

Wednesday, December 11, 2024						
Start	Period	End	Science Campus Hall			
10:00	0:08	10:08	Opening Remarks	Kazuhiro Ogawa (Tohoku Univ.)		
10:08	0:07	10:15	Guest Speech	Akinori Ito (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) "Advanced Thermal-sprayed Coatings for Polymer Structures – Deicing and Membranes"		
11:45	0:45	12:30	Plenary Talk III	Sanjay Sampath (Stony Brook Univ.) "Thermal Spray Coatings for Reciprocating Engines: Review of Recent Results"		
12:30	1:00	13:30	Lunch Break			
Session I:			Science Campus Hall	TBC (I): Structure and Mechanical Properties	Lecture Hall	Functional Coating (I): Catalyst & Biomaterials
			Chair	Eungsun Byon (KIMS) & Hiroyuki Waki (Iwate Univ.)	Chair	Sunghun Lee (KIMS) & Mohammed Shahien (AIST)
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	Yi Liu (Ningbo Inst. Mat. Tech.& Eng.) "Improved Biocompatible Titanium Meshes via Sprayed Bioactive Coating for Skull Reconstruction and Tissue Repair"
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	Motofumi OHKI (Niigata Univ.) "Influence of Thermal Treatment and SBF Immersion on Residual Stress of Plasma-sprayed HAp Complex Coatings"
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"		
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			
Session II			Science Campus Hall	Applicarion (Corrosion and more)	Lecture Hall	Novel Process (I): HAD, SPS/SPPS
			Chair	Chang-Jiu Li (Xi'an Jiaotong Univ.) & Masato Suzuki (AIST)	Chair	Frank Gaertner (HSU) & Toshiaki Yasui (Toyohashi Univ. Tech.)

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) "Kinetic Spraying of Brittle Materials Towards Low-Temperature Repair"
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	Xiaohua Feng (Ningbo Inst. Mat. Tech. & Eng.) "Excellent Wide-band Radiation-cooled Coatings through Suspension Flame Spraying GaO/PVDF Composite Coatings"	Invited Lecture	Mohammed Shahien (AIST) "Advancements in SiC Coatings Through Hybrid Aerosol Deposition"
17:30	0:20	17:50	Lecture	Jiyuan Cui (Tohoku Univ.) "Evaluating Interface Strength and Crack Propagation Behavior of Thermal Barrier Coatings in Hydrogen Environments"	Lecture	Yuki Akedo (Univ. Tsukuba) "Design of Supersonic Nozzle Geometry for Hybrid Aerosol Deposition"
18:00	2:00	20:00	Welcome Party			

Thursday, December 12, 2024						
Start	Period	End	Science Campus Hall			
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	0:40	9:55	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"		
9:55	0:15	10:10	Break			
Session I:			Science Campus Hall	Cold Spray (I)	Lecture Hall	Novel Process (II)
			Chair	Thomas Klassen (HSU) & Yuji Ichikawa (Tohoku Univ.)	Chair	Hua Li (Ningbo Inst. Mat. Tech.& Eng.) & Masato Suzuki (AIST)
10:10	0:20	10:30	Invited Lecture	Levke Wiehler (Helmut Schmidt Univ.) "Calibration of the Critical Velocity Description in Cold Spray"	Invited Lecture	Byeongryun Jeon (KIMS) "Optimizing Plasma Torch Design Using CFD Simulations with LTE Assumptions"
10:30	0:20	10:50	Invited Lecture	Frank Gaertner (Helmut Schmidt Univ.) "Cold Sprayed Inconel 625 Coatings for Corrosion Protection"	Invited Lecture	Toshiaki Yasui (Toyohashi Univ. Tech.) "Deposition Behavior of Thermal Sprayed Metal and Ceramic on Resin Substrate by Atmospheric Microwave Plasma Spraying"
10:50	0:20	11:10	Lecture	Gil Ju Na (Tohoku Univ.) "Flattening Behavior and Microstructure Evolution in Aluminum Particles Under High Strain Rates"	Invited Lecture	Masashi Dougakiuchi (Shimane Inst. Ind. Tech.) "Feasibility Study of In-chamber Axial Cyclone Rectification in Si Nanoparticle Production Using RF Plasma Spraying"
11:10	0:20	11:30	Lecture	Manami Tsuda (Shimizu Univ.) "Influence of Substrate Temperature and Post Heat Treatment on Adhesion Strength of Aluminum Coatings on Aluminum Nitride Substrates by Low Pressure Cold Spray"	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)"
11:30	0:20	11:50	Lecture	Julio Gutierrez (Helmut Schmidt Univ.) "Nozzle Geometry Evaluation for Cold Spray Applications by Using 3D-CFD Calculations"	Lecture	Yoshifumi Kobayashi (Tocalo) "Void Morphology and Mechanical Properties of HVOF Sprayed WC-12%Co Coatings"
11:50	1:00	12:50	Lunch break			

12:50	0:40	13:30	Plenary Talk VI	Masahiro Fukumoto (Toyohashi Univ. Tech.) "Towards the Future of Asian Thermal Spray Conference and Thermal Spray Technology" Chair: Kazuhiro Ogawa (Tohoku Univ.)		
13:30	0:20	13:50	Break			
Session II			Science Campus Hall	Cold Spray (II)	Lecture Hall	Functional Coating (II)
			Chair	Hiroki Saito (Tohoku Univ.)	Chair	Yasutaka Ando (Ashikaga Univ.)
13:50	0:30	14:20	Keynote Lecture	Thomas Klassen (Helmut-Schmidt Univ.) "Computer Aided 3d Manufacturing and Repair of Aircraft Parts by Cold Spraying"	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"
14:20	0:30	14:50	Lecture	Hongjian Wu (Helmut-Schmidt Univ.) "3D Volume Construction Methodology for Cold Spray Additive Manufacturing"	Keynote Lecture	Andrew Siao Ming Ang (Swinburne Univ. Tech.) "Unlocking the Potential of High-Entropy Alloys: Innovations in Surface Coating Technology at Swinburne"
14:50	0:20	15:10	Lecture	Eiji Watanabe (Denso Co.) "High-packing Density Fabrication of the Nanoparticles using the Cold-spray Technique"	Invited Lecture	Wei Pan (Tsinghua Univ.) "Superwetting Coating Prepared by Atmosphere Plasma Spraying"
15:10	0:20	15:30	Lecture	Wataru Kai (Tohoku Univ.) "Effect of thickness of cold-sprayed aluminum coatings on lightning damage reduction to CFRP"	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"
15:30	0:20	15:50	Lecture	Hiroki Saito (Tohoku Univ.) "High-speed Visualization of Lightning Damage Behavior in Cold-spray Metallized CFRTP"	Lecture	Yong-Jin Kang (KIMS) Study on the Properties of Y2O3 Plasma-resistant Coating by Vacuum Plasma Spraying Process
15:50	1:20	17:10	Poster Session			
17:10	0:50	18:00	Move to Venue			
18:00	2:00	20:00	Banquet			

Friday, December 13, 2024				
Start	Period	End	Lecture Hall	Chair: Kazuhiro Ogawa (Tohoku Univ.)
8:30	0:40	9:10	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"
9:10	0:40	9:50	Plenary Talk VIII	Wataru Yashiro (Tohoku Univ.) "Recent Advances and Future Potential of Synchrotron Radiation X-ray Imaging and Tomography"
9:50	0:20	10:10	Coffee Break	
Session I:			Lecture Hall	TBC (II): Hirsh Environment
			Chair	Kazuma Takeno (MHI) & Mohammed Shahien (AIST)
10:10	0:30	10:40	Keynote Lecture	Sunghun LEE (KIMS) "TGO Growth at the Bond Coat/Top Coat Interface: Enhancing Thermal Fatigue Life in Thermal Barrier Coatings"
10:40	0:20	11:00	Lecture	Tina Ghara (AIST) "Behaviour of Thermally Sprayed YSZ/CoNiCrAlY Coating System in High-Temperature Ammonia Environment for Exclusive Ammonia Fired Gas Turbine"
11:00	0:20	11:20	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"
11:20	0:20	11:40	Lecture	Naoki Okamoto (Fujimi Incorporated) "Microstructure and Thermal Conductivity of YSZ-Polymer Composite Coating sprayed by APS"
11:40	0:20	12:00	Lecture	Byeongryun Jeon (KIMS) "Application of Deep Learning Models for Predicting Porosity in Thermal Barrier Coatings"
Afternoon			Excursion	

**Day #2
ATSC2024**

Poster Session

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
P-10	Yuta Watanabe	Natl. Inst. Tech., Kurume Coll.	Fabrication of Ceramic Coating by Non-heated Cold Spray
P-11	Mohammed Shahien	AIST	Advancing Thermal Conductivity of AlN Coatings via Reactive Plasma Nitriding and Sintering