

Time Table on Monday 18th, July 2022

1. AM

2. AI & DX

3. Hydrogen

4. New materials

5. Future technology

6. Advanced technology

Floor	Basement 1st Floor										
Time	Palais Royal A	Palais Royal B	Palais Royal C	Palais Royal D	Châtelet	Étoile	Vendôme	Concerto	Harmonie	Fantaisie	
8:30	Chair1 Robert E. Shaw, Jr. (Steel Structures Technology Center) Chair2 Tomoya Kawabata (The University of Tokyo) Keynote 5, Hideyuki Suzuki (The University of Tokyo) Renewable Energy Revolution by Power Generation with Floating Offshore Wind Turbine Keynote 6, Hiroaki Sakashita (Class NK) Zero-emission transition in shipping Keynote 7, Noriko Morioka (IHI Corporation) Towards the future of net-zero aviation Keynote 8, Masahiro Indo (Shimizu Corporation) Construction DX Initiatives Shimz Smart Site Next Generation Building construction System										
10:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
11:00	[AM] Process control Invited 1(AM), Christoph Leyens (Fraunhofer IWS) Innovative Aerospace and Space Structures made by Additive Manufacturing	[AI & DX] Automation of welding process Invited 1(AI & DX), Kazuhiro Haniya (Yaskawa Electric Corporation) Evolution of solutions provided by 3-Mechatronics Sustainable Manufacturing Supported by Evolution of Robots -	[Hydrogen] Welding Process Invited 1(H2 & Renew. Energy), Kunihiko Koike (Iwatani Corporation) Technology trends toward the realization of a hydrogen society and development of decarbonized welding and fusing technologies	[Future technology] Welding process/NDT Invited 1(Future Technology), Yurugi Kanzaki (Mitsubishi Heavy Industries), Contribution to Carbon Neutrality by MHI Nuclear Engineering Systems and its Supporting Welding Technology (Tentative)	[New materials] Dissimilar resistance spc welding Invited 1 (New Materials), Bernd Mayer (Fraunhofer IWS), Structural Adhesive Bonding of Fiber Reinforced Composite Parts	[AM] Process 1 New approaches in additive manufacturing-> The final steps in DED with powder and wire towards guaranteed quality and "First Time Right"	[Advanced technology] Fatigue and fracture 1 Invited 1(Other fundamentals), Atsuto Shimada (Panasonic Connect), Panasonic GREEN IMPACT for Manufacturers' futures	[AM] Modeling and simulation 1 [Cancelled] ANN Based Approach To Control The Dimensional Accuracy In Wire Arc Additive Manufacturing Process	[New materials] Brazing materials [Cancelled] Study on Brazing Behavior of Diamond with Nickel Base Boron Free Solder	[AM] Materials and properties 1 Microstructure and Properties of TNZT-TiB2 Composite Processed by Laser-Powder Bed Fusion	
A-1	54 Controlled Droplet on Demand Deposition in Plasma MIG Welding - Numerical Simulation Study	D-1 8 Automatic welding with the skilled welding operators technique due to the utilization of image processing and machine learning	H-1 68 Vehicle To Arc (V2Arc): The High Efficiency Arc Welding/Cutting Equipment Supplied Primary Power From Electric Vehicles For Quick Recovery Work Against Natural Disasters	F-1 72 Nondestructive Detection of Unwelded Parts of T-joints by Magnetic Flux Leakage Testing with High Sensitivity Sensors	M-1 92 MFDC Resistance Spot Welding of Aluminum to Steel / Effects of Welding Program Pulses, Electrode Shape and Polarity on Microstructure and Strength	A-7 22 Development of Metal Additive Manufacturing Technology for Gas Turbine Hot Parts	O-1 2 [Cancelled] Fatigue Testing And Modelling Of Flare Bevel Groove Welded Aluminum T-Joints	A-16 66 Transition strategy optimization of Inconel625-HSLA steel functionally graded material fabricated by wire arc additive manufacturing	M-12 87 [Cancelled] Effects Of HF And Zr On Microstructure And Properties Of Ni-based Boron Free Solder And Brazed Diamond Joint	A-26 93 Effects of notch-load-defect interactions on the true stress-logarithmic strains and strain hardening of L-PBF 18N300	
A-2	35 In-Situ Process Analysis Of Laser Welding By Temporally And Spatially Mapped Radiation Reflection Measurements	D-2 27 Automation of Welding Bead Length and Width Measurement by Semantic Segmentation and Image Recognition Algorithms	H-2 4 Identification And Feasibility Evaluation Of A Friction Stir Welding Application In The Colombian Energy Sector	F-2 83 Multi-faceted Evaluation of Dissimilar joining between high tensile strength steel plate and aluminum plate using useful new non-destructive method	M-2 177 Collaborative Simulation of Nugget Growth and Process Signals for Resistance Spot Welding	A-8 84 Process Design for Multi-material Arc Directed Energy Deposition Additive Manufacturing	O-2 150 Ageing Effect on Fatigue Performance of Offshore Structures by Fracture Mechanics Method	A-17 74 Surface roughness of an additively manufactured AISI10Mg aluminum alloy: deep-learning based prediction and experimental validation	M-13 88 [Cancelled] Effect Of Cr Content On Microstructure, Melting Characteristics And Mechanical Properties Of Ni-based Boron Free Solder	A-27 34 Inhomogeneous formation of microstructure in a martensitic stainless steel during wire arc additive manufacturing	
12:30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
14:00	[AM] Materials and properties 2 Invited 2 (AM), Moataz Attallah (University of Birmingham) Opportunities in New Metallic Materials in Metal Additive Manufacturing	[AI & DX] Optimization and management Invited 2 (AI & DX), Yoshihide Inoue (Kobe Steel), Paradigm changes in the welding automation for heavy industry using cutting-edge digital technologies	[Hydrogen] Mechanical Behavior Invited 2 (H2 & Renew. Energy), Katsuya Morimoto (Kawasaki Heavy Industries), International Liquefied Hydrogen Supply Chain	[Future technology] Welding for thick plate Invited 2 (Future Technology), Masanori Mochimaru (Toshiba Energy Systems & Solutions), Forefront of ITER Project, the Dream Fusion Power Energy	[New materials] Steel welds Invited 2 (New Materials), Takahiro Ozaki (Nippon Steel Corporation), New stainless steel HRX190 with both high strength and superior hydrogen embrittlement resistance for high pressure hydrogen gas application	[AM] Process 2 Process integrated closed-loop control of Wire-Arc-Additive-Manufacturing	[Advanced technology] FSW Invited 2 (Other fundamentals), Tomoyuki Ueyama (DAIHEN Corporation), Challenge to Welding and Joining Technology for Applying Multi-Material in Electric Vehicle	[AM] Modeling and simulation 2 Composite Bead Models for Capturing Process Complexities in Weld-Deposition Based Additive Manufacturing	[New materials] Other processes Deteriorated Characteristics on the Fatigue Strength of Dissimilar A6061/Galvannealed Steel Joints Fabricated by Friction Stir Spot Welding	[AM] Defects Microstructure and cracking in WAAMed Al alloys by integrated analytical and process modeling	
A-3	168 Influence Of Process Parameters On Microstructure And Properties Of WAAM Deposited High Strength Steel Thin Wall Structures	D-3 29 Optimization of Welding Process and Factory Layout in Aero Engine Parts Manufacturing	H-3 118 Deterioration of HAZ Toughness by Residual Sn and Determination of its Allowable Content for Electric Furnace Steels	F-3 85 APPLICATION OF HIGH-PRECISION ASSEMBLY TECHNOLOGY FOR LARGE BEAM WELDING	M-3 89 Simulated heat affected zone ferrite content influence on toughness for standard duplex and new duplex stainless steel grade with enhanced weldability	A-10 75 Parametric Study of Melt Pool Geometry in Hybrid Plasma Arc-Laser Melting Process for Additive Manufacturing Application	O-3 11 Evaluation Strategy Via Comparison Of A Heat-Input Model For The Friction Stir Welding Process	A-19 128 Design of Biomimetic Prickles for Heterogeneous Joints by Additive Manufacturing	M-15 3 Dissimilar And Hybrid Structures Via Magnetic Pulse Welding	A-29 104 Research on the Mechanism of Liquefaction Cracks in Wire-Arc Additive Manufacturing of Aluminum Alloy	
A-4	90 [Cancelled] Directed Energy Deposition of Invar using Pre-alloyed Wire Compositions and Feasibility Study of In-situ Alloying using Fe and Ni Elemental Wires	D-4 173 Toward Total Quality Management System for Welding based on Monitoring System for Shipyard	H-4 122 Effect of Stress Field on TRIP behavior and its influence on fracture behavior of Commercial Stainless Steels at cryogenic temperature	F-4 53 Development of Narrow-gap Welding for Ultra-thick Cast Steel using Hot-wire Method and High-power Diode Laser	M-4 16 A study on creep and tensile properties at high temperature for welds of modified 9Cr-0.5Mo Steel	A-11 132 Cold metal transfer-based twin wire arc additive manufacturing of Iron Aluminides	O-4 65 Study on the material flow and influencing factors during friction stir welding of aluminum alloys	A-20 57 Mathematical Modeling of Current and Voltage Behavior in Short-circuit Arc Welding with Application to Arc Sensors	M-16 70 [Cancelled] Optimization Of TiAl Interface Zone At TA2/A5150 Joints By Growing K2Ti6O13 Whiskers On Titanium Surface	M-6 141 Control of the morphology of micron-sized protrusions for metal/polymer joining by selective laser melting technology	
A-5	76 [Cancelled] Influence of Heat Treatment on the Microstructure and Hardness of 17-4PH ADAM Welded Stainless Steels	D-5 58 Development of Welding Operations Visualization Technology for Acceleration of Digital Transformation in Heavy Industry Factory	H-5 129 Physical simulation based HAZ characterization of different pipeline steel grades	F-5 48 The Optimization of High-Efficiency and Low Heat Input Hot-wire Gas Metal Arc Welding for Thick Steel Plate in Shipbuilding Industry	M-5 108 The Influence Of Filler Material On Microstructural And Mechanical Properties Of Dode Laser Welded DP1000	A-12 60 Experimental And Theoretical Analysis Of Heat Accumulation In Laser Wire Direct Energy Deposition	O-5 174 Avoiding void formation in Friction Stir Welding of High Hard Armor (HHA) Steel	A-21 115 Proposal of Early Numerical Model for LFW Process by Particle Method	M-17 31 Partial Cleaning Of Aluminum Sheet Surfaces For Thermal Joining	M-7 37 Welding repair for Ni base superalloy	
16:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
16:30					[Hydrogen] Material Behavior Effect Of Welding Parameters On Delayed Cracking Of Welded Type 630 Stainless Steel	[AM] Other topics Invited 3 (AM), Sudarsanam Suresh Babu (University of Tennessee, Knoxville)	[Advanced technology] Laser process Reduction of porosity in laser arc hybrid welding of aluminum alloys	[AM] Process 3 Wire-based laser direct energy deposition process for nuclear equipment	[New materials] Simulation and calculation Thermomechanical laser welding simulation of dissimilar steel-aluminum overlap joints	[New materials] Dissimilar FSW [Cancelled] Effect of Alloy Element Content on Properties of Aluminum/Steel Filled Friction Stir Welded Joints	
17:00				IC-WUs Panel Discussion	H-6 100	H-7 161 Experimental Set-up For In-situ Measurement Of Hydrogen Diffusion During GMAW Operation	A-13 167 A comparative study of the carbon footprint of AM-based remanufacturing vs. traditional machining of metal components	O-6 28 Bead Shape Effect On Solidification Cracking During Hot-wire Laser Welding On Narrow-gap Joint of Ni-base Alloy	A-22 36 Effect of the Location on the Fracture Toughness of Wire Arc Additively Manufactured Components Using Different Filler Metals	M-18 6 Tensile Behavior of The Weld HAZ in Ultra-High Strength Steels	M-8 142 [Cancelled] Study on the Effect of Ca Content on the Friction Stir Welding with Filler Wire Welded Joints Performance of Aluminum Alloy and Steel
17:30					H-8 163 Electron Beam Brazing And Welding Of Components For Wendstein 7 X Facing The High Energy Plasma	A-14 119 Investigations Into The Processability Of Glass Materials By Additive Manufacturing Techniques	O-8 172 Numerical Study of Laser Beam Shaping on Molten Metal Flow Behaviour in Laser Melting	A-24 131 [Cancelled] Effect of Friction Stir Processing on Microstructure and Mechanical Properties of Al-Cu Alloy Produced by Wire Arc Additive Manufacturing	M-20 18 A Method To Evaluate Surface Tension Of Liquid From The Liquid Shape Of Sessile Drop In Gravity	M-10 171 Fatigue life of thin sheet dissimilar aluminum joints of 2024 and 5056 alloys produced by friction stir welding technology	
18:00	Japanese Evening in conjunction with "IC-WU's Exchange Reception"										
19:00											
20:00											
21:00											
22:00											
23:00											

