PROGRAM

December 2, Sunday, 2018

16:00		Registration & Welcome Reception in "Hiten" (4th Floor) @ Hotel Nikko Nara

December 3, Monday, 2018

9:40		Opening Remark
		Session Chair: Jolanta Janczak-Rusch, Empa (Switzerland)
10:00	K01	**[Keynote] Nanoparticle based Interconnects in Electronic Packaging supporting System-Performance-Scaling** Thomas Brunschwiler, IBM Research – Zurich, Switzerland
10:30	I01	**[Invited] Scanning probe thermometry and heat conduction across nanoscale contacts** Fabian Menges, University of Colorado Boulder, USA
10:50	01	**Development in electric resistivity and cross sectional shape of conductive Ag-paste during curing process** Shinji Fukumoto, Osaka University, Japan
11:10	02	**Moisture Enabled Electricity Generation from Flexible TiO2 Nanowire Networks** Lei Liu, Tsinghua University, China
11:30	03	**Fabrication of multifunctional nano-hybrid materials for applications in sensing and catalysis** Maria Elena Fragalà, University of Catania and INSTM UdR Catania,Italy
11:50	04	**Fabrication of arch nanobridges with nanowelding** Qiang Li, Zhejiang University, China
12:10		Group Photo
12:30		Lunch in "Half Time" @ Nara National Museum & Poster# in Small Hall
		Session Chair: Guisheng Zou, Tsinghua University (China)
14:00	K02	**[Keynote] Implantable micro/nano medical devices** Norihisa Miki, Keio University, Japan

14:30	05	**Effect of Nanosolder Addition on Interfacial IMC Formation and Growth in Reflowed Solder Pastes on Cu Substrate** Zhiyong Gu, University of Massachusetts Lowell, USA
14:50	06	**Effect of Ni into solder on void formation at the interface** Hiroshi Nishikawa, Osaka University, Japan
15:10	07	**Impacts on SnPbSb solder joint by γ-ray irradiation and thermal cycling** Songbai Xue, Nanjing University of Aeronautics and Astronautics,China
15:30	08	**High-Temperature Reliability of Transient Liquid Phase Sintering Joints Using Copper-Solder-Resin Composite** Hiroaki Tatsumi, Mitsubishi Electric Corporation, Japan
15:50		Coffee Break in Small Hall
		Session Chair: Zhiyong Gu, University of Massachusetts Lowell (USA)
16:20	I02	**[Invited] Microstructural Evolution and Microjoining in Kinetic Powder Consolidation Processes** Teiichi Ando, Northeastern University, USA
16:40	09	**Disorder, phase stability and stress evolution of nano-multilayered coatings upon thermal treatment** Cancellieri Claudia, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland
17:00	10	**Ultrasonic-assisted sintering of Cu@Ag nanoparticles paste in air for chip attachment** Hongjun Ji, Harbin Institute of Technology (Shenzhen), China
17:20	11	**Copper-to-copper direct bonding on highly (111) oriented nano-twinned copper in N_2 atmosphere** Jing-Ye Juang, National Chiao Tung University, Taiwan
17:40	12	**SiC direct joining using silver oxide decomposition** Tomoki Matsuda, Osaka University, Japan
18:00		Dinner in "Half Time" @ Nara National Museum

December 4, Tuesday, 2018

		Session Chair: Lars P.H. Jeurgens, Empa (Switzerland)
8:50	K03	**[Keynote] Plasmonic-Enhanced Welding of Metal Nanowire Networks for Direct Integration of Transparent Conducting Layers on Organic Electronic Devices** Craig B. Arnold, Princeton University, USA
9:20	13	**Dielectrophoretic manipulation and laser nanojoining of copper nanowires** Anming Hu, University of Tennessee, USA
9:40	14	**Nickel Ion Bridge Assistant Joining of Silver Nanowire Networks for Transparent Heaters** Yanhong Tian, Harbin Institute of Technology, China
10:00	15	**Reactive nano-multilayers for joining** Bastian Rheingans, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
10:20		Coffee Break in Small Hall
		Session Chair: Jae-Pil Jung, University of Seoul (South Korea)
10:50	I03	**[Invited] In-situ Observation of Adhesion Behavior during Ultrasonic Al Ribbon Bonding** Yasuo Takahashi, Osaka University, Japan
11:10	16	**Microstructure of Joint between Stranded Wire and Substrate bonded by Ultrasonic Welding** Chihiro Iwamoto, Ibaraki University, Japan
11:30	17	**Melting behaviour of the nanostructured Al-Si50at%/AlN system** Joanna Lipecka, Warsaw University of Technology, Poland
11:50	18	**A Study of Low-Temperature Embrittlement of Bulk Tin-Based Solders** Qi An, Harbin Institute of Technology, China
12:10		Lunch in "Half Time" @ Nara National Museum & Poster# in Small Hall
		Session Chair: Chihiro Iwamoto, Ibaraki University (Japan)
14:00	K04	**[Keynote] Ultra-low alpha particle solder for high density electronics packaging** Jae-Pil Jung, University of Seoul, South Korea
14:30	I04	**[Invited] Pressureless Sintering of Hybrid-silver Paste on Substrates with Nickel Finish** Yunhui Mei, Tianjin University, China

14:50	19	**Direct Joining of Gold Nanoparticles with Polymer Microspheres Using Ultrasound in Aqueous Media** Toshio Sakai, Shinshu University, Japan
15:10	20	**Highly-energetic Al/CuO thermites through nanoparticle composites for reactive joining applications** Lars Dörner, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland
15:30	21	**A novel near room temperature interconnection technology by deposited nanoparticle layer** Bin Feng, Tsinghua University, China
15:50	22	**Dissimilar laser welding of shape memory alloys** João Pedro Oliveira, New University of Lisbon, Portugal
16:10		Poster Session* in Small Hall with Coffee
18:00		Dinner in "Half Time" @ Nara National Museum

December 5, Wednesday, 2018

		Session Chair: Lei Liu, Tsinghua University (China)
8:50	K05	**[Keynote] Laser-induced Targeted Nanowelding, Nanosoldering, Nanobreaking and Nanohealing of Metallic Nanowires** Min Qiu, Zhejiang University, China
9:20	23	**Hybrid nanostructures of metal/one-dimensional carbon allotropes prepared by laser ablation in liquid** Luisa D'Urso, University of Catania, Italy
9:40	24	**Controlled directional mass transportation in metal nanolayer confined structures for devices integration** Luchan Lin, Empa Swiss Federal Laboratories for Materials Science and Technology, Switzerland
10:00	25	**Nanoscale sintering of Cu nanoparticles under electron beam: a molecular dynamics simulation study** Genwang Wang, Harbin Institute of Technology, China
10:20		Coffee Break in Small Hall
		Session Chair: Giuseppe Compagnini, University of Catania (Italy)
10:50	I05	**[Invited] Ultrashort laser welding of similar and dissimilar materials** Wataru Watanabe, Ritumeikan University, Japan
11:10	26	**Study on interface characteristics of microlaser joints of NiTi and stainless steel with Ni filler** Yongde Huang, Nanchang Hangkong University, China
11:30	27	**Interfacial Strengthening of Laser Al/steel joints by Liquid Zn Penetration** Jin Yang, Shanghai University of Engineering Science, China
11:50	28	**Direct Heterogeneous Bonding Using VUV Surface Activation in Humid Air** Chenxi Wang, Harbin Institute of Technology, China
12:10		Group Photo
12:30		Lunch in "Half Time" @ Nara National Museum & Poster# in Small Hall
		Session Chairs: Anming Hu, University of Tennessee (USA) Wataru Watanabe, Ritsumeikan University (Japan)
14:00	K06	**[Keynote] Common Mechanisms and Similarities in Laser Joining in Nanoscale and Macroscale Systems** Walter Duley, University of Waterloo, Canada

14:30	I06	**[Invited] Two-photon polymerization for three-dimensional assembly of aligned carbon nanotubes** Yongfeng Lu, University of Nebraska Lincoln, USA
14:50	29	**Interconnect between carbon nanotubes and metal electrodes by femtosecond laser irradiation** Jianlei Cui, Xi'an Jiaotong University, China
15:10	30	**Rapid joining of single-walled carbon nanotube ropes by femtosecond laser irradiation** Zeyad A. Almutairi, King Saud University, Saudi Arabia
15:30	31	**Interface Engineering for Metal Oxide Nanowire Devices** Ming Xiao, University of Waterloo, Canada
15:50	32	**Photon-induced reaction and joining of copper nanoparticles** Peng Peng, Beihang University, China
16:10	33	**Stereolithographic Micro Additive Manufacturing of Solid Electrolytes for Energy Storage** Soshu Kirihara, Osaka University, Japan
16:30		Closing Remark
18:00		Banquet in "Hiten" (4th Floor) @ Hotel Nikko Nara

Poster Session* in the evening of Dec. 4:
For all poster presenters, please stand in front of your posters to explain them for participants.

Poster# during Lunch time:
Participants can look at posters. Poster presenters do not necessarily have to stand in front of their posters.

Poster Presentations

P01	**Water based polypyrrole-polyurethane composite ink for E-textile wearable electronics** Pengxiang Si, University of Waterloo, Canada
P02	**Anisotropic large grain growth in direct copper-to-copper bonding by highly (111) nanotwinned Cu** Chih Chen, National Chiao Tung University, Taiwan
P03	**Fabrication of Cu EMI shielding layer and its properties for electronic devices** Do hyun Jung, University of Seoul, South Korea
P04	**Low temperature Transient Liquid Phase joining technology for thermoelectric skutterudites junction** Sri Harini Rajendran, University of Seoul, South Korea
P05	**Influence of Surface State on Micro-welding Characteristics of Copper by Pulsed Laser** Yasuhiro Okamoto, Okayama University, Japan
P06	**Investigation of using Femtosecond Laser System for Joining AgNo3 Nanoparticles** Mosaad Alanazi, King Saud University, Saudi Arabia
P07	**Micro Joining Assisted With Reactive Multilayer Nanofoils Ignited By Joule Heat** Cheng Luo, Shanghai Jiao Tong University, China
P08	**Metallic Nanoporous Membranes for Broadband High-Performance Light Absorption** Wenzheng Zhao, Tsinghua University, China
P09	**Integration of similar and dissimilar nanowires by femtosecond laser induced joining** Ming Xiao, University of Waterloo, Canada
P10	**Sintering of silver nanoparticles using sodium chloride solution, laser and their combination** Xinda Wang, Beihang University, China
P11	**Self-sintering of Al/Fe_2O_3 Nanothermites for Deflection Sensitive Sensor** Anming Hu, University of Tennessee, USA
P12	**Nano-Transient liquid phase bonding of Inconel 718 with Ni and Ni-Mn-Fe-Co-Cu High Entropy Alloy Nanoparticles** Anming Hu, University of Tennessee, USA
P13	**Self-powered fast brazing of Ti-6Al-4V using Ni/Al Reactive Multilayer Films** Anming Hu, University of Tennessee, USA

P14	**Development of Ultrasonic Bonding Technique using Plastic Flow of Solder as Cushioning Material for Joining of Cu microwire and LED Device to Realize E-textile** Kazushi Matsuoka, Osaka University, Japan
P15	**Multilevel Current Amplification Memory Effect Induced by UV-Light in Zinc Oxide Rods Memristors** Paola Russo, University of Waterloo, Canada
P16	**Effect of Ni Addition on Tensile and Fatigue Properties of Sn-Sb Alloy** Tatsuya Kobayashi, Gunma University, Japan
P17	**Effects of thermal fatigue on ultrasonic-bonded copper joints** Takahito Fushimi, Osaka University, Japan
P18	**Mechanism of Ag-to-Si bonding using silver oxide paste** Kota Inami, Osaka University, Japan
P19	**Cu-to-Cu Bonding using Submicron CuO Particles** Tomoya Igarashi, Osaka University, Japan
P20	**Synthesis and Applications of Magnetite Mesocrystals** Hiroya Abe, Osaka University, Japan
P21	**Erosion Resistance Properties of Iron-carbon Composite Plating to Molten Lead-free Solder** Jun Watanabe, Nagano Oki Electric Co., Ltd., Gunma University, Japan
P22	**Study on the reliability of Sn50Pb49Sb1/Cu solder joints subjected to γ-ray irradiation** Jianhao Wang, Nanjing University of Aeronautics and Astronautics, China
P23	**Mechanical property of Sn-58Bi solder paste containing unsaturated polyester resin** Lu Liu, Nanjing University of Aeronautics and Astronautics, China
P24	**Dissimilar laser brazing of aluminum alloy and magnesium alloy using interlayer** Tomo Ogura, Osaka University, Japan
P25	**Melting and Boiling Points and Chemical Bonding Properties of the P-Block Metals** Wataru Takahara, Osaka University, Japan
P26	**Reactive wetting behavior of Sn-based micro-solder on Cu and Ni capillary tracks** Samuel Griffiths, University of Stuttgart, Germany
P27	**Microstructural evolution of Cu/W nano-multilayer filler metal during thermal treatments and its application in diffusion brazing process** Zengcheng Xing, Beijing University of Technology, China

P28	**Microstructure of LPSO type Mg alloy Joints controlled amount of dent that occurred by ultrasonic welding** Kazuto Futawatari, National Institute of Technology, Kagoshima College, Japan
P29	**Ag precursors as new joining materials for joining of copper at low temperatures** Susann Hausner, TU Chemnitz, Germany
P30	**Crack repairing on the surface of IN738LC superalloy by TLPB** Hailin Bai, Tsinghua University, China
P31	**Micro-brazing of Stainless Steel using Ni-P Alloy Plating** Shubin Liu, Gunma University, Japan
P32	**Residual Stress Analysis in Glass Substrate for Electronic Packaging by Finite Element Method** Amon Shinohara, Gunma University, Japan
P33	**Direct Heterogeneous Bonding Using VUV Surface Activation in Humid Air** Chenxi Wang, Harbin Institute of Technology, China
P34	**Laser micro-welding of x-ray antiscatter grid with high aspect ratio for deep space probe** Rongshi Xiao, Beijing University of Technology, China
P35	**Electrical, Thermal and Mechanical Characteristics of Ag-based Hybrid Circuits Irradiated with Various Energy Sources** Kwang-Ho Jung, Sungkyunkwan University, South Korea
P36	**Fabrication of Ag-MWCNT Nanocomposite Pastes with Low Temperature Sintering Process** Choong-Jae Lee, Sungkyunkwan University, South Korea

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