

Visual-JW2012

28-30 November, 2012

Hotel Hankyu Expo Park, Osaka, Japan

The International Symposium
on Visualization in Joining & Welding Science through
Advanced Measurements and Simulation,
and
2nd International Workshop "In-situ Studies with
Photons, Neutrons and Electrons Scattering"
in conjunction with
symposium on the research activities of Joint Usage / Research
Center on Joining and Welding

TENTATIVE PROGRAM

Organized by Joining and Welding Research Institute, Osaka University

Co-organized by Japan Welding Society

Visual-JW2012

In the year 2012, 2nd International Symposium on Visualization in Joining & Welding Science through Advanced Measurements and Simulation (Visual-JW2012), and 2nd International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" in conjunction with symposium on the research activities of Joint Usage / Research Center on Joining and Welding will be held on 28-30, November at the Hotel Hankyu Expo Park in Osaka, Japan.

The Symposium aims to promote direct exchange of the latest scientific and technological information related to visualization of complex phenomena in material processing through advanced measurements and simulation. It will also provide a good opportunity to discuss on the future and the strategy regarding R&D of materials processing.

Symposium Committee

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David J. Smith, University of Bristol, UK
George Spanos, TMS, USA
Takao Taka, Sumitomo metal technology, Japan
Ai Ping Wu, Tsinghua University, China
Chuan Song Wu, Shandong University, China

Schedule of the Symposium

Registration

28-November: 15:30 -17:30

29-November: 8:00 -18:30

30-November: 8:00 -17:00

28-November

- 11:00-17:00 : SPring-8 tour

We visit industrial application beamline (46XU) and brand-new X-ray Free Electron Laser: XFEL(SACLA).

- 17:30-19:30 : Welcome party at Room Seiu

29-November

Thursday 29-November					
Room	Room A	Room B	Room C	Room D	Room E
Session Name					
8:50-9:00	Opening Ceremony at Room G				
9:00-9:30	Plenary Lecture 1 at Room G				
9:30-10:00	Plenary Lecture 2 at Room G				
10:00-10:30	Plenary Lecture 3 at Room G				
10:30-11:00	Coffee Break				
Session Name	Visualization of joining and welding process (1)	Visualization of mechanics in joining and welding (1)	Visualization of metallurgy in joining and welding (1)	Visualization of advanced material processing (1)	International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" (1)
11:00-11:20	JWP-1	MCJW-1	MTJW-1	AMP-1	IWIS-1
11:20-11:40	JWP-2	MCJW-2	MTJW-2	AMP-2	IWIS-2
11:40-12:00	JWP-3	MCJW-3	MTJW-3	AMP-3	IWIS-3
12:00-12:20	JWP-4	MCJW-4	MTJW-4	AMP-4	IWIS-4
12:20-13:30	Lunch at Room G				
Session Name	Visualization of joining and welding process (2)	Visualization of mechanics in joining and welding (2)	Visualization of metallurgy in joining and welding (2)	Visualization of advanced material processing (2)	International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" (2)
13:30-13:50	JWP-5	MCJW-5	MTJW-5	AMP-5	IWIS-5
13:50-14:10	JWP-6	MCJW-6	MTJW-6	AMP-6	IWIS-6
14:10-14:30	JWP-7	MCJW-7	MTJW-7	AMP-7	IWIS-7
14:30-14:50	JWP-8	MCJW-8	MTJW-8	AMP-8	IWIS-8
14:50-15:10	JWP-9	MCJW-9	MTJW-9	AMP-9	IWIS-9
15:10-15:30	Coffee Break				
Session Name	Visualization of joining and welding process (3)	Visualization of mechanics in joining and welding (3)	Visualization of joining and welding process (6)	Visualization of nano & micro joining (1)	International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" (3)
15:30-15:50	JWP-10	MCJW-10	JWP-26	NMJ-1	IWIS-10
15:50-16:10	JWP-11	MCJW-11	JWP-27	NMJ-2	IWIS-11
16:10-16:30	JWP-12	MCJW-12	JWP-28	NMJ-3	IWIS-12
16:30-16:50	JWP-13	MCJW-13	JWP-29	NMJ-4	IWIS-13
16:50-17:10	JWP-14	MCJW-14	JWP-30	NMJ-5	IWIS-14
17:10-17:30	JWP-15	MCJW-15	JWP-31	NMJ-6	IWIS-15
17:30-18:20	Poster at Room F				
18:30-20:30	Reception at Orbit Hall				

30-November

Friday 30-November					
Room	Room A	Room B	Room C	Room D	Room E
Session Name	The research activities of Joint Usage / Research Center on Joining and Welding (Joining / Welding Processing 1)	The research activities of Joint Usage / Research Center on Joining and Welding (Visualization & Evaluation 1)	The research activities of Joint Usage / Research Center on Joining and Welding (Smart Processing 1)		
9:00-9:25	RAJU-JW1	RAJU-VE1	RAJU-SP1		
9:25-9:50	RAJU-JW2	RAJU-VE2	RAJU-SP2		
9:50-10:15	RAJU-JW3	RAJU-VE3	RAJU-SP3		
10:15-10:30	Coffee Break				
Session Name	The research activities of Joint Usage / Research Center on Joining and Welding (Joining / Welding Processing 2)	The research activities of Joint Usage / Research Center on Joining and Welding (Visualization & Evaluation 2)	The research activities of Joint Usage / Research Center on Joining and Welding (Smart Processing 2)		
10:30-10:55	RAJU-JW4	RAJU-VE4	RAJU-SP4		
10:55-11:20	RAJU-JW5	RAJU-VE5	RAJU-SP5		
11:20-11:45	RAJU-JW6	General discussion (11:20-11:35)	RAJU-SP6		
11:45-12:00	General discussion		General discussion		
12:00-13:00	Lunch at Room G				
Session Name	Visualization of joining and welding process (4)	Visualization of mechanics in joining and welding (4)	Visualization of joining and welding process (7)	Visualization of nano & micro joining (2)	International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" (4)
13:00-13:20	JWP-16	MCJW-16	JWP-32	NMJ-7	IWIS-16
13:20-13:40	JWP-17	MCJW-17	JWP-33	NMJ-8	IWIS-17
13:40-14:00	JWP-18	MCJW-18	JWP-34	NMJ-9	IWIS-18
14:00-14:20	JWP-19	MCJW-19	JWP-35	NMJ-10	IWIS-19
14:20-14:40	JWP-20	MCJW-20	JWP-36	NMJ-11	IWIS-20
14:40-15:00	Coffee Break				
Session Name	Visualization of joining and welding process (5)	Visualization of mechanics in joining and welding (5)	Visualization of joining and welding process (8)	Visualization of metallurgy in joining and welding (3)	International Workshop "In-situ Studies with Photons, Neutrons and Electrons Scattering" (5)
15:00-15:20	JWP-21	MCJW-21	JWP-37	MTJW-10	IWIS-21
15:20-15:40	JWP-22	MCJW-22	JWP-38	MTJW-11	IWIS-22
15:40-16:00	JWP-23	MCJW-23	JWP-39	MTJW-12	IWIS-23
16:00-16:20	JWP-24	MCJW-24	JWP-40	MTJW-13	IWIS-24
16:20-16:40	JWP-25	MCJW-25	JWP-41	MTJW-14	IWIS-25

Friday 30-November

The research activities of Joint Usage / Research Center on Joining and Welding

Room A

9:00-10:15: The research activities of Joint Usage / Research Center on Joining and Welding (Joining / Welding Processing 1) (RAJU-JW)

Chair Person: Shinichi TASHIRO (Osaka University)

RAJU-JW-1 **Invited Lecture:** "Contribution for Heat Flux to Anode Affected by Current Transition Time in Pulsed Arc Welding with Iron Vapor"

Toru IWAO, Taira MOMII (Tokyo City University), Shinichi TASHIRO, Manabu TANAKA (Osaka University) and Motoshige YUMOTO (Tokyo City University)

RAJU-JW-2 **Invited Lecture:** "Direct Laser Joining for Metal and Plastic"

Koji NISHIMOTO (Anan National College of Technology), Yousuke KAWAHITO and Seiji KATAYAMA (Osaka University)

RAJU-JW-3 **Invited Lecture:** "Development of Laser Beam Welding for Reduced Activation Ferritic Steels and Post Weld Heat Treatment for the Joints"

Hiroaki MORI, Hiroyuki OGIWARA, Yuma SHIRAI and Kazuyoshi SAIDA (Osaka University)

10:30-11:45: The research activities of Joint Usage / Research Center on Joining and Welding (Joining / Welding Processing 2) (RAJU-JW)

Chair Person: Hiroshi NISHIKAWA (Osaka University)

RAJU-JW-4 **Invited Lecture:** "Dynamic Mechanical Behavior of Sn-Bi Lead-free Solders by Tensile Test under High Strain Rate"

Kiyokazu YASUDA, Yoshihiro SAKINO (Osaka University), Ikuo SHOJI (Gunma University), Tadashi TAKEMOTO, Hiroshi NISHIKAWA (Osaka University)

RAJU-JW-5 **Invited Lecture:** "Fabrication of Functionally Graded Aluminum Foam by Friction Stir Processing Route"

Yoshihiko HANGAI (Gunma University), Takao UTSUNOMIYA (Shibaura Institute of Technology), Osamu KUWAZURU (University of Fukui), Nobuhiro YOSHIKAWA (The University of Tokyo)

RAJU-JW-6 **Invited Lecture:** "Fe-7 mass% Al Alloy-based Surface Composites Produced by Friction Stir Processing"

Yoshihisa KIMOTO, Toru NAGAOKA, Hiroyuki WATANABE, Masao FUKUSUMI (Osaka Municipal Technical Research Institute), Yoshiaki MORISADA and Hidetoshi FUJII (Osaka University)

Room B

9:00-10:15: The research activities of Joint Usage / Research Center on Joining and Welding (Visualization & Evaluation 1) (RAJU-VE)

Chair Person: Takuya TSUMURA (Osaka University)

- RAJU-VE-1 **Invited Lecture:** "Anti Chipping Treatment of Nitrided High-Speed Steel by Plasma Bombardment"
Masato TSUJIKAWA (Osaka Prefecture University), Takumi SONE (Industrial Technology Support Institute of Higashiosaka City), Motoo EGAWA, Nobuhiro UEDA (Technology Research Institute of Osaka Prefecture), Kenji HIGASHI (University of Osaka Prefecture), Kazuhiro NAKATA (Osaka University)
- RAJU-VE-2 **Invited Lecture:** "Effect of ALPS consisting of BWINGs on Mechanical Properties in Steels"
Kiyomichi NAKAI, Tatsuaki SAKAMOTO and Sengo KOBAYASHI (Ehime University)
- RAJU-VE-3 **Invited Lecture:** "Fatigue behavior of Extruded AZ31 Magnesium Alloy with Refined Grains via RCP Process"
Yukio MIYASHITA ((Nagaoka University of Technology) and Katsuyoshi KONDOH (Osaka University)

10:30-11:20: The research activities of Joint Usage / Research Center on Joining and Welding (Visualization & Evaluation 2) (RAJU-VE)

Chair Person: Kosuke TAKENAKA (Osaka University)

- RAJU-VE-4 **Invited Lecture:** "Soundness Diagnosis of Steel Used for Overage Bridge in Cold Region"
You-Chul KIM (Osaka University), Mikihito HIROHATA (Nagoya University), Hidenori MATSUNAWA (Hokkaido University) Shinya OMOTE, Hiroshi MITAMURA (Civil Engineering Research Institute for Cold Region, PWRI) (Nagoya University)
- RAJU-VE-5 **Invited Lecture:** "Development of Structural Integrity Analysis System for Welded Structures"
Hiroshi OKADA (Tokyo University of Science), Satoyuki TANAKA (Hiroshima University) Toyoyasu NISHIKAWA, Kota SUGAWARA (Tokyo University of Science), Hidekazu MURAKAWA (Osaka University), Masakazu SHIBAHARA, Shinsuke ITOH (Osaka Prefecture University), Hisashi SERIZAWA (Osaka University)

Room C

9:00-10:15: The research activities of Joint Usage / Research Center on Joining and Welding (Smart Processing 1) (RAJU-SP)

Chair Person: Hiroya ABE (Osaka University)

RAJU-SP-1 **Invited Lecture:** “10 kW Peak Power Pulse Fiber Laser and the Applications”

Minoru YOSHIDA (Kinki University) and Hisashi SAWADA (Mitsubishi Cable Industries, Ltd.)

RAJU-SP-2 **Invited Lecture:** “Structure Controlled TiO₂-Related Nanomaterials via Various Smart Processing”

Yoshikazu SUZUKI (University of Tsukuba)

RAJU-SP-3 **Invited Lecture:** “Nano & Micro Porous Base-metals Prepared with Dealloying in Molten Metal Baths”

Hidemi KATO, Takeshi WADA, Kunio YUBUTA (Tohoku University)

10:30-11:45: The research activities of Joint Usage / Research Center on Joining and Welding (Smart Processing 2) (RAJU-SP)

Chair Person: Soshu KIRIHARA (Osaka University)

RAJU-SP-4 **Invited Lecture:** “Diagnostics and Control of High Energy Species in Magnetron Sputter Plasmas”

Hiroataka TOYODA (Nagoya University)

RAJU-SP-5 **Invited Lecture:** “Effect of Post Heat Treatment on Crystallization of Titanium Oxide Film Deposited on The Low Temperature Condition by Atmospheric TPCVD using Vortex Air Plasma Jet”

Yasutaka ANDO, Sheng-Yuan CHEN, Yoshimasa NODA (Ashikaga Institute of Technology) and Akira KOBAYASHI (Osaka University)

RAJU-SP-6 **Invited Lecture:** “Fabrication of High-quality SiGe-on-Insulator and Ge-on-Insulator Structures by Rapid Melt Growth”

Takayoshi SHIMURA, Chiaki YOSHIMOTO, Tatsuya HASHIMOTO, Shimpei OGIWARA, Yuichiro SUZUKI, Takuji HOSOI, and Heiji WATANABE (Osaka University)