Noriki, <i>Tohoku University</i> ; H. Kino, <i>Tohoku University</i> ; K.-W. Lee, <i>Tohoku University</i> ; T. Tanaka, <i>Tohoku University</i> ; M. Koyanagi, <i>Tohoku University</i> | |
| TSV Module Optimization for High Performance Silicon Interposer | 862 |
| Andrew Cao, <i>Invensas Corporation</i> ; Thomas Dinan, <i>Invensas Corporation</i> ; Zhuowen Sun, <i>Invensas Corporation</i> ; Guilian Gao, <i>Invensas Corporation</i> ; Cyprian Uzoh, <i>Invensas Corporation</i> ; Bong-Sub Lee, <i>Invensas Corporation</i> ; Liang Wang, <i>Invensas Corporation</i> ; Hong Shen, <i>Invensas Corporation</i> ; Sitaram Arkalud, <i>Invensas Corporation</i> | |
| Study of TSV Thinning Wafer Strength Enhancement for 3DIC Package | 868 |
| Jyun-Ling Tsai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chun-Chieh Chao, <i>Siliconware Precision Industries Co., Ltd.</i> ; Hsiao-Chun Huang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Cheng-Hsiang Liu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Hung-Hsein Chang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chang-Lun Lu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Shi-Ching Chen, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| Challenges in 3D Die Stacking | 873 |
| Juergen Grafe, <i>Fraunhofer IZM</i> ; Wieland Wahrmund, <i>Fraunhofer IZM</i> ; Stephan Dobritz, <i>Fraunhofer IZM</i> ; Juergen Wolf, <i>Fraunhofer IZM</i> ; Klaus-Dieter Lang, <i>Fraunhofer IZM</i> | |
| Wet Silicon Etch Process for TSV Reveal | 878 |
| Laura B. Mauer, <i>Solid State Equipment, LLC</i> ; John Taddei, <i>Solid State Equipment, LLC</i> ; Ramey Youssef, <i>Solid State Equipment, LLC</i> ; Yongqiang Lu, <i>SACHEM, Inc.</i> ; Sian Collins, <i>SACHEM, Inc.</i> ; Kevin McLaughlin, <i>SACHEM, Inc.</i> ; Craig Allen, <i>SACHEM, Inc.</i> | |
| 20: 3D Materials & Processing | |
| Chairs: | Myung Jin Yim, <i>Intel Corporation</i> Daniel D. Lu, <i>Henkel Corporation</i> |
| Advanced Wafer Bonding and Laser Debonding | 883 |
| P. Andry, <i>IBM Corporation</i> ; R. Budd, <i>IBM Corporation</i> ; R. Polastre, <i>IBM Corporation</i> ; C. Tsang, <i>IBM Corporation</i> ; B. Dang, <i>IBM Corporation</i> ; J. Knickerbocker, <i>IBM Corporation</i> ; M. Glodde, <i>IBM Corporation</i> | |
| Versatile Thin Wafer Stacking Technology for Monolithic Integration of Temporary Bonded Thin Wafers | 888 |
| Thomas Uhrmann, <i>EV Group</i> ; Jürgen Burggraf, <i>EV Group</i> ; Julian Bravin, <i>EV Group</i> ; Viorel Dragoi, <i>EV Group</i> ; Markus Wimplinger, <i>EV Group</i> ; Thorsten Matthias, <i>EV Group</i> ; Paul Lindner, <i>EV Group</i> | |
| Temporary Bonding for High-Topography Applications: Spin-on Material versus Dry Film | 894 |
| Anne Jourdain, <i>IMEC</i> ; Alain Phommahaxay, <i>IMEC</i> ; Greet Verbinnen, <i>IMEC</i> ; Alice Guerrero, <i>Brewer Science, Inc.</i> ; Susan Bailey, <i>Brewer Science, Inc.</i> ; Mark Privett, <i>Brewer Science, Inc.</i> ; Kim Arnold, <i>Brewer Science, Inc.</i> ; Andy Miller, <i>IMEC</i> ; Kenneth Rebibis, <i>IMEC</i> ; Gerald Beyer, <i>IMEC</i> ; Eric Beyne, <i>IMEC</i> | |
| Development of New Concept Thermoplastic Temporary Adhesive for 3D-IC Integration | 899 |
| A. Kubo, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; K. Tamura, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; H. Imai, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; T. Yoshioka, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; S. Oya, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; S. Otaka, <i>Tokyo Ohka Kogyo Co., Ltd.</i> | |

| | |
|---|--|
| Underfilling Techniques Comparison in 3D CtW Stacking Approach | 906 |
| A. Garnier, <i>CEA-LETI</i> ; A. Jouve, <i>CEA-LETI</i> ; R. Franiatte, <i>CEA-LETI</i> ; S. Chéramy, <i>CEA-LETI</i> | |
| High Throughput Thermal Compression NCF Bonding | 913 |
| Toshihisa Nonaka, <i>Toray Industries, Inc.</i> ; Yuta Kobayashi, <i>Toray Industries, Inc.</i> ; Noboru Asahi, <i>Toray Industries, Inc.</i> ; Shoichi Niizeki, <i>Toray Industries, Inc.</i> ; Koichi Fujimaru, <i>Toray Industries, Inc.</i> ; Yoshiyuki Arai, <i>Toray Engineering Co., Ltd.</i> ; Toshifumi Takegami, <i>Toray Engineering Co., Ltd.</i> ; Yoshinori Miyamoto, <i>Toray Engineering Co., Ltd.</i> ; Masatsugu Nimura, <i>Toray Engineering Co., Ltd.</i> ; Hiroyuki Niwa, <i>Toray International America Inc.</i> | |
| Through Silicon Underfill Dispensing for 3D Die/Interposer Stacking | 919 |
| Fuliang Le, <i>Hong Kong University of Science and Technology</i> ; S.W. Ricky Lee, <i>Hong Kong University of Science and Technology</i> ; Kei May Lau, <i>Hong Kong University of Science and Technology</i> ; C. Patrick Yue, <i>Hong Kong University of Science and Technology</i> ; Johnny K.O. Sin, <i>Hong Kong University of Science and Technology</i> ; Philip K.T. Mok, <i>Hong Kong University of Science and Technology</i> ; Wing-Hung Ki, <i>Hong Kong University of Science and Technology</i> ; Hoi Wai Choi, <i>University of Hong Kong</i> | |
| 21: Wafer-Level & Fan-Out Packages | |
| Chairs: | Christopher Bower, <i>X-Celeprint Ltd.</i> E. Jan Vardaman, <i>TechSearch International, Inc.</i> |
| Board Level Reliability and Surface Mount Assembly of 0.35mm and 0.3mm Pitch Wafer Level Packages | 925 |
| Beth Keser, <i>Qualcomm Technologies, Inc.</i> ; Rey Alvarado, <i>Qualcomm Technologies, Inc.</i> ; Alan Choi, <i>Qualcomm Technologies, Inc.</i> ; Mark Schwarz, <i>Qualcomm Technologies, Inc.</i> ; Steve Bezuk, <i>Qualcomm Technologies, Inc.</i> | |
| Encapsulated Wafer Level Package Technology (eWLCS) | 931 |
| Tom Strothmann, <i>STATS ChipPAC, Inc.</i> ; Seung Wook Yoon, <i>STATS ChipPAC, Ltd.</i> ; Yaojian Lin, <i>STATS ChipPAC, Ltd.</i> | |
| Enabling of Fan-Out WLP for More Demanding Applications by Introduction of Enhanced Dielectric Material for Higher Reliability | 935 |
| Rodrigo Almeida, <i>Namium, S.A.</i> ; Isabel Barros, <i>Namium, S.A.</i> ; José Campos, <i>Namium, S.A.</i> ; Paulo Cardoso, <i>Namium, S.A.</i> ; José Castro, <i>Namium, S.A.</i> ; Vitor Henriques, <i>Namium, S.A.</i> ; Eoin O'Toole, <i>Namium, S.A.</i> ; Nelson Pinho, <i>Namium, S.A.</i> | |
| 24" x 18" Fan-Out Panel Level Packaging | 940 |
| T. Braun, <i>Fraunhofer IZM</i> ; K.-F. Becker, <i>Fraunhofer IZM</i> ; S. Voges, <i>Technical University Berlin</i> ; J. Bauer, <i>Fraunhofer IZM</i> ; R. Kahle, <i>Technical University Berlin</i> ; V. Bader, <i>Fraunhofer IZM</i> ; T. Thomas, <i>Technical University Berlin</i> ; R. Aschenbrenner, <i>Fraunhofer IZM</i> ; K.-D. Lang, <i>Technical University Berlin</i> | |
| Development and Characterization of New Generation Panel Fan-Out (P-FO) Packaging Technology | 947 |
| Hong-Da Chang, <i>Siliconware Precision Industries Co., Ltd.</i> ; David Chang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Kenny Liu, <i>Siliconware Precision Industries Co., Ltd.</i> ; H.S. Hsu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Rui-Feng Tai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Hsiao-Chun Huang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Yi-Che Lai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chang-Lun Lu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chun-Tang Lin, <i>Siliconware Precision Industries Co., Ltd.</i> ; Steve Chiu, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| Development of Exposed Die Large Body to Die Size Ratio Wafer Level Package Technology | 952 |
| J. Osenbach, <i>LSI Corporation</i> ; S. Emerich, <i>LSI Corporation</i> ; L. Golick, <i>LSI Corporation</i> ; S. Cate, <i>LSI Corporation</i> ; M. Chan, <i>STATS ChipPAC, Ltd.</i> ; S.W. Yoon, <i>STATS ChipPAC, Ltd.</i> ; Y.J. Lin, <i>STATS ChipPAC, Ltd.</i> ; K. Wong, <i>STATS ChipPAC, Inc.</i> | |

| | |
|---|------|
| 3D Rectangular Waveguide Integrated in Embedded Wafer Level Ball Grid Array (eWLB) Package | 956 |
| E. Seler, <i>Friedrich-Alexander University Erlangen-Nuremberg</i> ; M. Wojnowski, <i>Infineon Technologies AG</i> ; W. Hartner, <i>Infineon Technologies AG</i> ; J. Böck, <i>Infineon Technologies AG</i> ; R. Lachner, <i>Infineon Technologies AG</i> ; R. Weigel, <i>University of Erlangen-Nuremberg</i> ; A. Hagelauer, <i>Friedrich-Alexander University Erlangen-Nuremberg</i> | |
| 22: System-Level Thermal & Mechanical Models I | |
| Chairs: Yong Liu, <i>Fairchild Semiconductor Corporation</i> Sandeep Sane, <i>Intel Corporation</i> | |
| Interplay and Influence of Thermomechanical Stress in Copper-Filled TSV Interposers | 963 |
| Sheng-Tsai Wu, <i>Industrial Technology Research Institute (ITRI)</i> ; Cheng-Fu Chen, <i>University of Alaska, Fairbanks</i> ; Heng-Chieh Chien, <i>Industrial Technology Research Institute (ITRI)</i> | |
| Does Current Crowding Induce Vacancy Concentration Singularity in Electromigration? | 967 |
| Ozgur Taner, <i>Lamar University</i> ; Kasemsak Kijkanjanapaiboon, <i>Lamar University</i> ; Xuejun Fan, <i>Lamar University</i> | |
| Hygro-Thermo-Mechanical Analysis and Failure Prediction in Electronic Packages by Using Peridynamics | 973 |
| Selda Oterkus, <i>University of Arizona</i> ; Erdogan Madenci, <i>University of Arizona</i> ; Erkan Oterkus, <i>University of Strathclyde</i> ; Yuchul Hwang, <i>Samsung Electronics Company, Ltd.</i> ; Jangyong Bae, <i>Samsung Electronics Company, Ltd.</i> ; Sungwon Han, <i>Samsung Electronics Company, Ltd.</i> | |
| Cohesive Zone Experiments for Copper/Mold Compound Delamination | 983 |
| William E.R. Krieger, <i>Georgia Institute of Technology</i> ; Sathyanarayanan Raghavan, <i>Georgia Institute of Technology</i> ; Abhishek Kwatra, <i>Georgia Institute of Technology</i> ; Suresh K. Sitaraman, <i>Georgia Institute of Technology</i> | |
| Damage Pre-Cursor Based Life Prediction of the Effect of Mean Temperature of Thermal Cycle on the SnAgCu Solder Joint Reliability | 990 |
| Pradeep Lall, <i>Auburn University</i> ; Kazi Mirza, <i>Auburn University</i> ; Jeff Suhling, <i>Auburn University</i> | |
| Methodology Development of Warpage Analysis of Polymer Based Packaging Substrate | 1004 |
| Cheolgyu Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Taeik Lee, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Hyeseon Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Min Sung Kim, <i>Samsung Electro-Mechanics</i> ; Taek-Soo Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Simulations for the Impact of Warpage on the Accuracy of Attitude and Heading Reference System | 1010 |
| Shengzhi Zhang, <i>Huazhong University of Science & Technology</i> ; <i>Wuhan National Laboratory for Optoelectronics</i> ; Qiang Dan, <i>Huazhong University of Science & Technology</i> ; <i>Wuhan National Laboratory for Optoelectronics</i> ; Chaojun Liu, <i>Huazhong University of Science & Technology</i> ; <i>Wuhan National Laboratory for Optoelectronics</i> ; Yong Xu, <i>Wayne State University</i> ; Xin Wu, <i>Wayne State University</i> ; Sheng Liu, <i>Wuhan University</i> ; Xing Guo, <i>Huazhong University of Science & Technology</i> ; <i>Wuhan National Laboratory for Optoelectronics</i> ; Ming Wen, <i>Huazhong University of Science & Technology</i> ; <i>Wuhan National Laboratory for Optoelectronics</i> | |
| 23: Optical Interconnects | |
| Chairs: Hiren Thacker, <i>Oracle</i> Ping Zhou, <i>LDX Optronics, Inc.</i> | |
| Multicore Fiber 4 TX + 4 RX Optical Transceiver Based on Holey SiGe IC | 1016 |
| Fuad E. Doany, <i>IBM Corporation</i> ; Daniel M. Kuchta, <i>IBM Corporation</i> ; Alexander V. Rylyakov, <i>IBM Corporation</i> ; Christian Baks, <i>IBM Corporation</i> ; Shurong Tian, <i>IBM Corporation</i> ; Mark Schultz, <i>IBM Corporation</i> ; Frank Libsch, <i>IBM Corporation</i> ; Clint L. Schow, <i>IBM Corporation</i> | |

| | |
|--|--|
| 336-Channel Electro-Optical Interconnect: Underfill Process Improvement, Fiber Bundle and Reliability Results | 1021 |
| Shuki Benjamin, <i>Compass-EOS</i> ; Kobi Hasharoni, <i>Compass-EOS</i> ; Avi Maman, <i>Compass-EOS</i> ; Stanislav Stepanov, <i>Compass-EOS</i> ; Michael Mesh, <i>Compass-EOS</i> ; Helge Luesebrink, <i>PVA TePla AG</i> ; Roland Steffek, <i>PVA TePla AG</i> ; Wolfgang Pleyer, <i>PVA TePla AG</i> ; Christian Stömmer, <i>PVA TePla AG</i> | |
| Development of Optical Multi-Channel Connector for Rigid Waveguide – Fiber Optical Interconnection | 1028 |
| Kazumi Nakazuru, <i>Kyocera Corporation</i> ; Satoshi Asai, <i>Kyocera Corporation</i> ; Masatoshi Tsunoda, <i>Kyocera Corporation</i> ; Naoki Takahashi, <i>Kyocera Corporation</i> ; Takahiro Matsubara, <i>Kyocera Corporation</i> | |
| Electro-Optical Backplane Demonstrator with Gradient-Index Multimode Glass Waveguides for Board-to-Board Interconnection | 1033 |
| Lars Brusberg, <i>Fraunhofer Institute IZM</i> ; Henning Schröder, <i>Fraunhofer Institute IZM</i> ; Richard Pitwon, <i>Xyratex Technology Ltd.</i> ; Simon Whalley, <i>ILFA Feinstleiteteknik GmbH</i> ; Allen Miller, <i>Xyratex Technology Ltd.</i> ; Christian Herbst, <i>Technical University of Berlin</i> ; Julia Röder, <i>Fraunhofer Institute IZM</i> ; Daniel Weber, <i>Fraunhofer Institute IZM</i> ; Klaus-Dieter Lang, <i>Technical University of Berlin</i> | |
| Three-Dimensional High-Density Channel Integration of Polymer Optical Waveguide Using the Mosquito Method | 1042 |
| Takaaki Ishigure, <i>Keio University</i> ; Daisuke Suganuma, <i>Keio University</i> ; Kazutomo Soma, <i>Keio University</i> | |
| Novel Trace Design for High Data-Rate, Multi-Channel Optical Transceiver Assembled Using Flip-Chip Bonding | 1048 |
| Takatoshi Yagisawa, <i>Fujitsu Laboratories, Ltd.</i> ; Takashi Shiraishi, <i>Fujitsu Laboratories, Ltd.</i> ; Mariko Sugawara, <i>Fujitsu Laboratories, Ltd.</i> ; Kazuhiro Tanaka, <i>Fujitsu Laboratories, Ltd.</i> | |
| Modeling, Design, and Demonstration of Ultra-Miniaturized and High Efficiency 3D Glass Photonics Modules | 1054 |
| Bruce C. Chou, <i>Georgia Institute of Technology</i> ; Sandeep Razdan, <i>TE Connectivity</i> ; Haipeng Zhang, <i>TE Connectivity</i> ; Jibin Sun, <i>TE Connectivity</i> ; Terry Bowen, <i>TE Connectivity</i> ; Vanessa Smet, <i>Georgia Institute of Technology</i> ; Gee-Kung Chang, <i>Georgia Institute of Technology</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| 24: Innovative Interconnections | |
| Chairs: | James E. Morris, <i>Portland State University</i> Nathan Lower, <i>Rockwell Collins, Inc.</i> |
| A Study on Nanofiber Anisotropic Conductive Films (ACFs) for Fine Pitch Chip-on-Glass (COG) Interconnections | 1060 |
| Sang Hoon Lee, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Tae Wan Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Study of Fine Pitch Micro-Interconnections Formed by Low Temperature Bonded Copper Nanowires Based Anisotropic Conductive Film | 1064 |
| Jing Tao, <i>University College Cork</i> ; Alan Mathewson, <i>University College Cork</i> ; Kafil M. Razeeb, <i>University College Cork</i> | |
| Carbon Nanofibers (CNF) for Enhanced Solder-Based Nano-Scale Integration and On-Chip Interconnect Solutions | 1071 |
| V. Desmaris, <i>Smoltek AB</i> ; A.M. Saleem, <i>Smoltek AB</i> ; S. Shafiee, <i>Smoltek AB</i> ; J. Berg, <i>Smoltek AB</i> ; M.S. Kabir, <i>Smoltek AB</i> ; A. Johansson, <i>Smoltek AB</i> ; Phil Marcoux, <i>PPM Associates</i> | |
| Pressure-Less Plasma Sintering of Cu Paste for SiC Die-Attach of High-Temperature Power Device Manufacturing | 1077 |
| S. Nagao, <i>Osaka University</i> ; K. Kodani, <i>Nissin, Inc.</i> ; S. Sakamoto, <i>Osaka University</i> ; S.-W. Park, <i>Osaka University</i> ; T. Sugahara, <i>Osaka University</i> ; K. Suganuma, <i>Osaka University</i> | |

| | |
|---|------|
| Bonding 1200 V, 150 A IGBT Chips (13.5 mm x 13.5 mm) with DBC Substrate by Pressureless Sintering Nanosilver Paste for Power Electronic Packaging | 1085 |
| Shanacan Fu, <i>Tianjin University</i> ; Yunhui Mei, <i>Tianjin University</i> ; Guo-Quan Lu, <i>Tianjin University, Virginia Tech</i> ; Xin Li, <i>Tianjin University</i> ; Gang Chen, <i>Tianjin University</i> ; Xu Chen, <i>Tianjin University</i> | |
| Flip Chip Based on Compliant Double Helix Interconnect for High Frequency Applications | 1086 |
| Pingye Xu, <i>Auburn University</i> ; George A. Hernandez, <i>Auburn University</i> ; Shiqiang Wang, <i>Auburn University</i> ; Jie Zhong, <i>Auburn University</i> ; Charles D. Ellis, <i>Auburn University</i> ; Michael C. Hamilton, <i>Auburn University</i> | |
| Modeling of Crosstalk Effects in Coupled MLG NR Interconnects Based on FDTD Method | 1091 |
| Vobulapuram Ramesh Kumar, <i>Indian Institute of Technology Roorkee</i> ; Brajesh Kumar Kaushik, <i>Indian Institute of Technology Roorkee</i> ; Amalendu Patnaik, <i>Indian Institute of Technology Roorkee</i> | |
| 25: Recent Advances in 3D Package Reliability | |
| Chairs: Deepak Goyal, <i>Intel Corporation</i> Jeffrey Suhling, <i>Auburn University</i> | |
| First Demonstration of Reliable Copper-Plated 30µm Diameter Through-Package-Vias in Ultra-Thin Bare Glass Interposers | 1098 |
| Kaya Demir, <i>Georgia Institute of Technology</i> ; Andac Armutlulu, <i>Georgia Institute of Technology</i> ; Jialing Tong, <i>Georgia Institute of Technology</i> ; Raghuram Pucha, <i>Georgia Institute of Technology</i> ; Venkatesh Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Through-Glass Interposer Integrated High Quality RF Components | 1103 |
| Cheolbok Kim, <i>University of Florida</i> ; David E. Senior, <i>University of Florida</i> ; <i>Universidad Tecnológica de Bolívar</i> ; Aric Shorey, <i>Corning, Inc.</i> ; Hyup Jong Kim, <i>University of Florida</i> ; Windsor Thomas, <i>Corning, Inc.</i> ; Yong-Kyu Yoon, <i>University of Florida</i> | |
| Minimization of Keep-Out Zone (KOZ) in 3D IC by Local Bending Stress Suppression with Low Temperature Curing Adhesive | 1110 |
| Hisashi Kino, <i>Tohoku University</i> ; Hideto Hashiguchi, <i>Tohoku University</i> ; Yohei Sugawara, <i>Tohoku University</i> ; Seiya Tanikawa, <i>Tohoku University</i> ; Takafumi Fukushima, <i>Tohoku University</i> ; Kangwook Lee, <i>Tohoku University</i> ; Mitsumasa Koyanagi, <i>Tohoku University</i> ; Tetsu Tanaka, <i>Tohoku University</i> | |
| Effect of Thermal Annealing on TSV Cu Protrusion and Local Stress | 1116 |
| Xiangmeng Jing, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Hongwen He, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Liang Ji, <i>National Center for Advanced Packaging</i> ; Cheng Xu, <i>National Center for Advanced Packaging</i> ; Kai Xue, <i>National Center for Advanced Packaging</i> ; Meiyong Su, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Chongshen Song, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Daquan Yu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Liqiang Cao, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Wenqi Zhang, <i>National Center for Advanced Packaging</i> ; Dongkai Shangguan, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> | |
| Effect of High Temperature Storage on the Stress and Reliability of 3D Stacked Chips | 1122 |
| Tengfei Jiang, <i>University of Texas, Austin</i> ; Chenglin Wu, <i>University of Texas, Austin</i> ; Peng Su, <i>Cisco Systems, Inc.</i> ; Pierre Chia, <i>Cisco Systems, Inc.</i> ; Li Li, <i>Cisco Systems, Inc.</i> ; Ho-Young Son, <i>SK Hynix, Inc.</i> ; Min-Suk Suh, <i>SK Hynix, Inc.</i> ; Nam-Seog Kim, <i>SK Hynix, Inc.</i> ; Jay Im, <i>University of Texas, Austin</i> ; Rui Huang, <i>University of Texas, Austin</i> ; Paul S. Ho, <i>University of Texas, Austin</i> | |
| A Novel Fine Pitch TSV Interconnection Method Using NCF with Zn Nano-Particles | 1128 |
| Ji-Won Shin, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Yong-Won Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Young Soon Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Un Byung Kang, <i>Samsung Electronics Company, Ltd.</i> ; Sun Kyung Seo, <i>Samsung Electronics Company, Ltd.</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |

| | |
|---|------|
| Residual Stress Investigations at TSVs in 3D Micro Structures by HR-XRD, Raman Spectroscopy and fibDAC | 1134 |
| U. Zschenderlein, <i>Technical University Chemnitz</i> ; D. Vogel, <i>Fraunhofer ENAS</i> ; E. Auerswald, <i>Fraunhofer ENAS</i> ; O. Höck, <i>Technical University Chemnitz</i> ; H. Rajendran, <i>Technical University Chemnitz</i> ; P. Ramm, <i>Fraunhofer EMFT</i> ; R. Pufall, <i>Infineon Technologies</i> ; B. Wunderle, <i>Technical University Chemnitz</i> ; <i>Fraunhofer ENAS</i> | |
| 26: 3D Microbumps | |
| Chairs: Kathy Cook, <i>Ziptronix</i> Lei Shan, <i>IBM Corporation</i> | |
| Formic Acid Treatment with Pt Catalyst for Cu Direct and Hybrid Bonding at Low Temperature | 1143 |
| Tadatomu Suga, <i>University of Tokyo</i> ; Masakate Akaike, <i>University of Tokyo</i> ; Wenhua Yang, <i>University of Tokyo</i> | |
| Direct Multichip-to-Wafer 3D Integration Technology Using Flip-Chip Self-Assembly of NCF-Covered Known Good Dies | 1148 |
| Yuka Ito, <i>Tohoku University</i> ; <i>Sumitomo Bakelite Co., Ltd.</i> ; Mariappan Murugesan, <i>Tohoku University</i> ; Takafumi Fukushima, <i>Tohoku University</i> ; Kang-Wook Lee, <i>Tohoku University</i> ; Koji Choki, <i>Sumitomo Bakelite Co., Ltd.</i> ; Tetsu Tanaka, <i>Tohoku University</i> ; Mitsumasa Koyanagi, <i>Tohoku University</i> | |
| Maskless Screen Printing Technology for 20µm-Pitch, 52InSn Solder Interconnections in Display Applications | 1154 |
| Kwang-Seong Choi, <i>ETRI</i> ; Haksun Lee, <i>ETRI</i> ; Hyun-Cheol Bae, <i>ETRI</i> ; Yong-Sung Eom, <i>ETRI</i> | |
| Accelerated SLID Bonding Using Thin Multi-Layer Copper-Solder Stack for Fine-Pitch Interconnections | 1160 |
| Chinmay Honrao, <i>Georgia Institute of Technology</i> ; Ting-Chia Huang, <i>Georgia Institute of Technology</i> ; Makoto Kobayashi, <i>Namics Corporation</i> ; Vanessa Smet, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Study of Electro-Migration Resistivity of Micro Bump Using SnBi Solder | 1166 |
| Kei Murayama, <i>Shinko Electric Industries Company, Ltd.</i> ; Mitsuhiro Aizawa, <i>Shinko Electric Industries Company, Ltd.</i> ; Mitsutoshi Higashi, <i>Shinko Electric Industries Company, Ltd.</i> | |
| The Impact of Different Under Bump Metallurgies and Redistribution Layers on the Electromigration of Solder Balls for Wafer-Level Packaging | 1173 |
| Christine Hau-Riege, <i>Qualcomm Technologies, Inc.</i> ; Beth Keser, <i>Qualcomm Technologies, Inc.</i> ; Rey Alvarado, <i>Qualcomm Technologies, Inc.</i> ; Ahmer Syed, <i>Qualcomm Technologies, Inc.</i> ; YouWen Yau, <i>Qualcomm Technologies, Inc.</i> ; Steve Bezuk, <i>Qualcomm Technologies, Inc.</i> ; Kevin Caffey, <i>Qualcomm Technologies, Inc.</i> | |
| Low-Pressure Sintering Bonding with Cu and CuO Flake Paste for Power Devices | 1179 |
| S.W. Park, <i>Osaka University</i> ; R. Uwataki, <i>Osaka University</i> ; S. Nagao, <i>Osaka University</i> ; T. Sugahara, <i>Osaka University</i> ; Y. Katoh, <i>Denso Corporation</i> ; H. Ishino, <i>Denso Corporation</i> ; K. Sugiura, <i>Denso Corporation</i> ; K. Tsuruta, <i>Denso Corporation</i> ; K. Sukanuma, <i>Osaka University</i> | |
| 27: Sensors & MEMS Technologies | |
| Chairs: Joseph W. Soucy, <i>Draper Laboratory</i> Daniel Baldwin, <i>Engent, Inc.</i> | |
| A Novel 3D Packaging Concept for RF Powered Sensor Grains | 1183 |
| Walther Pachler, <i>Graz University of Technology</i> ; Klaus Pressel, <i>Infineon Technologies AG</i> ; Jasmin Grosinger, <i>Graz University of Technology</i> ; Gottfried Beer, <i>Infineon Technologies AG</i> ; Wolfgang Bösch, <i>Graz University of Technology</i> ; Gerald Holweg, <i>Infineon Technologies AG</i> ; Christian Zilch, <i>Magna Diagnostics GmbH</i> ; Manfred Meindl, <i>Danube Mobile Communications Engineering GmbH & Co. KG</i> | |

| | |
|---|--|
| A Novel Sound Sensor and Its Package Used in Lung Sound Diagnosis | 1189 |
| <i>Xingming Fu, Wuhan University; Chaojun Liu, Wuhan University; Yong Xu, Wuhan University; Wayne State University; Yating Hu, Wayne State University; Xiaobing Luo, Huazhong University of Science & Technology; Xin Wu, Wayne State University; Sheng Liu, Wuhan University</i> | |
| Novel System-in-Package Design and Packaging Solution for Solid State Lighting Systems | 1192 |
| <i>Mingzhi Dong, Delft University of Technology; State Key Laboratory of Solid State Lighting; Fabio Santagata, Delft University of Technology; State Key Laboratory of Solid State Lighting; Jia Wei, Delft University of Technology; State Key Laboratory of Solid State Lighting; Cadmus Yuan, Chinese Academy of Sciences; State Key Laboratory of Solid State Lighting; Guoqi Zhang, Chinese Academy of Sciences; Delft University of Technology</i> | |
| Implantable Device Including a MEMS Accelerometer and an ASIC Chip Encapsulated in a Hermetic Silicon Box for Measurement of Cardiac Physiological Parameter | 1198 |
| <i>Jean-Charles Souriau, CEA-LETI; Laetitia Castagné, CEA-LETI; Guy Parat, CEA-LETI; Gilles Simon, CEA-LETI; Karima Amara, Sorin CRM SAS; Philippe D'hiver, Sorin CRM SAS; Renzo Dal Molin, Sorin CRM SAS</i> | |
| Capping Technologies for Wafer Level MEMS Packaging Based on Permanent and Temporary Wafer Bonding | 1204 |
| <i>K. Zoschke, Fraunhofer IZM; M. Wilke, Fraunhofer IZM; M. Wegner, Fraunhofer IZM; K. Kaletta, Fraunhofer IZM; C.-A. Manier, Fraunhofer IZM; H. Oppermann, Fraunhofer IZM; M. Wietstruck, IHP GmbH; B. Tillack, IHP GmbH; M. Kaynak, IHP GmbH; K.-D. Lang, Technical University Berlin</i> | |
| The Novel Assembly Method of a Field Deployable Biosensor Unit | 1212 |
| <i>P. Xu, East China Normal University; F.M. Guo, East China Normal University; X.Y. Liu, East China Normal University; J.H. Shen, East China Normal University; L. Ding, East China Normal University; W. Wang, East China Normal University; Y.Q. Li, East China Normal University; Y.P. Ge, East China Normal University; S.H. Zhang, East China Normal University; M.J. Wang, East China Normal University; H.Z. Zheng, East China Normal University; J.T. Ye, Chinese Academy of Sciences; L.; Luo Chinese Academy of Sciences</i> | |
| SIMEIT-Project: High Precision Inertial Sensor Integration on a Modular 3D-Interposer Platform | 1218 |
| <i>Wolfram Steller, Fraunhofer IZM; Christoph Meinecke, Technical University Chemnitz; Knut Gottfried, Fraunhofer ENAS; Gregor Woldt, Microelectronic Packaging Dresden GmbH; Wolfgang Günther, GEMAC; M. Juergen Wolf, Fraunhofer IZM; K. Dieter Lang, Fraunhofer IZM</i> | |
| 28: System-Level Thermal & Mechanical Models II | |
| Chairs: | <i>Pradeep Lall, Auburn University</i> |
| | <i>Xuejun Fan, Lamar University</i> |
| Mechanical Stress Management for Electrical Chip-Package Interaction (e-CPI) | 1226 |
| <i>Wei Zhao, Qualcomm Technologies, Inc.; Mark Nakamoto, Qualcomm Technologies, Inc.; Vidhya Ramachandran, Qualcomm Technologies, Inc.; Riko Radojic, Qualcomm Technologies, Inc.</i> | |
| Cu Pillar Flip Chip Assembly: Chip Attach Process Failure Mode Study | 1231 |
| <i>Shengmin Wen, Amkor Technology; Bora Baloglu, Amkor Technology; Guangfeng Li, Amkor Assembly and Test (Shanghai) Co., Ltd.</i> | |
| Mechanical and Thermo-Mechanical Stress Considerations in Applying 3D ICs to a Design | 1235 |
| <i>Jia-Shen Lan, National Sun Yat-Sen University; Mei-Ling Wu, National Sun Yat-Sen University</i> | |
| Modeling Microstructure Effects on Electromigration in Lead-Free Solder Joints | 1241 |
| <i>Jiamin Ni, Rensselaer Polytechnic Institute; Yong Liu, Fairchild Semiconductor; Jifa Hao, Fairchild Semiconductor; Antoinette Maniatty, Rensselaer Polytechnic Institute; Barry O'Connell, Fairchild Semiconductor</i> | |

| | |
|---|---|
| Experimental Demonstration of the Effect of Copper TPVs (Through Package Vias) on Thermal Performance of Glass Interposers | 1247 |
| Sangbeom Cho, <i>Georgia Institute of Technology</i> ; Yoichiro Sato, <i>Asahi Glass</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Yogendra Joshi, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Failure Mechanism Investigation of Stacked Via Cracking in Organic Chip Carrier | 1253 |
| Shidong Li, <i>IBM Corporation</i> ; Yi Pan, <i>IBM Corporation</i> ; Sushumna Iruvanti, <i>IBM Corporation</i> ; David L. Questad, <i>IBM Corporation</i> ; Randall J. Werner, <i>IBM Corporation</i> | |
| A Novel Method to Predict Fluid/Structure Interaction in IC Packaging | 1258 |
| Chih-Chung Hsu, <i>National Tsing Hua University</i> ; Tzu-Chang Wang, <i>CoreTech System (Moldex3D) Co., Ltd.</i> ; Yen-Chi Chen, <i>CoreTech System (Moldex3D) Co., Ltd.</i> ; Yang-Kai Lin, <i>CoreTech System (Moldex3D) Co., Ltd.</i> | |
| 29: Integrated RF & Power Modules | |
| Chairs: | Rockwell Hsu, <i>Cisco Systems, Inc.</i> P. Markondeya Raj, <i>Georgia Institute of Technology</i> |
| Modeling, Design and Demonstration of Multi-Die Embedded WLAN RF Front-End Module with Ultra-Miniaturized and High-Performance Passives | 1264 |
| Srikrishna Sitaraman, <i>Georgia Institute of Technology</i> ; Yuya Suzuki, <i>Zeon Corporation</i> ; Christopher White, <i>Georgia Institute of Technology</i> ; Vijay Nair, <i>Intel Corporation</i> ; Telesphor Kamgaing, <i>Intel Corporation</i> ; Frank Juskey, <i>TriQuint Semiconductor</i> ; Sung Jin Kim, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| A Compact 4-Chip Package with 64 Embedded Dual-Polarization Antennas for W-Band Phased-Array Transceivers | 1272 |
| Xiaoxiong Gu, <i>IBM Corporation</i> ; Duixian Liu, <i>IBM Corporation</i> ; Christian Baks, <i>IBM Corporation</i> ; Alberto Valdes-Garcia, <i>IBM Corporation</i> ; Ben Parker, <i>IBM Corporation</i> ; Md. R. Islam, <i>IBM Corporation</i> ; Arun Natarajan, <i>IBM Corporation</i> ; Oregon State University; Scott K. Reynolds, <i>IBM Corporation</i> | |
| Active Die Embedded Small Form Factor RF Packages for Ultrabooks and Smartphones | 1278 |
| Vijay K. Nair, <i>Intel Corporation</i> ; Carlton Hanna, <i>Intel Corporation</i> ; Ronald Spreitzer, <i>Intel Corporation</i> ; Johanna Swan, <i>Intel Corporation</i> | |
| Design and Material Contributions to Second-Harmonic Nonlinearities in RF Silicon Integrated Passive Devices | 1284 |
| Robert Frye, <i>RF Design Consulting, LLC</i> ; Robert Melville, <i>Emecon, LLC</i> ; Kai Liu, <i>STATS ChipPAC, Inc.</i> | |
| Integration of Magnetic Materials into Package RF and Power Inductors on Organic Substrates for System in Package (SiP) Applications | 1290 |
| Hao Wu, <i>Arizona State University</i> ; Donald S. Gardner, <i>Intel Corporation</i> ; Cheng Lv, <i>Arizona State University</i> ; Zhihua Zou, <i>Intel Corporation</i> ; Hongbin Yu, <i>Arizona State University</i> | |
| Through Silicon Capacitor Co-Integrated with TSV as an Efficient 3D Decoupling Capacitor Solution for Power Management on Silicon Interposer | 1296 |
| O. Guiller, <i>STMicroelectronics</i> ; S. Joblot, <i>STMicroelectronics</i> ; Y. Lamy, <i>CEA-LETI</i> ; A. Farcy, <i>STMicroelectronics</i> ; E. Defay, <i>CEA-LETI</i> ; K. Dieng, <i>Université de Savoie</i> | |
| Design of RF and Thermal Pads of CMOS PAs Using Copper to Copper Bonding Technology | 1303 |
| Lih-Tyng Hwang, <i>National Sun Yat-Sen University</i> ; An-Yu Kuo, <i>Cadence Design Systems, Inc.</i> | |

30: Solders & Bonding

Chairs: Mikel Miller, *Draper Laboratory*
Grace Yi Li, *Intel Corporation*

- Wafer IMS (Injection Molded Solder) – A New Fine Pitch Solder Bumping Technology on Wafers with Solder Alloy Composition Flexibility** 1308
Jae-Woong Nah, *IBM Corporation*; Jeffrey Gelorme, *IBM Corporation*; Peter Sorce, *IBM Corporation*; Paul Lauro, *IBM Corporation*; Eric Perfecto, *IBM Corporation*; Mark McLeod, *IBM Corporation*; Kazushige Toriyama, *IBM Corporation*; Yasumitsu Orii, *IBM Corporation*; Peter Brofman, *IBM Corporation*; Takashi Nauchi, *Senju Metal Industry Co., Ltd.*; Akira Takaguchi, *Senju System Technology Co., Ltd.*; Kazuya Ishiguro, *Senju System Technology Co., Ltd.*; Tomoyasu Yoshikawa, *Senju Comtek Corporation*; Derek Daily, *Senju Comtek Corporation*; Ryoichi Suzuki, *Senju Metal Industry Co., Ltd.*
- Reliability of Paste Based Transient Liquid Phase Sintered Interconnects** 1314
Hannes Greve, *University of Maryland*; S. Ali Moeini, *University of Maryland*; F. Patrick McCluskey, *University of Maryland*
- A Lead Free Joining Technology for High Temperature Interconnects Using Transient Liquid Phase Soldering (TLPS)** 1321
Christian Ehrhardt, *Technical University Berlin*; Matthias Hutter, *Fraunhofer IZM*; Hermann Oppermann, *Fraunhofer IZM*; Klaus-Dieter Lang, *Technical University Berlin*
- Developments of High-Bi Alloys as a High Temperature Pb-Free Solder** 1328
Sandeep Mallampati, *Binghamton University*; Harry Schoeller, *Universal Instruments Corporation*; Liang Yin, *GE Global Research*; David Shaddock, *GE Global Research*; Junghyun Cho, *Binghamton University*
- The Quantum Theory of Solid-State Atomic Bonding** 1335
Chin C. Lee, *University of California, Irvine*; Lianxi Cheng, *University of California, Irvine*
- Effective Method to Disperse and Incorporate Carbon Nanotubes in Electroless Ni-P Deposits** 1342
Sha Xu, *City University of Hong Kong*; Yan Cheong Chan, *City University of Hong Kong*; Xiaoxin Zhu, *University of Greenwich*; Hua Lu, *University of Greenwich*; Chris Bailey, *University of Greenwich*
- Electroless Ni-W-P Alloy as a Barrier Layer between Zn-Based High Temperature Solders and Cu Substrates** 1348
Li Liu, *Loughborough University*; Longzao Zhou, *Huazhong University of Science & Technology*; Changqing Liu, *Loughborough University*
- ### 31: PoP, SiP, and Die Stacking
- Chairs: Raj N. Master, *Microsoft Corporation*
Deborah Patterson, *Amkor Technology, Inc.*
- Fabrication and Reliability Evaluation of a Novel Package-on-Package (PoP) Structure Based on Organic Substrate** 1354
Xiaofeng Sun, *National Center for Advanced Packaging; Chinese Academy of Sciences*; Lixi Wan, *Chinese Academy of Sciences*; Yuan Lu, *National Center for Advanced Packaging; Chinese Academy of Sciences*
- Strip Grinding Introduction for Thin PoP** 1361
Jinseong Kim, *Amkor Technology Korea, Inc.*; Yesul Ahn, *Amkor Technology Korea, Inc.*; Gyuwan Han, *Amkor Technology Korea, Inc.*; Byoungwoo Cho, *Amkor Technology Korea, Inc.*; Dongjoo Park, *Amkor Technology Korea, Inc.*; Juhoon Yoon, *Amkor Technology Korea, Inc.*; Choonheung Lee, *Amkor Technology Korea, Inc.*; Lou Nicholls, *Amkor Technology Inc.*; Shengmin Wen, *Amkor Technology Inc.*
- Cost and Performance Effective Silicon Interposer and Vertical Interconnect for 3D ASIC and Memory Integration** 1366
Li Li, *Cisco Systems, Inc.*; Mitsutoshi Higashi, *Shinko Electric Industries Company, Ltd.*; Akihito Takano, *Shinko Electric Industries Company, Ltd.*; Jie Xue, *Cisco Systems, Inc.*; Gary Ikari, *Shinko Electric Industries Company, Ltd.*

| | |
|--|---|
| Assembly and Packaging of Non-Bumped 3D Chip Stacks on Bumped Substrates | 1372 |
| Bing Dang, <i>IBM Corporation</i> ; Joana Maria, <i>IBM Corporation</i> ; Qianwen Chen, <i>IBM Corporation</i> ; Jae-Woong Nah, <i>IBM Corporation</i> ; Paul Andry, <i>IBM Corporation</i> ; Cornelia Tsang, <i>IBM Corporation</i> ; Katsuyuki Sakuma, <i>IBM Corporation</i> ; Christy Tyberg, <i>IBM Corporation</i> ; Raphael Robertazzi, <i>IBM Corporation</i> ; Michael Scheuermann, <i>IBM Corporation</i> ; Michael Gaynes, <i>IBM Corporation</i> ; John Knickerbocker, <i>IBM Corporation</i> | |
| The Miniaturization of a Micro-Ball Endoscope by SiP Approach | 1378 |
| Xunxun Zhu, <i>Tsinghua University</i> ; Jian Cai, <i>Tsinghua University</i> ; Yu Chen, <i>Tsinghua University</i> ; Yingke Gu, <i>Tsinghua University</i> ; Xiang Xie, <i>Tsinghua University</i> ; Qian Wang, <i>Tsinghua University</i> ; Zhihua Wang, <i>Tsinghua University</i> ; Xiaofeng Sun, <i>Chinese Academy of Sciences</i> ; Lixi Wan, <i>Chinese Academy of Sciences</i> | |
| Design and Demonstration of Paper-Thin and Low-Warpage Single and 3D Organic Packages with Chip-Last Embedding Technology for Smart Mobile Applications | 1384 |
| Sung Jin Kim, <i>Georgia Institute of Technology</i> ; Zihan Wu, <i>Georgia Institute of Technology</i> ; Makoto Kobayashi, <i>Namics Corporation</i> ; Fuhan Liu, <i>Georgia Institute of Technology</i> ; Vanessa Smet, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Manufacturing Readiness of BVA Technology for Ultra-High Bandwidth Package-on-Package | 1389 |
| Rajesh Katkar, <i>Invensas Corporation</i> ; Rey Co, <i>Invensas Corporation</i> ; Wael Zohni, <i>Invensas Corporation</i> | |
| 32: Substrates | |
| Chairs: | Yu-Hua Chen, <i>Unimicron</i> Dong Wook Kim, <i>Qualcomm, Inc.</i> |
| Improvement of Substrate and Package Warpage by Copper Plating Process Optimization | 1396 |
| Omar Bchir, <i>Qualcomm Technologies, Inc.</i> ; Houssam Jomaa, <i>Qualcomm Technologies, Inc.</i> ; Chin Kwan Kim, <i>Qualcomm Technologies, Inc.</i> ; Layal Rouhana, <i>Qualcomm Technologies, Inc.</i> ; Kuiwon Kang, <i>Qualcomm Technologies, Inc.</i> ; Milind Shah, <i>Qualcomm Technologies, Inc.</i> ; Steve Bezuk, <i>Qualcomm Technologies, Inc.</i> | |
| Coreless Substrate with Asymmetric Design to Improve Package Warpage | 1401 |
| Wei Lin, <i>Amkor Technology</i> ; Bora Baloglu, <i>Amkor Technology</i> ; Ken Stratton, <i>Amkor Technology</i> | |
| Ultra Low CTE (1.8 ppm/°C) Core Material for Next Generation Thin CSP | 1407 |
| Tomohiko Kotake, <i>Hitachi Chemical Co., Ltd.</i> ; Hikari Murai, <i>Hitachi Chemical Co., Ltd.</i> ; Shin Takanezawa, <i>Hitachi Chemical Co., Ltd.</i> ; Masato Miyatake, <i>Hitachi Chemical Co., Ltd.</i> ; Masaaki Takekoshi, <i>Hitachi Chemical Co., Ltd.</i> ; Masahisa Ose, <i>Hitachi Chemical Co., Ltd.</i> | |
| A Novel Redistribution Layer Tailored by Nanotwinned Copper Decreases Warpage in Wafer Level Packaging | 1411 |
| Heng Li, <i>Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences</i> ; Wenguo Ning, <i>Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences</i> ; Chunsheng Zhu, <i>Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences</i> ; Gaowei Xu, <i>Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences</i> ; Le Luo, <i>Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences</i> | |
| Demonstration of 3–5 μm RDL Line Lithography on Panel-Based Glass Interposers | 1416 |
| Hao Lu, <i>Georgia Institute of Technology</i> ; Yutaka Takagi, <i>NGK Spark Plug Co., Ltd.</i> ; Yuya Suzuki, <i>Georgia Institute of Technology</i> ; Brett Sawyer, <i>Georgia Institute of Technology</i> ; Robin Taylor, <i>Atotech GmbH</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Characterization of Thin Polymer Films with the Focus on Lateral Stress and Mechanical Properties and Their Relevance to Microelectronics | 1421 |
| Markus Woehrmann, <i>Technical University Berlin</i> ; Thorsten Fischer, <i>Fraunhofer IZM</i> ; Hans Walter, <i>Fraunhofer IZM</i> ; Michael Toepper, <i>Fraunhofer IZM</i> ; Klaus-Dieter Lang, <i>Technical University Berlin</i> | |

| | |
|--|------|
| Thin Polymer Dry-Film Dielectric Material and a Process for 10 μm Interlayer Vias in High Density Organic and Glass Interposers | 1427 |
| Yuya Suzuki, <i>Zeon Corporation</i> ; Georgia Institute of Technology; Yutaka Takagi, <i>NGK Spark Plug Co., Ltd.</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| 33: Novel Test Methods | |
| Chairs: Lakshmi N. Ramanathan, <i>Microsoft Corporation</i> Sridhar Canumalla, <i>Microsoft Corporation</i> | |
| Pad Crater Detection Using Acoustic Waveform Analysis | 1433 |
| W. Carter Ralph, <i>Southern Research Institute</i> ; Elizabeth E. Benedetto, <i>Hewlett Packard</i> ; Aileen M. Allen, <i>Hewlett Packard</i> ; Keith Newman, <i>Hewlett Packard</i> | |
| High Acceleration Board Level Reliability Drop Test Using Dual Mass Shock Amplifier | 1441 |
| Andy Zhang, <i>Texas Instruments, Inc.</i> | |
| Non-Destructive Crack and Defect Detection in SAC Solder Interconnects Using Cross-Sectioning and X-Ray Micro-CT Using Cross-Sectioning and X-Ray Micro-CT | 1449 |
| Pradeep Lall, <i>Auburn University</i> ; Shantanu Deshpande, <i>Auburn University</i> ; Junchao Wei, <i>Auburn University</i> ; Jeff Suhling, <i>Auburn University</i> | |
| High Resolution and Fast Throughput-Time X-Ray Computed Tomography for Semiconductor Packaging Applications | 1457 |
| Yan Li, <i>Intel Corporation</i> ; Mario Pacheco, <i>Intel Corporation</i> ; Deepak Goyal, <i>Intel Corporation</i> ; John W. Elmer, <i>Lawrence Livermore National Laboratory</i> ; Holly D. Barth, <i>Lawrence Livermore National Laboratory</i> ; Dula Parkinson, <i>Lawrence Berkeley National Laboratory</i> | |
| In-Situ Measurements of the Relative Thermal Resistance: Highly Sensitive Method to Detect Crack Propagation in Solder Joints | 1464 |
| Gordon Elger, <i>Technische Hochschule Ingolstadt</i> ; Shri Vishnu Kandaswamy, <i>Technische Hochschule Ingolstadt</i> ; Maarten von Kouwen, <i>Philips Technology GmbH</i> ; Robert Derix, <i>Philips Technology GmbH</i> ; Fosca Conti, <i>University of Padova</i> | |
| Reliability Testing of Wire Bonds Using Pad Resistance with van der Pauw Method | 1471 |
| Michael Mayer, <i>University of Waterloo</i> ; Samuel Kim, <i>University of Waterloo</i> | |
| Colour Shift in Remote Phosphor Based LED Products | 1477 |
| M. Yazdan Mehr, <i>Materials Innovation Institute</i> ; Delft University of Technology; W.D. Van Driel, <i>Philips Lighting</i> ; Delft University of Technology; G.Q. Zhang, <i>Delft University of Technology</i> | |
| 34: Novel Packaging | |
| Chairs: Vasudeva P. Atluri, <i>Renavitas Technologies</i> Jai Agrawal, <i>Purdue University</i> | |
| Multifunctional System Integration in Flexible Substrates | 1482 |
| K. Bock, <i>Fraunhofer EMFT</i> ; E. Yacoub-George, <i>Fraunhofer EMFT</i> ; W. Hell, <i>Fraunhofer EMFT</i> ; A. Drost, <i>Fraunhofer EMFT</i> ; H. Wolf, <i>Fraunhofer EMFT</i> ; D. Bollmann, <i>Fraunhofer EMFT</i> ; C. Landesberger, <i>Fraunhofer EMFT</i> ; G. Klink, <i>Fraunhofer EMFT</i> ; H. Gieser, <i>Fraunhofer EMFT</i> ; C. Kutter, <i>Fraunhofer EMFT</i> | |
| Preparation of a Micro Rubidium Vapor Cell and Its Integration in a Chip-Scale Atomic Magnetometer | 1488 |
| Yu Ji, <i>Southeast University</i> ; Jintang Shang, <i>Southeast University</i> ; Youpeng Chen, <i>Southeast University</i> ; Ching-Ping Wong, <i>Chinese University of Hong Kong</i> | |

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| Nanowires-Based High-Density Capacitors and Thinfilm Power Sources in Ultra-Thin 3D Glass Modules | 1492 |
| Saumya Gandhi, <i>Georgia Institute of Technology</i> ; Liyi Li, <i>Georgia Institute of Technology</i> ; Ho-Yee Hui, <i>Georgia Institute of Technology</i> ; Parthasarathi Chakraborti, <i>Georgia Institute of Technology</i> ; Himani Sharma, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; C.P. Wong, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |
| Development of a High Density Glass Interposer Based on Wafer Level Packaging Technologies | 1498 |
| Michael Töpper, <i>Fraunhofer IZM</i> ; Markus Wöhrmann, <i>Technical University Berlin</i> ; Lars Brusberg, <i>Fraunhofer IZM</i> ; Nils Jürgensen, <i>Fraunhofer IZM</i> ; Ivan Ndip, <i>Fraunhofer IZM</i> ; Klaus-Dieter Lang, <i>Technical University Berlin</i> | |
| Novel Sealing Technology for Organic EL Display and Lighting by Means of Modified Surface Activated Bonding Method | 1504 |
| Takashi Matsumae, <i>University of Tokyo</i> ; Masahisa Fujino, <i>University of Tokyo</i> ; Tadatomo Suga, <i>University of Tokyo</i> | |
| Solder Joint Inspection with Induction Thermography | 1509 |
| Johannes Bohm, <i>Technical University Dresden</i> ; Klaus-Juergen Wolter, <i>Technical University Dresden</i> ; Henning Heuer, <i>Technical University Dresden</i> | |
| Development of B-Spline X-Ray Diffraction Imaging Techniques for Die Warpage and Stress Monitoring inside Fully Encapsulated Packaged Chips | 1517 |
| C.S. Wong, <i>Dublin City University</i> ; A. Ivankovic, <i>IMEC; KU Leuven</i> ; A. Cowley, <i>Dublin City University</i> ; N.S. Bennett, <i>Dublin City University</i> ; A.N. Danilewsky, <i>Albert-Ludwigs-Universität</i> ; M. Gonzalez, <i>IMEC</i> ; V. Cherman, <i>IMEC</i> ; B. Vandeveld, <i>IMEC</i> ; I. De Wolf, <i>IMEC; KU Leuven</i> ; P.J. McNally, <i>Dublin City University</i> | |
| 35: Innovations in Wirebond Technology | |
| Chairs: William Chen, <i>Advanced Semiconductor Engineering, Inc.</i> Gilles Poupon, <i>CEA-LETI</i> | |
| Process Optimization and Reliability Study for Cu Wire Bonding Advanced Nodes | 1523 |
| Ivy Qin, <i>Kulicke and Soffa Industries, Inc.</i> ; Hui Xu, <i>Kulicke and Soffa Industries, Inc.</i> ; Basil Milton, <i>Kulicke and Soffa Industries, Inc.</i> ; Nestor Mendoza, <i>Kulicke and Soffa Industries, Inc.</i> ; Horst Clauberg, <i>Kulicke and Soffa Industries, Inc.</i> ; Bob Chylak, <i>Kulicke and Soffa Industries, Inc.</i> ; Hidenori Abe, <i>Hitachi Chemical Co., Ltd.</i> ; Dongchul Kang, <i>Hitachi Chemical Co., Ltd.</i> ; Yoshinori Endo, <i>Hitachi Chemical Co., Ltd.</i> ; Masahiko Osaka, <i>Hitachi Chemical Co., Ltd.</i> ; Shinya Nakamura, <i>Hitachi Chemical Co., Ltd.</i> | |
| Silver-Assisted Copper Wire Bonding Using Solid-State Processes | 1529 |
| Yi-Ling Chen, <i>University of California, Irvine</i> ; Yuan-Yun Wu, <i>University of California, Irvine</i> ; Chin C. Lee, <i>University of California, Irvine</i> | |
| Ag Alloy Wire Characteristic and Benefits | 1533 |
| Jensen Tsai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Albert Lan, <i>Siliconware Precision Industries Co., Ltd.</i> ; D.S. Jiang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Li Wei Wu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Joseph Huang, <i>Siliconware Precision Industries Co., Ltd.</i> ; J.B. Hong, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| Copper versus Palladium Coated Copper Wire Process and Reliability Differences | 1539 |
| Chu-Chung (Stephen) Lee, <i>Freescale Semiconductor, Inc.</i> ; TuAnh Tran, <i>Freescale Semiconductor, Inc.</i> ; Dan Boyne, <i>Freescale Semiconductor, Inc.</i> ; Leo Higgins, <i>Freescale Semiconductor, Inc.</i> ; Andrew Mawer, <i>Freescale Semiconductor, Inc.</i> | |
| Improving the Bond Quality of Copper Wire Bonds Using a Friction Model Approach | 1549 |
| Simon Althoff, <i>University of Paderborn</i> ; Jan Neuhaus, <i>University of Paderborn</i> ; Tobias Hemsel, <i>University of Paderborn</i> ; Walter Sestro, <i>University of Paderborn</i> | |

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| High Aspect Ratio Lithography for Litho-Defined Wire Bonding | 1556 |
| Zahra Kolahdouz Esfahani, <i>Delft University of Technology</i> ; Henk van Zeijl, <i>Delft University of Technology</i> ; G.Q. Zhang, <i>Delft University of Technology</i> | |
| Comprehensive Intermetallic Compound Phase Analysis and Its Thermal Evolution at Cu Wirebond Interface | 1562 |
| In-Tae Bae, <i>Binghamton University</i> ; Dae Young Jung, <i>Binghamton University</i> ; Jenny Chang, <i>Advanced Semiconductor Engineering, Inc.</i> ; Scott Chen, <i>Advanced Semiconductor Engineering, Inc.</i> | |
| 36: Recent Advancement in Manufacturing Technology | |
| Chairs: Paul Houston, <i>Engent</i> Hirofumi Nakajima, <i>Consultant</i> | |
| High Uniformity and High Speed Copper Pillar Plating Technique | 1571 |
| Konstantin Kholostov, <i>Sapienza University of Rome</i> ; Aliaksei Klyshko, <i>Sapienza University of Rome</i> ; Danilo Ciarniello, <i>Rise Technology S.r.l.</i> ; Paolo Nenzi, <i>Rise Technology S.r.l.</i> ; Roberto Pagliucci, <i>Rise Technology S.r.l.</i> ; Rocco Crescenzi, <i>Sapienza University of Rome</i> ; Dario Bernardi, <i>2BG</i> ; Marco Balucani, <i>Sapienza University of Rome, Rise Technology S.r.l.</i> | |
| Plasma-Based Die Singulation Processing Technology | 1577 |
| Kenneth D. Mackenzie, <i>Plasma-Therm LLC</i> ; David Pays-Volard, <i>Plasma-Therm LLC</i> ; Linnell Martinez, <i>Plasma-Therm LLC</i> ; Christopher Johnson, <i>Plasma-Therm LLC</i> ; Thierry Lazerand, <i>Plasma-Therm LLC</i> ; Russell Westerman, <i>Plasma-Therm LLC</i> | |
| Removed Organic Solderability Preservative (OSP) by Ar/O₂ Microwave Plasma to Improve Solder Joint in Thermal Compression Flip Chip Bonding | 1584 |
| Jr-Wei Peng, <i>ASE Group</i> ; Yan-Siang Chen, <i>ASE Group</i> ; Yi Chen, <i>ASE Group</i> ; Jiang-Long Liang, <i>National Cheng Kung University</i> ; Kwang-Lung Lin, <i>National Cheng Kung University</i> ; Yuh-Lang Lee, <i>National Cheng Kung University</i> | |
| A PoP Structure to Support I/O over 2000 | 1590 |
| Dyi-Chung Hu, <i>Unimicron Technology Corporation</i> ; Puru Lin, <i>Unimicron Technology Corporation</i> ; Yu Hua Chen, <i>Unimicron Technology Corporation</i> ; Chun-Ting Lin, <i>Unimicron Technology Corporation</i> | |
| Enabling Eutectic Soldering of 3D Opto-Electronics onto Low Tg Flexible Interposers | 1595 |
| Meriem Ben-Salah Akin, <i>Leibniz University of Hanover</i> ; Lutz Rissing, <i>Leibniz University of Hanover</i> ; Wolfgang Heumann, <i>Leibniz University of Hanover</i> | |
| Parameter Optimization in Assembly Manufacturing Process for a Power Module | 1601 |
| Yumin Liu, <i>Fairchild Semiconductor Corporation</i> ; Yong Liu, <i>Fairchild Semiconductor Corporation</i> | |
| Automated Inspection and Metrology for 2.5D and 3D/TSV Process Assurance | 1606 |
| James Wood, <i>IBM Corporation</i> ; Vilmarie Soler, <i>IBM Corporation</i> ; Eric Perfecto, <i>IBM Corporation</i> ; Thomas Luckenbach, <i>Camtek USA</i> ; Aki Shoukrun, <i>Camtek Ltd.</i> | |
| 37: Interactive Presentations 1 | |
| Chairs: Mark Poliks, <i>i3 Electronics, Inc.</i> Ibrahim Guven, <i>University of Arizona</i> | |
| Investigation of a Photodefinable Glass Substrate for Millimeter-Wave Radios on Package | 1610 |
| Telesphor Kamgaing, <i>Intel Corporation</i> ; Adel A. Elsherbini, <i>Intel Corporation</i> ; Torrey W. Frank, <i>Intel Corporation</i> ; Sasha N. Oster, <i>Intel Corporation</i> ; Valluri R. Rao, <i>Intel Corporation</i> | |

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| Design and Fabrication of Low-Pressure Piezoresistive MEMS Sensor for Fuel Cell Electric Vehicles | 1616 |
| Minkyu Lee, <i>Hyundai Motor Company</i> ; Kiyong Nam, <i>Hyundai Motor Company</i> ; Seungyong Lee, <i>Hyundai Motor Company</i> ; Hakgu Kim, <i>Hyundai Motor Company</i> ; Chimyung Kim, <i>Hyundai Motor Company</i> ; Yongsun Park, <i>Hyundai Motor Company</i> ; Byungki Ahn, <i>Hyundai Motor Company</i> ; Taewan Kim, <i>Sejong Industrial Company, Ltd.</i> ; Hochul Seo, <i>Sejong Industrial Company, Ltd.</i> | |
| Demonstration of TCNCP Flip Chip Reliability with 30µm Pitch Cu Bump and Substrate with Thin Ni and Thick Au Surface Finish | 1622 |
| Weihong Zhang, <i>Nantong Fujitsu Microelectronics Co., Ltd.</i> ; Shengping Hong, <i>Nantong Fujitsu Microelectronics Co., Ltd.</i> ; Xiaolong Yan, <i>Nantong Fujitsu Microelectronics Co., Ltd.</i> ; Feng Zhou, <i>Nantong Fujitsu Microelectronics Co., Ltd.</i> ; Tonglong Zhang, <i>Nantong Fujitsu Microelectronics Co., Ltd.</i> | |
| Integrated Process Characterization and Fabrication Challenges for 2.5D IC Packaging Utilizing Silicon Interposer with Backside Via Reveal Process | 1628 |
| Cheng-Hsiang Liu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Jyun-Ling Tsai, <i>Siliconware Precision Industries Co., Ltd.</i> ; Hung-Hsien Chang, <i>Siliconware Precision Industries Co., Ltd.</i> ; Chang-Lun Lu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Shih-Ching Chen, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| Structure Effects on the Electrical Reliability of Fine-Pitch Cu Micro-Bumps for 3D Integration | 1635 |
| Byeong-Rok Lee, <i>Andong National University</i> ; June-Bum Kim, <i>Andong National University</i> ; Seung-Hyun Kim, <i>Andong National University</i> ; Byeong-Hyun Bae, <i>Andong National University</i> ; Ho-Young Son, <i>SK Hynix Inc.</i> ; Tac-Keun Oh, <i>SK Hynix Inc.</i> ; Min-Suk Suh, <i>SK Hynix Inc.</i> ; Nam-Seog Kim, <i>SK Hynix Inc.</i> ; Young-Bae Park, <i>Andong National University</i> | |
| Demonstration of Low Cost TSV Fabrication in Thick Silicon Wafers | 1641 |
| E. Vick, <i>RTI International</i> ; D.S. Temple, <i>RTI International</i> ; R. Anderson, <i>RTI International</i> ; J. Lannon, <i>RTI International</i> ; C. Li, <i>DRS RSTA, Inc.</i> ; K. Peterson, <i>DRS RSTA, Inc.</i> ; G. Skidmore, <i>DRS RSTA, Inc.</i> ; C.J. Han, <i>DRS RSTA, Inc.</i> | |
| X-Ray Micro-Beam Diffraction Measurement of the Effect of Thermal Cycling on Stress in Cu TSV: A Comparative Study | 1648 |
| Chukwudi Okoro, <i>NIST</i> ; Lyle E. Levine, <i>NIST</i> ; Ruqing Xu, <i>Argonne National Laboratory</i> ; Klaus Hummler, <i>SEMATECH</i> ; Yaw Obeng, <i>NIST</i> | |
| Adhesive Enabling Technology for Directly Plating Copper onto Glass/Ceramic Substrates | 1652 |
| Hailuo Fu, <i>Atotech USA Inc.</i> ; Sara Hunegnaw, <i>Atotech USA Inc.</i> ; Zhiming Liu, <i>Atotech USA Inc.</i> ; Lutz Brandt, <i>Atotech USA Inc.</i> ; Tafadzwa Magaya, <i>Atotech USA Inc.</i> | |
| Very Thin POP and SIP Packaging Approaches to Achieve Functionality Integration Prior to TSV Implementation | 1656 |
| Fernando Roa, <i>Amkor Technology, Inc.</i> | |
| A Study on the Fine Pitch Chip Interconnection Using Cu/SnAg Bumps and B-Stage Non-Conductive Films (NCFs) for 3D-TSV Vertical Interconnection | 1661 |
| Yongwon Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Jiwon Shin, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Young Soon Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Lim Suk, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Il Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Pathfinding Methodology for Optimal Design and Integration of 2.5D/3D Interconnects | 1667 |
| Farhang Yazdani, <i>BroadPak Corporation</i> ; John Park, <i>Mentor Graphics Corporation</i> | |
| Cost Effective Interposer for Advanced Electronic Packages | 1673 |
| Satoru Kuramochi, <i>Dai Nippon Printing Co., Ltd.</i> ; Sumio Koiwa, <i>Dai Nippon Printing Co., Ltd.</i> ; Kousuke Suzuki, <i>Dai Nippon Printing Co., Ltd.</i> ; Yoshitaka Fukuoka, <i>WEISTI</i> | |
| Thermal Management for Wafer Level Packaging (WLP) | 1679 |
| Tiao Zhou, <i>Maxim Integrated</i> ; Arkadii Samoilov, <i>Maxim Integrated</i> | |

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| Inkjet Printed Nano-Particle Cu Process for Fabrication of Re-Distribution Layers on Silicon Wafer | 1685 |
| <i>Ayat Soltani, Tampere University of Technology; Tero Kumpulainen, Tampere University of Technology; Matti Mäntysalo, Tampere University of Technology</i> | |
| Design of Multi-Sensor for Safety Monitoring of Heavy Machinery | 1690 |
| <i>Long Li, Huazhong University of Science & Technology; Fei Hou, Dongfeng Automobile Electronics Co., Ltd.; Jinghao Qiu, Nanjing University of Aeronautics and Astronautics; Zhang Luo, Huazhong University of Science & Technology; Shengzhi Zhang, Huazhong University of Science & Technology; Qiang Dan, Huazhong University of Science & Technology; Sheng Liu, Wuhan University</i> | |
| Novel TSV Process Technologies for 2.5D/3D Packaging | 1697 |
| <i>Y. Morikawa, ULVAC, Inc.; NMEMS Technology Research Organization; T. Murayama, ULVAC, Inc.; NMEMS Technology Research Organization; T. Sakuishi, ULVAC, Inc.; NMEMS Technology Research Organization; A. Suzuki, ULVAC, Inc.; Y. Nakamuta, ULVAC, Inc.; K. Suu, ULVAC, Inc.; NMEMS Technology Research Organization</i> | |
| Increasing the Lifetime of Electronic Packaging by Higher Temperatures: Solders vs. Silver Sintering | 1700 |
| <i>Aaron Hutzler, Fraunhofer IISB; Adam Tokarski, Fraunhofer IISB; Silke Kraft, Fraunhofer IISB; Sigrid Zischler, Fraunhofer IISB; Andreas Schletz, Fraunhofer IISB</i> | |
| Comparison of New Die-Attachment Technologies for Power Electronic Assemblies | 1707 |
| <i>Eike Möller, University of Freiburg; Adeel Ahmad Bajwa, University of Freiburg; Eugen Rastjagaev, Infineon Technologies AG; Jürgen Wilde, University of Freiburg</i> | |
| High Vacuum Wafer Level Packaging for High-Value MEMS Applications | 1714 |
| <i>S. Nicolas, CEA-LETI; F. Greco, CEA-LETI; S. Caplet, CEA-LETI; C. Coutier, CEA-LETI; C. Dressler, CEA-LETI; M. Audoin, CEA-LETI; X. Baillin, CEA-LETI; G. Dehag, CEA-LETI; F. Souchon, CEA-LETI; S. Fanget, CEA-LETI</i> | |
| Thermal and Electrical Tests of Air-Gap TSV | 1722 |
| <i>Cui Huang, Tsinghua University; Dong Wu, Tsinghua University; Zheyao Wang, Tsinghua University</i> | |
| Heterogeneous System Integration Pseudo-SoC Technology for Smart-Health-Care Intelligent Life Monitor Engine & Eco-System (SILMEE) | 1729 |
| <i>Hiroshi Yamada, Toshiba Corporation; Yasuhiro Sato, Toshiba Corporation; Nobuhiro Ooshima, Toshiba Corporation; Hiroyuki Hirai, Toshiba Corporation; Takuji Suzuki, Toshiba Corporation; Shigenobu Minami, Toshiba Corporation</i> | |
| Effects of Various Environmental Conditions on the Electrical Properties and Interfacial Reliability of Printed Ag/Polyimide System | 1735 |
| <i>Byung-Hyun Bae, Andong National University; Min-Su Jeong, Andong National University; Byeong Rok Lee, Andong National University; Joung-Hoon Choo, HICEL; Eun-Kuk Choi, HICEL; Jong-Sun Yoon, HICEL; Young-Bae Park, Andong National University</i> | |
| Wafer Level Warpage Characterization for Backside Manufacturing Processes of TSV Interposers | 1740 |
| <i>Feng Jiang, National Center for Advanced Packaging; Qibin Wang, National Center for Advanced Packaging; Chinese Academy of Sciences; Kai Xue, National Center for Advanced Packaging; Chinese Academy of Sciences; Xiangmeng Jing, National Center for Advanced Packaging; Chinese Academy of Sciences; Daquan Yu, National Center for Advanced Packaging; Chinese Academy of Sciences; Dongkai Shangguan, National Center for Advanced Packaging; Chinese Academy of Sciences</i> | |
| Stretchable and Transparent Silicone/Zinc Oxide Nanocomposite for Advanced LED Packaging | 1745 |
| <i>Xueying Zhao, Georgia Institute of Technology; Liyi Li, Georgia Institute of Technology; Zhuo Li, Georgia Institute of Technology; Ching-Ping Wong, Georgia Institute of Technology; Chinese University of Hong Kong</i> | |

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| Warpage Characterization of Panel Fan-Out (P-FO) Package | 1750 |
| Hung-Wen Liu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Yi-Wei Liu, <i>Siliconware Precision Industries Co., Ltd.</i> ; Jason Ji, <i>Siliconware Precision Industries Co., Ltd.</i> ; Jash Liao, <i>Siliconware Precision Industries Co., Ltd.</i> ; Agassi Chen, <i>Siliconware Precision Industries Co., Ltd.</i> ; Yan-Heng Chen, <i>Siliconware Precision Industries Co., Ltd.</i> ; Nicholas Kao, <i>Siliconware Precision Industries Co., Ltd.</i> ; Yi-Che Lai, <i>Siliconware Precision Industries Co., Ltd.</i> | |
| 38: Interactive Presentations 2 | |
| Chairs: Mark Eblen, <i>Kyocera America, Inc.</i> Michael Mayer, <i>University of Waterloo</i> | |
| A Novel Double Layer NCF for Highly Reliable Micro-Bump Interconnection | 1755 |
| Ji-Won Shin, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Yong-Won Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Young Soon Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Un Byung Kang, <i>Samsung Electronics Company, Ltd.</i> ; Sun Kyung Seo, <i>Samsung Electronics Company, Ltd.</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| CO₂-Laser Drilling of TGVs for Glass Interposer Applications | 1759 |
| Lars Brusberg, <i>Fraunhofer IZM</i> ; Marco Queisser, <i>Technical University Berlin</i> ; Marcel Neitz, <i>Technical University Berlin</i> ; Henning Schröder, <i>Fraunhofer IZM</i> ; Klaus-Dieter Lang, <i>Technical University Berlin</i> | |
| Effects of Pad Surface Finish on Interfacial Reliabilities of Cu-Pillar/Sn-Ag Bumps of 2.5D TSV-Interposer on PCB Applications | 1765 |
| Youngsoo Kim, <i>Samsung Electro-Mechanics Company, Ltd.</i> ; Ji-Won Shin, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Young Won Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Effect of Variation in the Reflow Profile on the Microstructure of Near Eutectic SnAgCu Alloys | 1769 |
| Francis Mutuku, <i>Binghamton University</i> ; Babak Arfaei, <i>Binghamton University</i> ; Universal Instruments Corporation; Eric J. Cotts, <i>Binghamton University</i> | |
| Development of the Thin Film with High Thermal Conductivity for Power Devices | 1776 |
| Hiroshi Takasugi, <i>Namics Corporation</i> ; Shin Teraki, <i>Namics Corporation</i> ; Tsuyoshi Kurokawa, <i>Namics Corporation</i> ; Issei Aoki, <i>Namics Corporation</i> | |
| Development of Electroless Nickel-Iron Plating Process for Microelectronic Applications | 1782 |
| Yu Luo, <i>IBM Corporation</i> ; Sung K. Kang, <i>IBM Corporation</i> ; Oblesh Jinka, <i>IBM Corporation</i> ; Maurice Mason, <i>IBM Corporation</i> ; Steven A. Cordes, <i>IBM Corporation</i> ; Lubomyr T. Romankiw, <i>IBM Corporation</i> | |
| Novel Conductive Paste Using Hybrid Silver Sintering Technology for High Reliability Power Semiconductor Packaging | 1790 |
| Howard (Hwa Il) Jin, <i>Alpha Advanced Materials</i> ; Senthil Kanagavel, <i>Alpha Advanced Materials</i> ; Wai Foo Chin, <i>Alpha Advanced Materials</i> | |
| Novel Low Temperature Curable Photo-Sensitive Insulator | 1796 |
| Kenji Okamoto, <i>JSR Corporation</i> ; Hikaru Mizuno, <i>JSR Corporation</i> ; Tomohiko Sakurai, <i>JSR Corporation</i> ; Katsumi Inomata, <i>JSR Corporation</i> | |
| 3D and 2.5D Packaging Assembly with Highly Silica Filled One Step Chip Attach Materials for Both Thermal Compression Bonding and Mass Reflow Processes | 1803 |
| Christopher Breach, <i>Kester Inc.</i> ; Daniel Duffy, <i>Kester Inc.</i> ; David Eichstadt, <i>Kester Inc.</i> | |
| Process Compatibility of Conventional and Low-Temperature Curable Organic Insulation Materials for 2.5D and 3D IC Packaging – A User’s Perspective | 1810 |
| Guilian Gao, <i>Invensas Corporation</i> ; Bong-Sub Lee, <i>Invensas Corporation</i> ; Andrew Cao, <i>Invensas Corporation</i> ; Ellis Chau, <i>Invensas Corporation</i> | |

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| Optimization of CMP Process for TSV Reveal in Consideration of Critical Defect | 1816 |
| <i>DongHoon Lee, Amkor Technology Korea, Inc.; Sungkyunkwan University; DoHyeong Kim, Amkor Technology Korea, Inc.; SeungChul Han, Amkor Technology Korea, Inc.; JooHyun Kim, Amkor Technology Korea, Inc.; JungSoo Park, Amkor Technology Korea, Inc.; BoRa Jang, Amkor Technology Korea, Inc.; YoungSuk Chung, Amkor Technology Korea, Inc.; SeongMin Seo, Amkor Technology Korea, Inc.; YongSang Kim, Sungkyunkwan University; ChoonHeung Lee, Amkor Technology Korea, Inc.</i> | |
| High Throughput Roller Type Nano-Pattern Transfer Technique on Both Rigid Flexible Substrates and Mold Deformation Analysis under Atmospheric Imprint Environment | 1822 |
| <i>Yinsheng Zhong, Hong Kong University of Science and Technology; Matthew M.F. Yuen, Hong Kong University of Science and Technology</i> | |
| Capacitive Deionization of Water Coolant Using Hybrid Carbon Electrodes for High Power Electronic Applications | 1828 |
| <i>Ziyin Lin, Georgia Institute of Technology; Zhuo Li, Georgia Institute of Technology; Kyoung-Sik Moon, Georgia Institute of Technology; Ching-Ping Wong, Georgia Institute of Technology; Chinese University of Hong Kong</i> | |
| A Microfluidic Chip Integrated with a Sono-Transducer Using Combined Resonance between Oscillations of Hemispherical Micro Glass Shell and Enclosed Microfluid | 1838 |
| <i>Jiafeng Xu, Southeast University; Jintang Shang, Southeast University; Ching-Ping Wong, Chinese University of Hong Kong</i> | |
| RF Energy Harvesting | 1838 |
| <i>Parvizso Aminov, Purdue University; Jai P. Agrawal, Purdue University</i> | |
| Localized Metal Plating on Aluminum Back Side PV Cells | 1842 |
| <i>M. Balucani, Sapienza University of Rome; Rise Technology S.r.l.; K. Kholostov, Sapienza University of Rome; L. Serenelli, ENEA Casaccia Research Centre; M. Izzi, ENEA Casaccia Research Centre; D. Bernardi, 2BG S.r.l.; M. Tucci, ENEA Casaccia Research Centre</i> | |
| Wet Etching of Deep Trenches on Silicon with Three-Dimensional (3D) Controllability | 1848 |
| <i>Liyi Li, Georgia Institute of Technology; Ching-Ping Wong, Georgia Institute of Technology; Chinese University of Hong Kong</i> | |
| An Innovative Bumpless Stacking with Through Silicon Via for 3D Wafer-On-Wafer (WOW) Integration | 1853 |
| <i>Sue-Chen Liao, Industrial Technology Research Institute (ITRI); Erh-Hao Chen, Industrial Technology Research Institute (ITRI); Chien-Chou Chen, Industrial Technology Research Institute (ITRI); Shang-Chun Chen, Industrial Technology Research Institute (ITRI); Jui-Chin Chen, Industrial Technology Research Institute (ITRI); Po-Chih Chang, Industrial Technology Research Institute (ITRI); Yiu-Hsiang Chang, Industrial Technology Research Institute (ITRI); Cha-Hsin Lin, Industrial Technology Research Institute (ITRI); Tzu-Kun Ku, Industrial Technology Research Institute (ITRI); Ming-Jer Kao, Industrial Technology Research Institute (ITRI); Young Suk Kim, Tokyo Institute of Technology; Nobuhide Maeda, Tokyo Institute of Technology; Shoichi Kodama, Tokyo Institute of Technology; Hideki Kitada, Tokyo Institute of Technology; Koji Fujimoto, Tokyo Institute of Technology; Takayuki Ohba, Tokyo Institute of Technology</i> | |
| 3D Integration and Assembly of Wireless Sensor Nodes for 'Green' Sensor Networks | 1857 |
| <i>Jian Lu, National Institute of AIST; NMEMS Technology Research Organization; Hironao Okada, National Institute of AIST; NMEMS Technology Research Organization; Toshihiro Itoh, National Institute of AIST; NMEMS Technology Research Organization; Takeshi Harada, NMEMS Technology Research Organization; Ryutaro Maeda, National Institute of AIST; NMEMS Technology Research Organization</i> | |
| New Demultiplexer Component for Optical Polymer Fiber Communication Systems | 1862 |
| <i>S. Höll, Harz University of Applied Sciences; M. Haupt, Harz University of Applied Sciences; U.H.P. Fischer, Harz University of Applied Sciences</i> | |

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| Nanofiller Based Spin-on Materials for Negligible Reflection of Silicon Photonic External Coupling | 1870 |
| Yoichi Taira, <i>IBM Corporation</i> ; Ryuma Mizusawa, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; Rie Matsumoto, <i>Tokyo Ohka Kogyo Co., Ltd.</i> ; Kuniaki Suaeke, <i>IBM Corporation</i> ; Hidetoshi Numata, <i>IBM Corporation</i> | |
| Effect of Patterned Substrate on Light Extraction Efficiency of Chip-on-Board Packaging LEDs | 1876 |
| Huai Zheng, <i>Huazhong University of Science & Technology</i> ; Zhili Zhao, <i>Huazhong University of Science & Technology</i> ; Yiman Wang, <i>Huazhong University of Science & Technology</i> ; Lang Li, <i>Huazhong University of Science & Technology</i> ; Sheng Liu, <i>Huazhong University of Science & Technology</i> ; Xiaobing Luo, <i>Huazhong University of Science & Technology</i> | |
| 39: Interactive Presentations 3 | |
| Chairs: | Patrick Thompson, <i>Texas Instruments, Inc.</i> Rao Bonda, <i>Amkor Technology, Inc.</i> |
| Transferrable Fine Pitch Probe Technology | 1880 |
| Y. Liu, <i>IBM Corporation</i> ; S.L. Wright, <i>IBM Corporation</i> ; B. Dang, <i>IBM Corporation</i> ; P. Andry, <i>IBM Corporation</i> ; R. Polastre, <i>IBM Corporation</i> ; J. Knickerbocker, <i>IBM Corporation</i> | |
| Improvement of the Crystallinity of Electroplated Copper Thin Films for Highly Reliable 3D Interconnections | 1885 |
| Chuanhong Fan, <i>Tohoku University</i> ; Osamu Asai, <i>Tohoku University</i> ; Ryosuke Furuya, <i>Tohoku University</i> ; Ken Suzuki, <i>Tohoku University</i> ; Hideo Miura, <i>Tohoku University</i> | |
| Process, Assembly and Electromigration Characteristics of Glass Interposer for 3D Integration | 1891 |
| Chun-Hsien Chien, <i>Industrial Technology Research Institute (ITRI)</i> ; Ching-Kuan Lee, <i>Industrial Technology Research Institute (ITRI)</i> ; Chun-Te Lin, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Min Lin, <i>Industrial Technology Research Institute (ITRI)</i> ; Chau-Jie Zhan, <i>Industrial Technology Research Institute (ITRI)</i> ; Hsiang-Hung Chang, <i>Industrial Technology Research Institute (ITRI)</i> ; Chao-Kai Hsu, <i>Industrial Technology Research Institute (ITRI)</i> ; Huan-Chun Fu, <i>Industrial Technology Research Institute (ITRI)</i> ; Wen-Wei Shen, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Wei Huang, <i>Industrial Technology Research Institute (ITRI)</i> ; Cheng-Ta Ko, <i>Industrial Technology Research Institute (ITRI)</i> ; Wei-Chung Lo, <i>Industrial Technology Research Institute (ITRI)</i> ; Yung Jean (Rachel) Lu, <i>Corning Inc.</i> | |
| Improved PCB Via Pattern to Reduce Crosstalk at Package BGA Region for High Speed Serial Interface | 1896 |
| Yujeong Shim, <i>Altera Corporation</i> ; Dan Oh, <i>Altera Corporation</i> | |
| A Wafer Level Through-Stack-Via Integration Process with One-Time Bottom-up Copper Filling | 1902 |
| Yunhui Zhu, <i>Peking University</i> ; Shenglin Ma, <i>Xiamen University, Peking University</i> ; Xin Sun, <i>Peking University</i> ; Runiu Fang, <i>Peking University</i> ; Xiao Zhong, <i>Peking University</i> ; Yuan Bian, <i>Peking University</i> ; Yong Guan, <i>Peking University</i> ; Jing Chen, <i>Peking University</i> ; Min Miao, <i>Peking University, Beijing Information Science and Technology University</i> ; Yufeng Jin, <i>Peking University</i> | |
| Effect of Joint Shape Controlled by Thermocompression Bonding on the Reliability Performance of 60µm-Pitch Solder Micro Bump Interconnections | 1908 |
| Yu-Wei Huang, <i>Industrial Technology Research Institute (ITRI)</i> ; Chau-Jie Zhan, <i>Industrial Technology Research Institute (ITRI)</i> ; Jing-Ye Juang, <i>Industrial Technology Research Institute (ITRI)</i> ; Yu-Min Lin, <i>Industrial Technology Research Institute (ITRI)</i> ; Shin-Yi Huang, <i>Industrial Technology Research Institute (ITRI)</i> ; Su-Mei Chen, <i>Industrial Technology Research Institute (ITRI)</i> ; Chia-Wen Fan, <i>Industrial Technology Research Institute (ITRI)</i> ; Ren-Shin Cheng, <i>Industrial Technology Research Institute (ITRI)</i> ; Shu-Han Chao, <i>National Chiao Tung University</i> ; Wan-Lin Hsieh, <i>National Chiao Tung University</i> ; Chih Chen, <i>National Chiao Tung University</i> ; John H. Lau, <i>Industrial Technology Research Institute (ITRI)</i> | |
| Development of Micro Bump Joints Fabrication Process Using Cone Shape Au Bumps for 3D LSI Chip Stacking | 1915 |
| Fumito Imura, <i>National Institute of AIST</i> ; Naoya Watanabe, <i>National Institute of AIST</i> ; Shunsuke Nemoto, <i>National Institute of AIST</i> ; Wei Feng, <i>National Institute of AIST</i> ; Katsuya Kikuchi, <i>National Institute of AIST</i> ; Hiroshi Nakagawa, <i>National Institute of AIST</i> ; Masahiro Aoyagi, <i>National Institute of AIST</i> | |

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| Effect of Polymer Liners in CNT Based Through Silicon Vias | 1921 |
| <i>Archana Kumari, Indian Institute of Technology Roorkee; M.K. Majumder, Indian Institute of Technology Roorkee; B.K. Kaushik, Indian Institute of Technology Roorkee; S.K. Manhas, Indian Institute of Technology Roorkee</i> | |
| Investigation of Low-Temperature Deposition High-Uniformity Coverage Parylene-HT as a Dielectric Layer for 3D Interconnection | 1926 |
| <i>Bui Thanh Tung, National Institute of AIST; Xiaojin Cheng, National Institute of AIST; Loughborough University; Naoya Watanabe, National Institute of AIST; Fumiki Kato, National Institute of AIST; Katsuya Kikuchi, National Institute of AIST; Masahiro Aoyagi, National Institute of AIST</i> | |
| Arrays of Millimeter-Wave Silicon Waveguides for Interchip Communication on Glass Interposer | 1932 |
| <i>Qidong Wang, Chinese Academy of Sciences; National Center for Advanced Packaging; Daniel Guidotti, Chinese Academy of Sciences; National Center for Advanced Packaging; Liqiang Cao, Chinese Academy of Sciences; National Center for Advanced Packaging; Delong Qiu, National Center for Advanced Packaging; Daquan Yu, Chinese Academy of Sciences; National Center for Advanced Packaging; Shuling Wang, Chinese Academy of Sciences; National Center for Advanced Packaging; Xugang Wang, Chinese Academy of Sciences; National Center for Advanced Packaging; Tiachun Ye, Chinese Academy of Sciences; National Center for Advanced Packaging; Lixi Wan, National Center for Advanced Packaging</i> | |
| Effect of Ag and Cu Content in Sn Based Pb-Free Solder on Electromigration | 1940 |
| <i>Minhua Lu, IBM Corporation; Charles Goldsmith, IBM Corporation; Thomas Wassick, IBM Corporation; Eric Perfecto, IBM Corporation; Charles Arvin, IBM Corporation</i> | |
| Low Loss Transmission Lines on Flexible COP Substrate by Standard Lamination Process | 1944 |
| <i>Chang-Ho Liou, Industrial Technology Research Institute (ITRI); Hsin-Chia Lu, National Taiwan University; Yi-Fan Lin, National Taiwan University; Shih-Keng Chuang, National Taiwan University; Wen-Ching Ko, Industrial Technology Research Institute (ITRI); Je-Ping Hu, Industrial Technology Research Institute (ITRI)</i> | |
| FBEOL No-Aluminum Pad Integration in Pb-Free C4 Products for Environmental, Cost and Reliability Benefits | 1949 |
| <i>E. Misra, IBM Corporation; T. Daubenspeck, IBM Corporation; T. Wassick, IBM Corporation; K. Tunga, IBM Corporation; D. Questad, IBM Corporation</i> | |
| Preparing 25Gbps Electrical I/O for Exascale Computing Systems | 1955 |
| <i>Lei Shan, IBM Corporation; Young Kwark, IBM Corporation; Renato Rimolo-Donadio, IBM Corporation; Christian Baks, IBM Corporation; Michael Gaynes, IBM Corporation; Timothy Chainer, IBM Corporation; Manabu Hoshino, Zeon Corporation; Masakazu Hashimoto, Zeon Corporation; Toshihiko Jimbo, Zeon Corporation; Junji Kodemura, Zeon Corporation; Ikkei Matsuura, Zeon Corporation</i> | |
| Large Low-CTE Glass Package-to-PCB Interconnections with Solder Strain-Relief Using Polymer Collars | 1959 |
| <i>Gary Menezes, Georgia Institute of Technology; Vanessa Smet, Georgia Institute of Technology; Makoto Kobayashi, Namics Corporation; Venky Sundaram, Georgia Institute of Technology; Pulugurtha Markondeya Raj, Georgia Institute of Technology; Rao Tummala, Georgia Institute of Technology</i> | |
| The Study of Bare-Die FCBGA Die Damage in Response to Applied Mechanical Stress During Heat Sink Assembly | 1965 |
| <i>Heidi S.Y. Ho, Broadcom Corporation; Daijiao Wang, Broadcom Corporation; Michael Johnson, Amkor Technology, Inc.; C.J. Berry, Amkor Technology, Inc.</i> | |
| Prognostication of Copper-Aluminum Wirebond Reliability under High Temperature Storage and Temperature-Humidity | 1973 |
| <i>Pradeep Lall, Auburn University; Shantanu Deshpande, Auburn University; Luu Nguyen, Texas Instruments; Masood Murtuza, Texas Instruments</i> | |

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| Low-Frequency Testing of Through Silicon Vias for Defect Diagnosis in Three-Dimensional Integration Circuit Stacking Technology | 1986 |
| Yichao Xu, <i>Peking University</i> ; Min Miao, <i>Beijing Information Science & Technology University</i> ; Peking University; Runiu Fang, <i>Peking University</i> ; Xin Sun, <i>Peking University</i> ; Yunhui Zhu, <i>Peking University</i> ; Minggang Sun, <i>Beijing Information Science & Technology University</i> ; Guanjiang Wang, <i>Peking University</i> ; Yufeng Jin, <i>Peking University</i> | |
| Fast Estimation of LED's Accelerated Lifetime by Online Test Method | 1992 |
| Qi Chen, <i>Huazhong University of Science & Technology</i> ; Quan Chen, <i>Huazhong University of Science & Technology</i> ; Xiaobing Luo, <i>Huazhong University of Science & Technology</i> | |
| Methodology and Apparatus for Rapid Power Cycle Accumulation and In-Situ Incipient Failure Monitoring for Power Electronic Modules | 1996 |
| Roy I. Davis, <i>Fairchild Semiconductor Corporation</i> ; Daniel J. Sprenger, <i>Fairchild Semiconductor Corporation</i> | |
| Fine-Pitch Probing on TSVs and Microbumps Using a Chip Prober Having a Transparent Membrane Probe Card | 2003 |
| Naoya Watanabe, <i>National Institute of AIST</i> ; Michiyuki Eto, <i>STK Technology Co., Ltd.</i> ; Kenji Kawano, <i>STK Technology Co., Ltd.</i> ; Masahiro Aoyagi, <i>National Institute of AIST</i> | |
| 40: Interactive Presentations 4 | |
| Chairs: | Nam Pham, <i>IBM Corporation</i> Rabindra N. Das, <i>MIT Lincoln Labs</i> |
| Thermal Management of 3D RF PoP Based on Ceramic Substrate | 2008 |
| Fengze Hou, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Fengman Liu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Yi He, <i>Chinese Academy of Sciences</i> ; Xiaomeng Wu, <i>Chinese Academy of Sciences</i> ; Xia Zhang, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Liqiang Cao, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Yuan Lu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Dongkai Shangguan, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> | |
| Bump Pattern Optimization and Stress Comparison Study for DCA Packages | 2014 |
| Akash Agrawal, <i>Micron Technology Inc.</i> ; Owen Fay, <i>Micron Technology Inc.</i> ; Mark Johnson, <i>Micron Technology Inc.</i> | |
| Characterization of In-Plane Stress in TSV Array – A Unit Model Approach | 2020 |
| Cheng-Fu Chen, <i>University of Alaska, Fairbanks</i> | |
| Electrical-Thermal Characterization of Wires in Packages | 2027 |
| Kai Liu, <i>STATS ChipPAC, Inc.</i> ; Robert Frye, <i>STATS ChipPAC, Inc.</i> ; HyunTai Kim, <i>STATS ChipPAC, Inc.</i> ; YongTaek Lee, <i>STATS ChipPAC, Inc.</i> ; Gwang Kim, <i>STATS ChipPAC, Inc.</i> ; Susan Park, <i>STATS ChipPAC, Inc.</i> ; Billy Ahn, <i>STATS ChipPAC, Inc.</i> | |
| Computational Investigation of Failure in Anodized Aluminum | 2035 |
| Sabrina Ball, <i>University of Arizona</i> ; Ibrahim Guven, <i>University of Arizona</i> ; Pankaj Sinha, <i>Intel Corporation</i> ; Rajiv Rastogi, <i>Intel Corporation</i> ; Brian McCarron, <i>Intel Corporation</i> | |
| Study on Prediction about Residual Position of Void Generated by Resin Flow | 2042 |
| Masayuki Mino, <i>Hitachi, Ltd.</i> ; Naoya Suzuki, <i>Hitachi Chemical Co., Ltd.</i> ; Hiroshi Takahashi, <i>Hitachi Chemical Co., Ltd.</i> ; Tsutomu Kono, <i>Hitachi, Ltd.</i> | |
| Modeling and Analysis of Temperature Effect on MEMS Gyroscope | 2048 |
| Ming Wen, <i>Huazhong University of Science & Technology</i> ; Weihui Wang, <i>Huazhong University of Science & Technology</i> ; Zhang Luo, <i>Huazhong University of Science & Technology</i> ; Yong Xu, <i>Wuhan University</i> ; Wayne State University; Xin Wu, <i>Wayne State University</i> ; Fei Hou, <i>Dongfeng Automobile Electronics Co., Ltd.</i> ; Sheng Liu, <i>Wuhan University</i> | |

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| Life Prediction and Classification of Failure Modes in Solid State Luminaires Using Bayesian Probabilistic Models | 2053 |
| Pradeep Lall, <i>Auburn University</i> ; Junchao Wei, <i>Auburn University</i> ; Peter Sakalaukus, <i>Auburn University</i> | |
| Modeling for Reliability of Ultra Thin Chips in a System in Package | 2063 |
| Richard Qian, <i>Fairchild Semiconductor Corporation</i> ; Yong Liu, <i>Fairchild Semiconductor Corporation</i> | |
| Development of Effective Thermal Characterization on Handheld Devices by Matrix Method | 2069 |
| Tai-Yu Chen, <i>MediaTek Inc.</i> ; Chung-Fa Lee, <i>MediaTek Inc.</i> | |
| Comprehensive Design Optimization for 2.133 Gbps LPDDR3 Extension for Mobile Platform System | 2075 |
| Chanmin Jo, <i>Samsung Electronics</i> ; Jaemin Shin, <i>Samsung Electronics</i> ; BaekKyu Choi, <i>Samsung Electronics</i> ; Sangmin Lee, <i>Samsung Electronics</i> ; Seongjae Moon, <i>Samsung Electronics</i> ; Sungjoo Kim, <i>Samsung Electronics</i> ; Woong Hwan Ryu, <i>Samsung Electronics</i> | |
| Estimation of Mode Conversion and Crosstalk Impact from a Single-Ended Aggressor to a Differential Victim Using Statistical BER Analysis | 2081 |
| Arun Reddy Chada, <i>Missouri S&T EMC Laboratory</i> ; Jun Fan, <i>Missouri S&T EMC Laboratory</i> ; James L. Drewniak, <i>Missouri S&T EMC Laboratory</i> ; Bhyrav Mutnury, <i>Dell, Inc.</i> | |
| Power Distribution Network Worst-Case Power Noise and an Efficient Estimation Method | 2088 |
| Jiangyuan Qian, <i>Broadcom Corporation</i> ; Shiji Pan, <i>University of California, Irvine</i> | |
| Fast Calculation of Electromagnetic Interference by Through-Silicon Vias | 2094 |
| Aosheng Rong, <i>University of Illinois, Urbana-Champaign</i> ; Andreas C. Cangellaris, <i>University of Illinois, Urbana-Champaign</i> ; Feng Ling, <i>Nanjing University of Science and Technology</i> | |
| Electrical Simulation and Analysis of Si Interposer for 3D IC Integration | 2099 |
| Xin Sun, <i>Peking University</i> ; Min Miao, <i>Beijing Information Science & Technology University</i> ; Yunhui Zhu, <i>Peking University</i> ; Runiu Fang, <i>Peking University</i> ; Guanjiang Wang, <i>Peking University</i> ; Wengao Lu, <i>Peking University</i> ; Jing Chen, <i>Peking University</i> ; Yufeng Jin, <i>Peking University</i> | |
| A SPICE Model of Multi-Mode Optical Fiber in Mid-Channel Link for Package System SI Transient Simulations | 2104 |
| Zhaoqing Chen, <i>IBM Corporation</i> | |
| Next Generation Package-on-Package Solution to Support Wide IO and High Bandwidth Interface | 2112 |
| Hung-Hsiang Cheng, <i>Advanced Semiconductor Engineering, Inc.</i> ; Chang-Chi Lee, <i>Advanced Semiconductor Engineering, Inc.</i> ; Ming-Feng Chung, <i>Advanced Semiconductor Engineering, Inc.</i> ; Po-Chih Pan, <i>Advanced Semiconductor Engineering, Inc.</i> ; Ping-Feng Yang, <i>Advanced Semiconductor Engineering, Inc.</i> ; Chi-Tsung Chiu, <i>Advanced Semiconductor Engineering, Inc.</i> ; Chih-Pin Hung, <i>Advanced Semiconductor Engineering, Inc.</i> ; Chen-Chao Wang, <i>Advanced Semiconductor Engineering, Inc.</i> | |
| Package-Level Electromagnetic Interference Analysis | 2119 |
| Namhoon Kim, <i>Broadcom Corporation</i> ; Leo Hongyu Li, <i>Broadcom Corporation</i> ; Sam Karikalan, <i>Broadcom Corporation</i> ; Reza Sharifi, <i>Broadcom Corporation</i> ; Henry Kim, <i>Broadcom Corporation</i> | |
| A Path Finding Based SI Design Methodology for 3D Integration | 2124 |
| Bill Martin, <i>E-System Design</i> ; KiJin Han, <i>UNIST</i> ; Madhavan Swaminathan, <i>Georgia Institute of Technology</i> | |
| Design and Implementation of a 700-2600 MHz RF SiP for Micro Base Station | 2128 |
| Yi He, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Fengman Liu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Anmou Liao, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Jun Li, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Xiaomeng Wu, <i>National Center for Advanced Packaging</i> ; Peng Wu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Liqiang Cao, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Dongkai Shangguan, <i>National Center for Advanced Packaging</i> | |

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|---|---|
| Dielectric Lens Optimization for Conical Helix THz Antennas | 2137 |
| Paolo Nenzi, <i>ENEA Frascati Research Center</i> ; Volha Varlamava, <i>Sapienza University of Rome</i> ; Frank Silvio Marzano, <i>Sapienza University of Rome</i> ; Fabrizio Palma, <i>Sapienza University of Rome</i> ; Marco Balucani, <i>Sapienza University of Rome</i> | |
| Embedded Diodes for Microwave and Millimeter Wave Circuits | 2144 |
| Xianbo Yang, <i>Michigan State University</i> ; Amanpreet Kaur, <i>Michigan State University</i> ; Premjeet Chahal, <i>Michigan State University</i> | |
| PCIe Gen3 Link Design and Tuning in Server Systems with End Devices from Multiple IP Suppliers | 2151 |
| Si T. Win, <i>IBM Corporation</i> ; Daniel Rodriguez, <i>IBM Corporation</i> ; Nanju Na, <i>IBM Corporation</i> | |
| A Low-Cost PCB Fabrication Process | 2159 |
| Jack Ou, <i>Sonoma State University</i> ; Alberto Maldonado, <i>Sonoma State University</i> ; Chio Saephan, <i>Sonoma State University</i> ; Farid Farahmand, <i>Sonoma State University</i> ; Michael Caggiano, <i>Rutgers University</i> | |
| Novel Band-Pass Filters on Thin Glass Substrate with Through Glass Vias (TGVs) | 2168 |
| Cheng Pang, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Wenya Shang, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Mingchuan Zhang, <i>Chinese Academy of Sciences</i> ; Zheng Qin, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Huijuan Wang, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Xiaoli Ren, <i>National Center for Advanced Packaging</i> ; Jie Pan, <i>Chinese Academy of Sciences</i> ; Daquan Yu, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> ; Dongkai Shangguan, <i>National Center for Advanced Packaging; Chinese Academy of Sciences</i> | |
| Study of Microwave Circuits Based on Metal-Insulator-Metal (MIM) Diodes on Flex Substrates | 2168 |
| Amanpreet Kaur, <i>Michigan State University</i> ; Xianbo Yang, <i>Michigan State University</i> ; Premjeet Chahal, <i>Michigan State University</i> | |
| 41: Student Interactive Presentations | |
| Chairs: | Mark Poliks, <i>i3 Electronics, Inc.</i> Ibrahim Guven, <i>University of Arizona</i> |
| Nanocomposite Pastes for Thermal and Mechanical Bonding | 2175 |
| Tingting Zhang, <i>Binghamton University</i> ; Bahgat Sammakia, <i>Binghamton University</i> ; Howard Wang, <i>Binghamton University</i> | |
| Assembly and Packaging Technologies for High-Temperature and High-Power GaN HEMTs | 2181 |
| A.A. Bajwa, <i>University of Freiburg</i> ; Y. Qin, <i>University of Freiburg</i> ; J. Wilde, <i>University of Freiburg</i> ; R. Reiner, <i>Fraunhofer Institute IAF</i> ; P. Waltereit, <i>Fraunhofer Institute IAF</i> ; R. Quay, <i>Fraunhofer Institute IAF</i> | |
| Flip-Chip on Glass (FCOG) Package for Low Warpage | 2189 |
| Scott R. McCann, <i>Georgia Institute of Technology</i> ; Venkatesh Sundaram, <i>Georgia Institute of Technology</i> ; Rao R. Tummala, <i>Georgia Institute of Technology</i> ; Suresh K. Sitaraman, <i>Georgia Institute of Technology</i> | |
| Laser-Based Conductive Film Forming with Gold Nanoparticles for Electrical Contacts | 2194 |
| Mitsugu Yamaguchi, <i>Ibaraki University</i> ; Shinji Araga, <i>Ibaraki Giken Ltd.</i> ; Mamoru Mita, <i>M&M Research Laboratory</i> ; Kazuhiko Yamasaki, <i>Ibaraki University</i> ; Katsuhiro Maekawa, <i>Ibaraki University</i> | |
| Analysis of Modes Effect on Signal/Power Integrity in Finite Cavity for Chip and Die Level Packaging Based on a Hybrid Full Wave Method | 2200 |
| Xin Chang, <i>University of Washington</i> ; Leung Tsang, <i>University of Washington</i> | |
| Directed Self-Assembly of Mesoscopic Dies Using Magnetic Force and Shape Recognition | 2207 |
| Anton Tkachenko, <i>Rensselaer Polytechnic Institute</i> ; Robert F. Karlicek, Jr., <i>Rensselaer Polytechnic Institute</i> ; James J.-Q. Lu, <i>Rensselaer Polytechnic Institute</i> | |

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| Controlled Silicon IC Thinning on Individual Die Level for Active Implant Integration Using a Purely Mechanical Process | 2213 |
| Vasiliki Giagka, <i>University College London</i> ; Nooshin Saeidi, <i>University College London</i> ; Andreas Demosthenous, <i>University College London</i> ; Nick Donaldson, <i>University College London</i> | |
| Connectors and Vibrations – Damages in Different Electrical Environments | 2214 |
| A. Berghuvud, <i>Blekinge Institute of Technology</i> ; T. Björnängen, <i>Blekinge Institute of Technology</i> ; T. Gissila, <i>Blekinge Institute of Technology</i> | |
| Study of Extreme Low Temperature and Load Solid-Phase Sn-Ag System Bonding Mechanism for 3D ICs | 2227 |
| Kiyoto Yoneta, <i>Osaka University</i> ; Ryohei Sato, <i>Osaka University</i> ; Yoshiharu Iwata, <i>Osaka University</i> ; Koichiro Atsumi, <i>Osaka University</i> ; Kazuya Okamoto, <i>Osaka University</i> ; Yukihiro Satio, <i>Osaka University</i> ; Takumi Shigemoto, <i>Osaka University</i> | |
| Self-Patterning, Pre-Applied Underfilling Technology for Stack-Die Packaging | 2231 |
| Chia-Chi Tuan, <i>Georgia Institute of Technology</i> ; Ziyin Lin, <i>Georgia Institute of Technology</i> ; Yan Liu, <i>Georgia Institute of Technology</i> ; Kyoung-Sik Moon, <i>Georgia Institute of Technology</i> ; Ching-Ping Wong, <i>Georgia Institute of Technology</i> ; <i>Chinese University of Hong Kong</i> | |
| Study of High CRI White Light-Emitting Diode Devices with Multi-Chromatic Phosphor | 2236 |
| Min Zheng, <i>Xi'an Jiaotong University</i> ; Wen Ding, <i>Xi'an Jiaotong University</i> ; Feng Yun, <i>Xi'an Jiaotong University</i> ; Deyang Xia, <i>Xi'an Jiaotong University</i> ; Yaping Huang, <i>Xi'an Jiaotong University</i> ; Yukun Zhao, <i>Xi'an Jiaotong University</i> ; Weihang Zhang, <i>Xi'an Jiaotong University</i> ; Minyan Zhang, <i>Xi'an Jiaotong University</i> ; Maofeng Guo, <i>Xi'an Jiaotong University</i> ; Ye Zhang, <i>Xi'an Jiaotong University</i> | |
| The Effects of Self-Fluxing Additives in Solder Anisotropic Conductive Films (ACFs) on Solder Wettability and Joint Reliability of Flex-on-Board (FOB) Assemblies | 2241 |
| Seung-Ho Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Yongwon Choi, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Yoosun Kim, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Modeling and Analysis of Frequency Shift of MEMS Gyroscope Subjected to Temperature Change | 2245 |
| Weihui Wang, <i>Huazhong University of Science & Technology</i> ; Sheng Liu, <i>Wuhan University</i> ; Zhang Luo, <i>Huazhong University of Science & Technology</i> ; Ming Wen, <i>Huazhong University of Science & Technology</i> ; Qiang Dan, <i>Huazhong University of Science & Technology</i> ; Man Yu, <i>Huazhong University of Science & Technology</i> ; Yong Xu, <i>Wuhan University</i> , <i>Wayne State University</i> ; Xin Wu, <i>Wayne State University</i> | |
| Interaction Effect between Electromigration and Microstructure Evolution in Cu/Sn-58Bi/Cu Solder Interconnect | 2249 |
| Hong-Bo Qin, <i>South China University of Technology</i> ; Bin Li, <i>Southern Methodist University</i> ; Wu Yue, <i>South China University of Technology</i> ; Chang-Bo Ke, <i>South China University of Technology</i> ; Min-Bo Zhou, <i>South China University of Technology</i> ; Xin-Ping Zhang, <i>South China University of Technology</i> | |
| Effects of Alignment of Graphene Flakes on Water Permeability of Graphene-Epoxy Composite Film | 2255 |
| Seong-Yoon Jung, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Kyung-Wook Paik, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> | |
| Characterization of Alternate Power Distribution Methods for 3D Integration | 2260 |
| David C. Zhang, <i>Georgia Institute of Technology</i> ; Madhavan Swaminathan, <i>Georgia Institute of Technology</i> ; David Keezer, <i>Georgia Institute of Technology</i> ; Satyanarayana Telikepalli, <i>Georgia Institute of Technology</i> | |
| Adhesion and Reliability of Direct Cu Metallization of Through-Package Vias in Glass Interposers | 2266 |
| Timothy Huang, <i>Georgia Institute of Technology</i> ; Venky Sundaram, <i>Georgia Institute of Technology</i> ; P. Markondeya Raj, <i>Georgia Institute of Technology</i> ; Himani Sharma, <i>Georgia Institute of Technology</i> ; Rao Tummala, <i>Georgia Institute of Technology</i> | |

| | |
|---|------|
| High-Frequency Characterization of Through-Package Vias Formed by Focused Electrical-Discharge in Thin Glass Interposers | 2271 |
| <i>Jialing Tong, Georgia Institute of Technology; Yoichiro Sato, Asahi Glass Company; Shintaro Takahashi, Asahi Glass Company; Nobuhiko Imajyo, Asahi Glass Company; Andrew F. Peterson, Georgia Institute of Technology; Venky Sundaram, Georgia Institute of Technology; Rao Tummala, Georgia Institute of Technology</i> | |
| Interfacial Reactions between Cu and Sn, Sn-Ag, Sn-Bi, Sn-Zn Solder under Space Confinement for 3D IC Micro Joint Applications | 2277 |
| <i>T.L. Yang, National Taiwan University; W.L. Shih, National Taiwan University; J.J. Yu, National Taiwan University; C.R. Kao, National Taiwan University</i> | |
| Simulation and Optimization of a Micro Flow Sensor | 2283 |
| <i>Xing Guo, Huazhong University of Science & Technology; Chunlin Xu, Huazhong University of Science & Technology; Shengzhi Zhang, Huazhong University of Science & Technology; Yong Xu, Wayne State University; Xin Wu, Wayne State University; Sheng Liu, Wuhan University</i> | |
| Minimizing Coupling of Power Supply Noise between Digital and RF Circuit Blocks in Mixed Signal Systems | 2287 |
| <i>Satyanarayana Telikepalli, Georgia Institute of Technology; Madhavan Swaminathan, Georgia Institute of Technology; David Keezer, Georgia Institute of Technology</i> | |
| A Feasibility Study of Flip-Chip Packaged Gallium Nitride HEMTs on Organic Substrates for Wideband RF Amplifier Applications | 2293 |
| <i>Spyridon Pavlidis, Georgia Institute of Technology; A. Cagri Ulusoy, Georgia Institute of Technology; Wasif T. Khan, Georgia Institute of Technology; Outmane Lemtiri Chlieh, Georgia Institute of Technology; Edward Gebara, I2R Nanowave Inc.; John Papapolymerou, Georgia Institute of Technology</i> | |
| A Novel Molding Process for Wafer Level LED Packaging Using Uniform Micro Glass Bubble Arrays | 2299 |
| <i>Yu Zou, Southeast University; Jintang Shang, Southeast University; Yu Ji, Southeast University; Li Zhang, Jiangyin Changdian Advanced Packaging Co. Ltd.; Chiming Lai, Jiangyin Changdian Advanced Packaging Co. Ltd.; Dong Chen, Jiangyin Changdian Advanced Packaging Co. Ltd.; Kim-Hui Chen, Jiangyin Changdian Advanced Packaging Co. Ltd.; Ching-Ping Wong, Chinese University of Hong Kong</i> | |
| Analysis of Room-Temperature Bonded Compliant Bump with Ultrasonic Bonding | 2303 |
| <i>Keiichiro Iwanabe, Kyushu University; Takanori Shuto, Kyushu University; Tanemasa Asano, Kyushu University</i> | |