

Day #1
ATSC2024

Wednesday, December 11, 2024						
Start	Period	End				
10:00	0:15	10:15	Opening Remarks	Kazuhiro Ogawa (Tohoku Univ.)		
			Chair: Kentaro Shinoda (AIST)			
10:15	0:45	11:00	Plenary Talk I	Yoshifumi Okajima (Mitsubishi Heavy Industry) "TBCs Development History that Led MHI Large Scale Gas Turbines to Global Market Leadership"		
11:00	0:45	11:45	Plenary Talk II	Andre McDonald (Univ. Alberta) "Cold Spray Deposition of Metal-Matrix Composites (tentative)"		
11:45	0:45	12:30	Plenary Talk III	Sanjay Sampath (Stony Brook Univ.) "Durability of Swing Thermal Barrier Coatings for Internal Combustion Engines (tentative)"		
12:30	1:00	13:30	Lunch Break			
Session I:			Room A	TBC (I): Structure and Mechanical Properties	Room B	Functional Coating (I): Catalyst & Biomaterials
			Chair	TBD.	Chair	TBD.
13:30	0:30	14:00	Keynote Lecture	Guang-Rong Li (Xi'an Jiaotong Univ.) "Sintering-induced cracking mechanism of thermal barrier coatings and sintering-resistant design for long lifetime"	Keynote Lecture	Hua Li (Ningbo Inst. Mat. Tech.& Eng.) "Cost-efficient Ti-V-Sn-Sb Chlorine-Evolving Electrodes Deposited by Liquid Plasma Spraying for Antibacterial and Wastewater Treatment"
14:00	0:20	14:20	Lecture	Kazuma Takeno (Mitsubishi Heavy Industries, Ltd.) "Visualization of TBC Buckling failure in High Temperature Bending Test with Digital Image Correlation Method"	Invited Lecture	Bharani Narayanan (Bharathiar Univ.) "Enhancing Nickel-Based Catalysts for Oxygen Evolution Reaction: Advanced Fabrication with Atmospheric Plasma Spray Technology"
14:20	0:20	14:40	Lecture	Satoru Takahashi (Tokyo Met. Univ.) "Determination of volume fraction of monoclinic phase in yttria stabilized zirconia of thermal barrier coatings by X-ray diffractometry"	Invited Lecture	Yi Liu (Ningbo Inst. Mat. Tech.& Eng.) "Improved biocompatible titanium meshes via sprayed bioactive coating for skull reconstruction and tissue repair"
14:40	0:20	15:00	Lecture	Tatsuya Tateno (Iwate Univ.) "Stress relaxation behavior of suspension plasma sprayed thermal barrier coatings evaluated by deposition curvature"	Invited Lecture	Motofumi OHKI (Niigata Univ.) "Influence of thermal treatment and SBF immersion on residual stress of plasma-sprayed HAp complex coatings"
15:00	0:20	15:20	Lecture	Akari Hayashi (Iwate Univ.) "Evaluation of segmented crack effect on stress relaxation performance of thermal barrier coatings by flexural resonance method under thermal stress"		
15:20	0:20	15:40	Break			

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Session II			Room A	Applicarion (Corrosion and more)	Room B	Noble Process (I): HAD, SPS/SPPS
			Chair	TBD.	Chair	TBD.
15:40	0:30	16:10	Keynote Lecture	Eungsun Byon (KIMS) "Effect of multi-layer on failure behavior of pot roll coatings for hot-dip aluminizing"	Keynote Lecture	Yuichi Otsuka (Nagaoka Univ. Tech.) " Impurity Control of Ti Complex Solution for Solution/Suspension Hybrid Spray Coating"
16:10	0:20	16:30	Lecture	Kyunghoon Nam (POSCO Tech. Res. Lab.) "The Development of Pot Bearings in Continuous Galvanizing Line"	Invited Lecture	Yeon Woo Yoo (KIMS) "Formation of Multi-component Carbide Coatings via Suspension Vacuum Plasma Spraying"
16:30	0:20	16:50	Lecture	Hansol Kwon (KIMS) "Comparative research on Al and Al-3%Ti corrosion resistant coating by twin wire arc spraying"	Invited Lecture	Kentaro Shinoda (AIST) "Some Considerations for Next Generation Ceramic Coatings by Utilizing Super Thermal Field"
16:50	0:20	17:10	Lecture	Aradchaporn Srichen (Chiang Mai Univ.) "Microstructural Investigation of Thermally Sprayed Nickel Alloy Surface Coatings Before and After Corrosion Testing"	Invited Lecture	Noboru KONDA (Ryukoku Univ.) "Fatigue Strength of SUS304 Coated with Alumina by HAD"
17:10	0:20	17:30	Lecture	Hao Yang (Ningbo Inst. Mat. Tech. & Eng.) "Study on Capsaicin loaded Metal-Organic Frameworks Mix Matrix Polyethylene Coatings via Flame Spraying For Antifouling and Anti-corrosion Application"	Invited Lecture	Mohammed Shahien (AIST) "Advancements in SiC Coatings Through Hybrid Aerosol Deposition"
17:30	0:20	17:50			Lecture	Yuki Akedo (Univ. Tsukuba) "Design of Supersonic Nozzle Geometry for Hybrid Aerosol Deposition"
18:00	2:00	20:00	Welcome Party			

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Thursday, December 12, 2024						
Start	Period	End				
8:30	0:45	9:15	Plenary Talk IV	Chair: Satoru Takahashi (Tokyo Met. Univ.)		
				Noriyuki Mifune (Tocalo) "The Journey from Past, Present to Future - TOCALO's Technical Innovation for Coating Business -"		
9:15	0:30	9:45	Plenary Talk V	Chair: Kazuhiro Ogawa (Tohoku Univ.)		
				Akihiko Chiba (Tohoku Univ.) "Key Factors in Powder Bed Fusion Electron Beam Additive Manufacturing: Smoke Suppression and Influence of Alloy Powder Properties on Build Quality"		
9:45	0:15	10:00	Break			
Session I:			Room A	Cold Spray (I):	Room B	Noble Process (II): Plasma Process, Computational Approach
			Chair	TBD.	Chair	TBD.
10:00	0:20	10:20	Invited Lecture	Levke Wiehler (Helmut Schmidt Univ.) "Calibration of the Critical Velocity Description in Cold Spray"	Invited Lecture	Byeongryun Jeon (Extreme Mat. Res. Inst.) "Optimizing Plasma Torch Design Using CFD Simulations with LTE Assumptions"
10:20	0:20	10:40	Lecture	Gil Ju Na (Tohoku Univ.) "Flattening Behavior and Microstructure Evolution in Aluminum Particles Under High Strain Rates"	Lecture	Hiroki Komuro (Mitsubishi Heavy Industries) "Development of optimization technology for thermal spray coating programs using a robot simulator"
10:40	0:20	11:00	Lecture	Manami Tsuura (Shinshu Univ.) "Influence of Substrate Temperature and Post Heat Treatment on Adhesion Strength of Aluminum Coatings on Aluminum Nitride Substrates by Low Pressure Cold Spray"	Invited Lecture	Toshiaki Yasui (Toyohashi Univ. Tech.) "Deposition Behavior of Thermal Sprayed Metal and Ceramic on Resin Substrate by Atmospheric Microwave Plasma Spraying"
11:00	0:20	11:20	Invited Lecture	Kejie Zhang (Hubei Chaozhuo Avi. Tech.) "Fatigue Behavior of Pre-Notched 7075 Aluminum Deposits Fabricated via High-Pressure Cold Spray"	Invited Lecture	Masashi Dougakiuchi (Shimane Inst. Ind. Tech.) "Feasibility study of in-chamber axial cyclone rectification in Si nanoparticle production using RF plasma spraying"
11:20	0:20	11:40	Lecture	Julio Gutierrez (Helmut Schmidt Univ.) "Nozzle geometry evaluation for cold spray applications by using 3D-CFD calculations"	Lecture	Sen-Hui Liu (Xi'an Jiaotong Univ.) "Multiphase flows and deposition mechanisms in an LPPS (50-200 Pa) and an atmospheric long laminar plasma spraying (ALPS)"
11:40	1:00	12:40	Lunch break			

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12:40	0:40	13:20	Plenary Talk VI	Masahiro Fukumoto (Toyohashi Univ. Tech.) "Title: TBD."		
13:20	0:20	13:40	Break			
Session II			Room A	Cold Spray (II): 3D Forming	Room B	Functional Coating (II)
			Chair	TBD.	Chair	TBD.
13:40	0:30	14:10	Keynote Lecture	Thomas Klassen (Helmut Schmidt Univ.) "Cold Spray Repair for Aerospace Applications (tentative)"	Keynote Lecture	Chang-Jiu Li (Xi'an Jiaotong Univ.) "Effective approaches to achieve thermal spray coatings with high adhesion over 100 MPa through creation of chemical bonding"
14:10	0:30	14:40	Keynote Lecture	Chaitanya Gullipalli (IITD) "Investigation on Deposition Characteristics of Low Pressure Cold Spray Repaired Ductile Iron Components"	Keynote Lecture	Andrew Ang (Swinburne Univ. Tech.) "TBD"
14:40	0:20	15:00	Lecture	Hongjian Wu (Helmut-Schmidt Univ.) "3D Volume Construction Methodology for Cold Spray Additive Manufacturing"	Invited Lecture	Wei Pan (Tsinghua Univ.) "Superwetting Coating Prepared by Atmosphere Plasma Spraying"
15:00	0:20	15:20	Lecture	Eiji Watanabe (Denso Co.) "High-packing Density Fabrication of the Nanoparticles using the Cold-Spray Technique"	Lecture	Chunjie Huang (Northwestern Poly Univ.) "Cold spray of CuAlMn and CuAlZn coatings: a comparative investigation"
15:20	0:20	15:40	Lecture	Saiful Wali Khan (IIT, Ropar) "Corrosion Analysis of Cold-Sprayed Copper-Based Composite Coatings"	Lecture	Xiaohua Feng (Ningbo Inst. Mat. Tech. & Eng.) "Excellent wide-band radiation-cooled coatings through suspension flame spraying GaO/PVDF composite coatings"
15:40	1:20	17:00	Poster Session			
17:00	1:00	18:00	Move to Venue			
18:00	2:00	20:00	Banquet			

Day #3
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Friday, December 13, 2024						
Start	Period	End		Chair: Kazuhiro Ogawa (Tohoku Univ.)		
8:30	0:30	9:00	Plenary Talk VII	Tatsuya Kawada (Tohoku Univ.) "Solid oxide fuel cells and electrolyzers for high-efficiency energy conversion towards carbon neutrality: potential use of plasma spraying in their manufacturing process"		
9:00	0:30	9:30	Plenary Talk VIII	Wataru Yashiro (Tohoku Univ.) "Recent advances and future potential of synchrotron radiation X-ray imaging and tomography"		
9:30	0:20	9:50	Coffee Break			
Session I:			Room A	TBC (II): Hirsh Environment	Room B	Cold Spray (III): Application and HVOF
			Chair	TBD.	Chair	TBD.
9:50	0:30	10:20	Keynote Lecture	Sungnun LEE (KIMS) "TGO Growth at the Bond Coat/Top Coat Interface: Enhancing Thermal Fatigue Life in Thermal Barrier Coatings"	Invited Lecture	Frank Gertner (Helmut Schmidt Univ.) "Title: TBD. (Cold Spray process related)"
10:20	0:20	10:40	Lecture	Tina Ghara (Nat. Inst. Adv. Ind. Sci. Tech.) "Behaviour of Thermally Sprayed YSZ/CoNiCrAlY Coating System in High-Temperature Ammonia Environment for Exclusive Ammonia Fired Gas Turbine"	Invited Lecture	Niraj Bala Badwal (NITTTR) "Comparative Analysis of Cold Sprayed and HVOF Sprayed Coating in Actual Boiler Environment"
10:40	0:20	11:00	Lecture	YongSheng Zhu (Xi'an Jiaotong Univ.) "Enhancing the Thermal Cycling Lifetime of Air Plasma Sprayed NiCrAlY Thermal Barrier Coatings Through in-situ Carbon Deoxidation"	Lecture	Wataru Kai (Tohoku Univ.) "Effect of thickness of cold-sprayed aluminum coatings on lightning damage reduction to CFRP"
11:00	0:20	11:20	Invited Lecture	Weize Wang (East China Univ.) "CMAS corrosion resistance and thermal shock resistance of Micro-nano-structure thermal barrier coatings"	Lecture	Hiroki Saito (Tohoku Univ.) "High-speed Visualization of Lightning Damage Behavior in Cold-spray Metallized CFRTP"
11:20	0:20	11:40	Lecture	Naoki Okamoto (Fujimi Incorporated) "Microstructure and Thermal Conductivity of APSed Coating with YSZ-Polymer Composite Powder"	Lecture	Yoshifumi Kobayashi (Tocalo) "Void Morphology and Mechanical Properties of HVOF Sprayed WC-12%Co Coatings"
11:40	0:20	12:00	Lecture	Byeongryun Jeon (Extreme Mat. Res. Inst.) "Application of Deep Learning Models for Predicting Porosity in Thermal Barrier Coatings"		
12:00	0:20	12:20	Lecture	Jiyuan Cui (Tohoku Univ.) "Evaluating interface strength and crack propagation behavior of thermal barrier coatings in hydrogen environments"		
Afternoon			Excursion			

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Poster Session

P-01	Yasutaka Ando	Ashikaga Univ.	Photo-catalytic TiO ₂ -CaO film deposition by atmospheric air plasma spray equipment
P-02	Ami Ishii	Shibaura Inst. Tech.	Morphology and Mechanical/Corrosion properties of Mg film formed by Supersonic Free-Jet PVD
P-03	Yuki Sone	Tohoku Univ.	Low temperature fabrication of Sm-Fe-N films by Cold Spray technique and their structure and magnetic properties.
P-04	Shinichiro Adachi	Osaka Res. Inst. Indst. Sci. & Tech.	Effects of Alloying Elements on Low-Temperature Plasma Treatment of Stainless Steel-Tungsten Carbide Composite Materials
P-05	Ryouga Fujita	Shibaura Inst. Tech.	Formation and corrosion behaviour of hydroxyapatite coating film on Mg substrate deposited by Supersonic Free-Jet PVD
P-06	Miyako Ando	Shibaura Inst. Tech.	In-situ nitridation synthesis of AlN films via Supersonic Free-Jet PVD
P-07	Yang Wu	Beijing Univ. Tech.	Lotus leaf inspired hierarchical micro-nano structure on TBCs with enhanced volcanic ash repellence
P-08	Mathanbabu Mariappan	Gov't Coll. Eng., Bargur	Effect of thermal cycling behaviors of LZ/YSZ based composite thermal barrier coatings for high temperature gas turbines
P-09	Sik Chol Kwon	Bedell Surf. Tech.	Double Feeding Techniques of Thermal Plasma Spraying for FGM