



**INTERNATIONAL INSTITUTE OF WELDING**

**A world of joining experience**

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Chair: Guisheng Zou  
Delegation China

**Doc. VII-2042-23**  
July 17, 2023

## **COMMISSION VII: MICROJOINING AND NANOJOINING**

### **Agenda for the 76th Annual Assembly and International Conference**

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MARINA BAY SANDS CONVENTION CENTRE, SINGAPORE, 16 -21 July 2023

#### **Program Summary**

<b>Time</b>	<b>Meetings</b>	<b>Venue</b>
July 17 (Monday) 8:30:00-12:30	C-VII Workshop	Level 4
July 18 (Tuesday) 8:30:00-12:30	C-VII & C-XVII Joint Meeting	Level 4

## Monday July 17, 8:30-12:30 AM

### Venue : Level 4

#### 1. C-VII Annual Workshop

##### 1-1 Opening (8:30-8:50), Guisheng Zou

- Welcome and Introduction to Commission VII
- Approval of the agenda (Doc. VII-0242-23)
- Approval of the minutes of the meeting held through Hybrid (ON-SITE and ON-LINE), 19-21 July 2022 (Doc. VII-0241-23)

##### 1-2 Technical presentations (8:50-12:30)

#### Session I (Chair: Lei Liu)

Reference	Title	Presenter	Time
VII-0243-23	The effect of the surface patterning by ion beam irradiation on the Ag directional outflow in Ag/AlN nanomultilayers	Jolanta Janczak-Rusch, Empa, Switzerland	8:50-9:10
VII-0244-23	Water Repellence of Biomimetic Structures Fabricated via Femtosecond Laser Direct Writing	Hongyu Zheng, Shandong University of Technology, China	9:10-9:30
VII-0245-23	Effect of electroplated and electroless nickel coatings on the shear strength of Au80Sn20/S10C joint	Hongbo Qin, Guilin University of Electronic Technology, China	9:30-9:50
VII-0246-23	Approach to pressure-reduced nanojoining by using modified Nickel nanopastes	Benjamin Sattler, Technische Universität Chemnitz, Germany	9:50-10:10
VII-0247-23	Highly accurate and efficient prediction of effective thermal conductivity of sintered silver based on deep learning method	Chengjie Du, Tsinghua University, China	10:10-10:30

Coffee break 10:30-11:00

#### Session II (Chair: Jolanta Janczak-Rusch)

VII-0248-23	Investigation on the joining mechanism using microstructure-regulated Cu substrates	Chinese Academy of Sciences, China	11:00-11:20
VII-0249-23	Microstructure evolution and grain orientation transition of nano-twinned Cu/Sn solder joints under dip-soldering and reflow process	Zicheng Sa, Harbin Institute of Technology, China	11:20-11:40
VII-0250-23	Patterned Cu Nanoparticle Film for All-Cu Interconnection without Chemical Mechanical Polishing Pretreatment	Shuaiqi Wang, Tsinghua University, China	11:40-12:00

##### 1-3 Discussions and Closing Remarks (12:00), Guisheng Zou

- New chair election (**Elisabetta, IIW Secretariat**)
- Speech from a new chair and new sub-commission chairs and vice-chairs
- Paper recommendations to Welding in the World-WitW
- NMJ 2023-International Conferences on Nanojoining and Microjoining (**Susann**)
- Closure



**Tuesday July 18, 8:30-12:30 AM**  
**Venue : Level 4**

**2. Joint meeting on Brazing, Soldering and Diffusion Bonding with Nanomaterials between the C-VII and C-XVII**

2-1 Opening (8:30-8:35), Huaping Xiong and Guisheng Zou

- Welcome and Introduction to Commissions XVII and VII
- Review of the past joint meetings of C-XVII and C-VII

2-2 Technical presentations (8:35-12:30)

Session II-1 (Simon Jahn and Huaping Xiong)

Reference	Title	Presenter	Time
VII-0251-23 XVIIC-0066-23	Can nanojoining be an alternative for brazing?	S. Hausner, Technische Universität Chemnitz, Germany	8:35-8:55
VII-0255-23 XVIIC-068-23	Performance and sintering mechanism of Cu@Ag NWs conductive thin films	Shuye Zhang, Harbin Institute of Technology, China	8:55-9:15
VII-0252-23 XVIIC-0067-23	Effect of bonding condition on joint strength using Sn-coated Cu particles for high-temperature applications	Hiroshi Nishikawa, Osaka University, Japan	9:15-9:35
VII-0256-23 XVIIA-0275-23	Synchrotron X-Ray diffraction on phase evolution in Ni-base superalloys brazed with a MPEA	Zhenzhen Yu, Colorado School of Mines, USA	9:35-9:55
VII-0253-23 XVIIA-0276-23	Joining of metal foils via reactive multilayer nanofolios	Cheng Luo, Shanghai Jiao Tong University, china	9:55-10:15
Coffee break (10:15-10:45)			

Session II-2 (Susann Hausner and Guisheng Zou)

Reference	Title	Presenter	Time
VII-0257-23 XVIIIB-0065-23	Innovative joining concepts for diffusion bonding processes of aluminium alloy	Segel. C, IFW, Jena, Germany	10:45-11:05
VII-0254-23 XVIIC-0069-23	Study of the sintering mechanisms and physical properties of Ag nanopaste by multi-scale simulations	Jiayun Feng, Harbin Institute of Technology, China	11:05-11:25
VII-0258-23 XVIIA-0277-23	Strengthening ceramic-aluminum alloy brazing joint by femto second laser surface treatment	Peng Xue, Nanjing University of Science and Technology, China	11:25-11:45
	<b>Miscellaneous:</b> Future joint meeting in IIW AA, International Conference on Brazing, Diffusion Bonding and Micro-Nano Joining, Intermediate meeting, etc.	<b>All the participants</b>	11:45-12:00
	Special presentations from IIW Secretariat and Welding in the World (WitW)	Elisabetta/Luca Costa (IIW Secretariat) and John Lippold (WitW)	12:00-12:30

2-3 Discussions and Closing Remarks (12:00), Guisheng Zou and Huaping Xiong

- Submission of documents
- Paper recommendations to Welding in the World(WitW), etc

