

ICMCTF 2023 Program Key

A	Coatings for Use at High Temperatures
B	Hard Coatings and Vapor Deposition Technologies
C	Functional Thin Films and Surfaces
D	Coatings for Biomedical and Healthcare Applications
E	Tribology and Mechanical Behavior of Coatings and Engineered Surfaces
EX	Exhibitors Keynote Lecture
F	New Horizons in Coatings and Thin Films
FTS	Focused Topic Session
G	Surface Engineering - Applied Research and Industrial Applications
H	Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes
HL	Awards Ceremony and Honorary Lecture
PL	Plenary Lecture
SIT	Special Interest Talks
TS	Topical Symposia
	TS1 Coatings for Energy Storage and Conversion - Batteries and Hydrogen Applications
	TS2 Sustainable Surface Solutions, Materials, Processes and Applications
	TS3 Processes of Materials for Printed and Flexible Film Technologies

PROGRAM NUMBERS: They are listed with the Symposium letter first, the session number second, the Day of the Week, Morning (M) or Afternoon (A) and the presentation slot (e.g., **B1-1-MoM6**).

ICMCTF 2023 Program Overview

Room /Time	Golden State Ballroom	Pacific C	Pacific D	Pacific E	Town & Country A	Town & Country B	Town & Country C	Town & Country D
MoPL					PL-MoM: Plenary Lecture			
MoM		D1-1-MoM: Surface Coatings & Surf Mods in Bio Environments I	H1-1-MoM: Spatially-resolved and In-Situ Char of TF & Eng Surf I	A1-1-MoM: Coatings to Resist Hi-temp Oxid, Corr, & Fouling I	TS1-1-MoM: Coat for Energy Storage & Conv - Batteries & Hyd Apps I	F5-MoM: Machine Learning & Proc Mod for Coating Des & Production		B4-1-MoM: Props & Characterization of Hard Coatings and Surfaces I
MoSIT					SIT1-MoSIT: Special Interest Session I			
MoA		D1-2-MoA: Surface Coatings & Surf Mods in Bio Environments II	H1-2-MoA: Spatially-resolved and In-Situ Char of TF & Eng Surf II	A1-2-MoA: Coatings to Resist Hi-temp Oxid, Corr, & Fouling II	TS1-2-MoA: Coat for Energy Storage & Conv - Batteries & Hyd Apps II	B6-MoA: Computationally-aided Materials Design	B2-MoA: CVD Coatings and Technologies	B4-2-MoA: Props & Characterization of Hard Coatings and Surfaces II
TuM		D2-TuM: Medical Dev: Bio-Tribo-Corr, Diagnostics, 3D Printing	H2-1-TuM: Adv Mech Testing of Surf, TF, Coat & Small Volumes I	A1-3-TuM: Coat to Resist H-temp Oxid, Corr, & Fouling III	TS1-3-TuM: Coat for Energy Storage & Conv - Batteries & Hyd Apps III	E3-TuM: Tribology of Coatings & Surf for Industrial Applications		B4-3-TuM: Props & Characterization of Hard Coatings & Surfaces III
TuEx					EX-TuM: Exhibition Keynote Lecture			
TuA	EXHIBITION	TS2-TuA: Sustain Surf Solutions, Matls, Processes and Applications	D3-TuA: Bioints: Coat to Prom Cell Adh while Inhib Microbial Growth	A2-1-TuA: Thermal and Environmental Barrier Coatings I	H3-1-TuA: Char of Coatings & Small Vol in Extreme & Cyclic Conditions I	E1-1-TuA: Friction, Wear, Lubrication Effects, and Modeling I	F3-TuA: 2D Matls: Synthesis, Charterization, and Applications	B4-4-TuA: Props & Characterization of Hard Coatings & Surfaces IV
TuSIT					SIT2-TuSIT: Special Interest Session II			
WeM		C1-1-WeM: Optical Materials and Thin Films I	H2-2-WeM: Adv Mech Testing of Surf, TF, Coat & Small Volumes II	A2-2-WeM: Thermal and Environmental Barrier Coatings II	H3-2-WeM: Char of Coatings & Small Vol in Extreme & Cyclic Conditions II	E1-2-WeM: Friction, Wear, Lubrication Effects, and Modeling II	G1-WeM G4-WeM	G3-WeM: Innov Surf Engineering for Adv Cutting and Forming Tool Applications
WeSIT					SIT3-WeSIT: Special Interest Session III			
WeA		C1-2-WeA: Optical Materials and Thin Films II	G2-WeA: Surface Mod of Comps in Auto, Aero & Mfg Applications	F4-1-WeA: Boron-Containing Coatings I		TS3-WeA: Proc of Matls for Printed and Flexible Film Technologies		B8-1-WeA: HiPIMS, Pulsed Plasmas & Energy Deposition I
WeHL					HL-WeHL: Bunshah Award Honorary Lecture			
ThM		B5-ThM: Hard and Multifunctional Nanostructured Coatings	C3-1-ThM: Thin Films and Novel Surfaces for Energy I	F4-2-ThM: Boron-Containing Coatings II		E2-1-ThM: Mechanical Properties and Adhesion I	B1-1-ThM: PVD Coatings and Technologies I	B8-2-ThM: HiPIMS, Pulsed Plasmas and Energetic
ThL							FTS-ThL: Focused Topic Session	
ThA		C2-1-ThA: Thin Films for Electronic Devices I	B7-ThA: Plasma Surf Int, Diagnostics & Growth Processes	F2-ThA: High Entropy and Other Multi-principal-element Materials		E2-2-ThA: Mechanical Properties and Adhesion II	B1-2-ThA: PVD Coatings and Technologies II	
ThP	POSTER SESSIONS							
FrM		C2-2-FrM: Thin Films for Electronic Devices II	B3-FrM: Dep & Tech & Apps for Carbon-Based Coatings	F1-FrM: Nanomaterial-based Coatings and Structures		C3-2-FrM: Thin Films and Novel Surfaces for Energy II	B1-3-FrM: PVD Coatings and Technologies III	

Monday Morning, May 22, 2023

Plenary Lecture
Room Town & Country A - Session PL-MoM
Plenary Lecture
Moderator:
Jyh-Wei Lee, Ming Chi University of Technology, Taiwan

8:00am **INVITED: PL-MoM-1** Plenary Lecture: Recent Trends
in Artificial Photosynthesis: Atomistic/Surface
Design and Probing of Nano-Photocatalysts,
Li-Chyong Chen, National Taiwan University, Taiwan

8:20am

Monday Morning, May 22, 2023

Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Pacific D - Session H1-1-MoM Spatially-resolved and In-Situ Characterization of Thin Films and Engineered Surfaces I Moderators: Damien Faurie, Université Sorbonne Paris Nord, France, Michael Tkadletz, Montanuniversität Leoben, Austria		Coatings for Biomedical and Healthcare Applications Room Pacific C - Session D1-1-MoM Surface Coatings and Surface Modifications in Biological Environments I Moderators: Mathew T. Mathew, University of Illinois College of Medicine at Rockford and Rush Univ. Medical Center, USA, Phaedra Silva-Bermudez, Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico, Kerstin Thorwarth, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
10:00am	INVITED: H1-1-MoM-1 In-situ Imaging of Au Bicrystals and Hydrogen Charged Iron, Wendy Gu, Stanford University, USA; M. Kiani, Cornell University, USA; A. Lee, A. Parakh, Stanford University, USA	D1-1-MoM-1 Ion Release Study of Ag-Cu and Ag-Cu-Mg Coatings Deposited by Magnetron Sputtering, Serdar Sonay Ozbay, Deakin University, Coventry University, Australia; G. Taghavi Pourian Azar, Coventry University, UK; J. Sharp, G. Rajmohan, Deakin University, Australia; A. Cobley, Coventry University, UK
10:20am		D1-1-MoM-2 Effect of Pulsed DC Mode on the Surface Properties of Pure Magnesium Substrates Treated with PEO, Cristian Esneider Peñuela Cruz, E. Hernández Rodríguez, Universidad de Guanajuato, Mexico; A. Herrera, Univversidad de Guanajuato, Campus DICIVA, Mexico
10:40am	H1-1-MoM-3 Thermal Stability, Microstructure, and Micro-Mechanical Properties of $\text{Cu}_{1-x}\text{-Al}_x$ Solid Solution Multilayered with Thin Al_2O_3 Barrier Layers, Amit Sharma, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; S. Supakul, Iowa State University, USA; C. Tian, D. Casari, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; C. Guerra-Núñez, Swiss Cluster AG Feuerwerkerstrasse 39 3602 Thun, Switzerland; J. Michler, X. Maeder, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland	D1-1-MoM-3 Non-Stick Thin-Film Metallic Glasse (Tfmg) Coating for Reducing Trauma, Helmi Son Haji, J. P. Chu, National Taiwan University of Science and Technology, Taiwan; P. Yiu, Ming Chi University of Technology, Taiwan
11:00am	H1-1-MoM-4 Advanced Experimental Techniques Quantifying Thin Film Delamination at the Nano-Scale, Alice Lassnig, C. Gammer, S. Zak, M. Cordill, Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria	D1-1-MoM-4 Synthesis of Antimicrobial Surfaces by Glancing Angle Deposition with Natural Seeds, Chuang Qu, J. Rozsa, M. Running, S. McNamara, K. Walsh, University of Louisville, USA
11:20am	H1-1-MoM-5 High-Temperature Oxidation of Titanium Aluminium Nitride Coatings Visualized by Environmental Transmission Electron Microscopy, O. Makgae, F. Lenrick, V. Bushlya, Lund University, Sweden; J. Andersson, R. M'Saoubi, SECO Tools AB, Sweden; Martin Ek, Lund University, Sweden	INVITED: D1-1-MoM-5 FDA Regulatory Considerations for Performance Evaluation of Coatings in Medical Devices, Nandini Duraiswamy, U.S. Food and Drug Administration , USA
11:40am	H1-1-MoM-6 High-Throughput Surface Analysis for Accelerated Thin Film Materials Development, S. Zhuk, A. Wiecek, K. Thorwarth, J. Patidar, Sebastian Siol, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland	
12:00pm	H1-1-MoM-7 New Generation In Situ Process Control of Chemical Composition of Compound Materials and Superalloys During PVD Process, George Atanasoff, AccuStrata, Inc., USA	

Monday Morning, May 22, 2023

	Coatings for Use at High Temperatures Room Pacific E - Session A1-1-MoM Coatings to Resist High-temperature Oxidation, Corrosion, and Fouling I Moderators: Sebastien Dryepondt , Oak Ridge National Laboratory, USA, Gustavo García-Martín , REP-Energy Solutions, Spain	Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B4-1-MoM Properties and Characterization of Hard Coatings and Surfaces I Moderators: Naureen Ghafoor , Linköping University, Sweden, Marcus Günther , Robert Bosch GmbH, Germany, Fan-Yi Ouyang , National Tsing Hua University, Taiwan
10:00am	INVITED: A1-1-MoM-1 Bill Sproul Award and Honorary ICMCTF Lecture: Strategies for the Development of Robust and Stable, but also Functional Ceramic Coatings, Paul Mayrhofer ¹ , TU Wien, Institute of Materials Science and Technology, Austria	B4-1-MoM-1 Effects of Al and Nd additions and Annealing on Microstructures and Mechanical Properties of CoCrNi Medium Entropy Alloy Films, YI-LING WU , C. Hsueh, National Taiwan University, Taiwan
10:20am		B4-1-MoM-2 Microstructures and Mechanical Properties of (CoCrNi) _{100-x-y} Si _x Nd _y Medium Entropy Alloy Films, Hui-Wen Peng , C. Hsueh, National Taiwan University, Taiwan
10:40am	A1-1-MoM-3 Ti ₅ Si ₃ /TiAl ₃ Multilayer Coatings as Oxidation Protection for γ-TiAl, Peter-Philipp Bauer , German Aerospace Center and Brandenburg University of Technology Cottbus, Germany; R. Swadzba , Łukasiewicz Research Network - Institute for Ferrous Metallurgy, Poland; L. Klamann , German Aerospace Center, Germany	INVITED: B4-1-MoM-3 Recent Developments Towards Reliable X-Ray Photoelectron Spectroscopy Analyses of Thin Films, Grzegorz (Greg) Greczynski , L. Hultman , Linköping Univ., IFM, Thin Film Physics Div., Sweden
11:00am	A1-1-MoM-4 Max-Phase Based PVD Coatings as Protection for Lightweight Materials in High Temperature Environments, Nadine Laska , R. Anton , German Aerospace Center, Germany; R. Swadzba , Łukasiewicz Research Network - Institute for Ferrous Metallurgy, Poland; P. Nellessen , German Aerospace Center, Germany	
11:20am	A1-1-MoM-5 Oxidation behaviors of (AlCrSiTi)N coatings on AISI 304 steel: A Combinatorial Study, Sheng-Yu Hsu , S. Chang , J. Duh , National Tsing Hua University, Taiwan	B4-1-MoM-5 Effect of Nitrogen Flow Rate on the Microstructure and Mechanical Properties of (V,Mo)N Thin Films, Yiqun Feng , National Tsing Hua University, Taiwan; T. Chung , National Yang Ming Chiao Tung University, Taiwan; J. Huang , National Tsing Hua University, Taiwan
11:40am	A1-1-MoM-6 Enhanced Pitting Resistance of Cathodic Arc Evaporated AlCrXN Coatings, O. Hudak , F. Bohrn , P. Kutrowatz , T. Wojcik , Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; E. Ntemou , Ion Physics Group, Department of Physics and Astronomy, Uppsala University, Sweden; D. Primetzhofer , Ion Physics Group, Department of Physics and Astronomy, Uppsala University, Austria; L. Shang , O. Hunold , Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; P. Polcik , Plansee Composite Materials GmbH, Germany; Helmut Riedl , Institute of Materials Science and Technology, TU Wien, Austria	
12:00pm	A1-1-MoM-7 Novel Approaches for the PVD Synthesis of Advanced Aluminide Thin Films: The Example of Ruthenium-Aluminide, Vincent Ott , Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany; T. Wojcik , TU Wien, Austria; S. Ulrich , Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany; S. Kolozsvári , P. Polcik , Plansee Composite Materials GmbH, Germany; P. Mayrhofer , H. Riedl , TU Wien, Austria; M. Stueber , Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany	

¹ Bill Sproul Awardee

Monday Morning, May 22, 2023

	New Horizons in Coatings and Thin Films Room Town & Country B - Session F5-MoM Machine Learning and Process Modeling for Coating Design and Production Moderators: Adam Obrusnik , PlasmaSolve s.r.o., Czechia, Ferenc Tasnadi , Linköping University, Sweden, Petr Zikán , PlasmaSolve s.r.o., Czechia	Topical Symposia Room Town & Country A - Session TS1-1-MoM Coatings for Energy Storage and Conversion - Batteries and Hydrogen Applications I Moderators: Nazlim Bagcivan , Schaeffler Technologies GmbH & Co. KG, Germany, Klaus Böbel , Bosch Manufacturing Solutions, Germany
10:00am	INVITED: F5-MoM-1 Thin Film Process Modeling at Different Scales - from Kinetic Simulation to Digital Twin, Andreas Pflug , Fraunhofer Institute for Surface Engineering and Thin Films IST, Germany	TS1-1-MoM-1 The Effect of Microstructure on the Hydrogen Storage Capacity of $\text{Ti}_x\text{Zr}_{1-x}$ Thin Films, Ido Zukerman , M. Buzaglo, Division of Chemistry, NRCN, Israel; S. Hayun , Department of Materials Engineering, Ben Gurion University of the Negev, Israel
10:20am		TS1-1-MoM-2 Transition Metal – Doped Ni/YSZ Anode Functional Layers for Solid Oxide Fuel Cells Produced via Magnetron Sputtering, K. Steier , Manchester Metropolitan University, UK; I. Jang , A. Hankin , Imperial College London, UK; P. Kelly , Justyna Kulczyk-Malecka , Manchester Metropolitan University, UK
10:40am	F5-MoM-3 Coater-Scale Model of DC Magnetron Sputtering, Andrej Roštek , Masaryk University / PlasmaSolve s.r.o., Czechia; P. Zikán , PlasmaSolve s.r.o., Czechia; J. Tungli , Masaryk University, Czechia; A. Obrusnik , PlasmaSolve s.r.o., Czechia	TS1-1-MoM-3 Surface Modification of Graphite Felt Electrode for Vanadium Redox Flow Batteries by High Entropy Alloy Oxide Thin Films: Effect of Oxygen Gas Flow Ratios, Krishnakant Tiwari , C. Wang , National Taiwan University of Science and Technology, Taiwan; B. Lou , Chang Gung University of Technology, Taiwan; J. Lee , Ming Chi University of Technology, Taiwan
11:00am	F5-MoM-4 High-Throughput Simulations to Predict History Dependence of Feedback Control During Reactive Magnetron Sputtering, Josja Van Bever , K. Strijckmans , D. Depla , Ghent University, Belgium	TS1-1-MoM-4 Temperature Dependency of Specific Electrical Conductivity of DLC Coatings, Simon Danninger , University of Applied Sciences Upper Austria; F. Delfin , University of Applied Sciences Upper Austria, Argentina; C. Forsich , D. Heim , M. Schachinger , University of Applied Sciences Upper Austria; B. Rübig , C. Dipolt , T. Müller , Rubig GmbH & Co KG, Austria
11:20am	F5-MoM-5 Evatec Fabric – a Thin-Film Process and -Metrology Data Tracking System for Large-Scale, Automated Data Analysis in R&D Labs, Clemens Nyffeler , O. Rattunde , D. Jaeger , H. Zangerle , R. Gmuender , Evatec AG, Switzerland	INVITED: TS1-1-MoM-5 High Efficiency of Metal Oxide Catalysts for Vanadium Redox Flow Battery, Chen-Hao Wang , National Taiwan University of Science and Technology, Taiwan
11:40am	F5-MoM-6 Predicting Reactive PVD Processes Using Global Process Modeling – a Physics-Based Alternative to Machine Learning, Petr Zikán , A. Obrusnik , PlasmaSolve s.r.o., Czechia	
12:00pm	F5-MoM-7 Structure and Crystallographic Properties of Multi-Material Coatings Deposited in a Combinatorial Sputter Plant Compared to Simulations from the Machine Level to Microstructure, David Böhm , TU Wien, Austria; T. Schrefl , Danube University Krems, Austria; A. Eder , MIBA High Tech Coatings GmbH, Austria; C. Eisenmenger-Sittner , TU Wien, Austria	TS1-1-MoM-7 Effect of Mg Doping on Characterization and Cycling Performance of LiCoO_2 Thin Film Cathode for Lithium-Ion Batteries, Tai-Yan Liu , J. Huang , C. Liu , National Cheng Kung University (NCKU), Taiwan

Monday Afternoon, May 22, 2023

Special Interest Talks
Room Town & Country A - Session SIT1-MoSIT
Special Interest Session I
Moderator:
Jyh-Wei Lee, Ming Chi University of Technology, Taiwan

1:00pm

INVITED: SIT1-MoSIT-1 Residual Stress Measurement on Hard Coatings and the Evaluation of Energy Relief Efficiency of Architected Coatings, **Jia-Hong Huang**, National Tsing Hua University, Taiwan

1:20pm

Monday Afternoon, May 22, 2023

	Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Pacific D - Session H1-2-MoA Spatially-resolved and In-Situ Characterization of Thin Films and Engineered Surfaces II Moderators: Damien Faurie , Université Sorbonne Paris Nord, France, Michael Tkadletz , Montanuniversität Leoben, Austria	Coatings for Biomedical and Healthcare Applications Room Pacific C - Session D1-2-MoA Surface Coatings and Surface Modifications in Biological Environments II Moderators: Mathew T. Mathew , University of Illinois College of Medicine at Rockford and Rush Univ. Medical Center, USA, Phaedra Silva-Bermudez , Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico, Kerstin Thorwarth , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
1:40pm	INVITED: H1-2-MoA-1 Multimodal and <i>in Situ</i> Electron Microscopy to Understand Local Deformation Mechanics, Josh Kacher , Georgia Institute of Technology, USA	D1-2-MoA-1 Antibacterial Performance of DLC and Ag-doped DLC coatings with a Long Term Perspective, Maneesha Rupakula , Platit AG, Switzerland; K. Sharma , EPFL, Switzerland; H. Bolvardi , B. Paul , G. Wahli , Platit AG, Switzerland
2:00pm		D1-2-MoA-2 TiN/NbN Superlattice Coatings Deposited by High Power Impulse Magnetron Sputtering Potential Candidate to Protect Medical Grade CoCrMo Alloys, Papken Hovsepian , Sheffield Hallam University, UK; A. Ehasarian , A. Sugumaran , Sheffield Hallam University, United Kingdom; I. Khan , Zimmer- Biomet UK
2:20pm	H1-2-MoA-3 Nanomechanical Characterization and Residual Stress Analysis in Thin ALD Coatings on 3D Printed Nano-Ceramics, Marco Sebastiani , Università degli studi Roma Tre, Rome, Italy	INVITED: D1-2-MoA-3 3D Printed Ceramics Reinforced Ti6Al4V: Structural and Nano-Mechanical Characterization, Peter Apata Olubambi , T. Tshephe , University of Johannesburg, South Africa
2:40pm	H1-2-MoA-4 <i>In-Situ</i> Monitoring of Stress Evolution in Hipims-Deposited Ti-Al-N Films: Effect of Substrate Bias and Temperature, Pedro Renato Tavares Avila , O. Zabeida , L. Varela Jiménez , J. Klemberg-Sapieha , L. Martinu , Polytechnique Montréal, Canada	
3:00pm	H1-2-MoA-5 High Strength and Deformability in 3D Interface Cu/Nb Nanolaminates Under Multiple Loading Orientations, Justin Y. Cheng , University of Minnesota, USA; S. Xu , University of Oklahoma, USA; J. Baldwin , Los Alamos National Laboratory, USA; M. De Leo , University of Minnesota, USA; I. Beyerlein , University of California Santa Barbara, USA; N. Mara , University of Minnesota, USA	D1-2-MoA-5 A Remote Atmospheric Pressure Plasma-Assisted Textile Functionalization Process on Polymeric Scaffolds for Bone Tissue Engineering, Wei-Yu Chen , J. Lee , T. An , Taiwan Textile Research Institute, Taiwan; A. Matthews , University of Manchester, UK
3:20pm	H1-2-MoA-6 Multiaxial Stress-Strain Transfer Across Indenter-Sample Interface During <i>in Situ</i> Indentation of Nanocrystalline Thin Films, Michael Meindlhuber , J. Todt , Montanuniversität Leoben, Leoben, Austria; A. Medjahed , ESRF, The European Synchrotron, Grenoble, France; M. Burghammer , ESRF, The European Synchrotron, France; M. Zitek , R. Daniel , Montanuniversität Leoben, Leoben, Austria; D. Steinmüller-Nethl , CarbonCompetence GmbH, Wattens, Austria; J. Keckes , Montanuniversität Leoben, Leoben, Austria	D1-2-MoA-6 Development of Modified Hydroxyapatite Composite Coating Prepared by the Thermal Spray, Jo-Han Yu , National Taipei University of Technology, Taipei Tech, Taiwan; K. Feng , Ming Chi University of Technology, Taiwan; Y. Yang , National Taipei University of Technology, Taipei Tech, Taiwan
3:40pm	H1-2-MoA-7 Atom Probe Tomography of TiSiN Hard Coatings Synthesized Utilizing Isotopic Substitution, Saeideh Naghdali , M. Tkadletz , Department of Materials Science, Montanuniversität Leoben, Austria; H. Waldl , Christian Doppler Laboratory for Advanced Coated Cutting Tools at the Department of Materials Science, Montanuniversität Leoben, Austria; M. Hans , Materials Chemistry, RWTH Aachen University, Germany; D. Primetzhofner , Department of Physics and Astronomy, Uppsala University, Sweden; N. Schalk , (1)Christian Doppler Laboratory for Advanced Coated Cutting Tools at the Department of Materials Science, Montanuniversität Leoben, (2)Department of Materials Science, Montanuniversität Leoben, Austria	
4:00pm	H1-2-MoA-8 Reactions of Metal-Tmhd Compounds in the Gas-Phase: Insights from Microreactor Studies Using Synchrotron Radiation, Sebastian Grimm , Institute for Combustion and Gas Dynamics, University of Duisburg-Essen, Germany; P. Hemberger , Paul Scherrer Institute, Switzerland; B. Atakan , Institute for Combustion and Gas Dynamics and CENIDE, University of Duisburg-Essen, Germany	
4:20pm	H1-2-MoA-9 How to Simultaneously Determine Absolute Thickness, Chemistry, and Other Properties of Crystalline Layers Using XRD, Thomas Degen , M. Sadki , N. Norberg , Malvern Panalytical, Netherlands; N. Shin , Deep Solution Inc., Korea (Democratic People's Republic of)	
4:40pm	H1-2-MoA-10 Dynamic Electrochemical Impedance Spectroscopy as a Tool for Online, in-Situ Monitoring of Adsorption Films Formation, Jacek Ryl , Gdańsk University of Technology, Poland	

Monday Afternoon, May 22, 2023

Coatings for Use at High Temperatures Room Pacific E - Session A1-2-MoA Coatings to Resist High-temperature Oxidation, Corrosion, and Fouling II Moderators: Gustavo García-Martín , REP-Energy Solutions, Spain, Justyna Kulczyk-Malecka , Manchester Metropolitan University,		Hard Coatings and Vapor Deposition Technologies Room Town & Country C - Session B2-MoA CVD Coatings and Technologies Moderators: Raphaël Boichot , Grenoble-INP/CNRS, France, Hiroki Kondo , Nagoya University, Japan
1:40pm	A1-2-MoA-1 Microstructural Changes of Yttria-Containing MMC-Coatings and Their Influence on Hot Corrosion, Wear and Mechanical Behavior, Christoph Grimme , C. Oskay, M. Galetz, DECHEMA-Forschungsinstitut, Germany	INVITED: B2-MoA-1 Si and SiC-based CVD Coatings for High Temperature Structural Applications, A. Le Doze, P. Drieux, Laboratoire des Composites Thermostructuraux - CNRS, France; S. Jacques, Laboratoire de Composites Thermostructuraux - CNRS, France; G. Couégnat, Georges Chollon , Laboratoire des Composites Thermostructuraux - CNRS, France
2:00pm	A1-2-MoA-2 Surface Refinement of Additively Manufactured Components: Microstructure and Mechanical Properties, Agata Kulig , Neue Materialien Bayreuth GmbH, Germany	
2:20pm	INVITED: A1-2-MoA-3 Influence of High Temperatures on the Friction and Wear of Highly Stressed Exhaust Systems, Martin Dienwiebel , Institute for Applied Materials IAM - Karlsruhe Institute of Technology, Germany; T. König, Fraunhofer Institute for Mechanics of Materials IWM, Germany; T. Kimpel, Institute for Applied Materials IAM, Karlsruhe Institute of Technology, Germany; D. Kuerten, A. Kailer, Fraunhofer Institute for Mechanics of Materials IWM, Germany	B2-MoA-3 Hybrid Nanocomposite CVD Coating Formations, Zhenyu Liu , Latrobe, USA
2:40pm		B2-MoA-4 Effect of the Substrate Treatment on the Microstructure of CVD Ti(C,N)/Al ₂ O ₃ Hard Coatings, Christiane Wächtler , C. Wüstefeld, TU Bergakademie Freiberg, Germany; M. Šíma, J. Pikner, Dormer Pramet, Czechia; D. Rafaja, TU Bergakademie Freiberg, Germany
3:00pm	A1-2-MoA-5 Surface Refinement by Aluminide Diffusion Coatings and Its Effect on the Oxidation Behavior and Creep Strength of Additively Manufactured Fe- and Ni-Based Alloys, Ceyhan Oskay , L. Mengis, DECHEMA-Forschungsinstitut, Germany; A. Kulig, H. Daoud, Neue Materialien Bayreuth GmbH, Germany; M. Galetz, DECHEMA-Forschungsinstitut, Germany; U. Glatzel, University of Bayreuth, Germany and Neue Materialien Bayreuth GmbH, Germany	B2-MoA-5 Novel ZrB ₂ and HfB ₂ Metaldiboride Coatings by LPCVD, Mandy Höhn , M. Krug, B. Matthey, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany
3:20pm	A1-2-MoA-6 Oxidation Behavior of Novel Cr-Si Diffusion Coatings Applied by the Slurry Technique, Michael Kerbstadt , DECHEMA, Germany; E. White, DECHEMA, USA; M. Galetz, DECHEMA, Germany	B2-MoA-6 Diamond Coatings on Cutting Tools Applied to Super-Hard Workpiece Materials, Michael Woda , CemeCon AG, Germany; J. Fuentes, Hufschmied Zerspanungssysteme GmbH, Germany; W. Puetz, M. Wegh, C. Schiffers, S. Bolz, O. Lemmer, CemeCon AG, Germany
3:40pm	A1-2-MoA-7 Use of Machine Learning Algorithms to Optimize and Customize Aluminide Diffusion Coatings, Vladislav Kolarik , M. Juez Lorenzo, Fraunhofer Institute for Chemical Technology ICT, Germany; P. Praks, IT4Innovations National Computing Center, VSB - Technical University of Ostrava, Czechia	INVITED: B2-MoA-7 Study on Small-Volume and Flow-Type Hard DLC Film Process Using Substrate-Surrounding Microwave Plasma, Hiroyuki Kousaka , Gifu University, Japan
4:00pm		

Monday Afternoon, May 22, 2023

Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B4-2-MoA Properties and Characterization of Hard Coatings and Surfaces II Moderators: Naureen Ghafoor, Linköping University, Sweden, Marcus Günther, Robert Bosch GmbH, Germany, Fan-Yi Ouyang, National Tsing Hua University, Taiwan		Hard Coatings and Vapor Deposition Technologies Room Town & Country B - Session B6-MoA Computationally-aided Materials Design Moderators: David Holec, Montanuniversität Leoben, Austria, Davide G. Sangiovanni, Linköping University, Sweden, Wan-Yu Wu, National United University, Taiwan	
1:40pm	INVITED: B4-2-MoA-1 Amorphous Carbon Coatings for Tribological Applications in Hydrogen and Natural Gas Environments, Thomas Gradt , Bundesanstalt für Materialforschung und -prüfung (BAM), Germany		INVITED: B6-MoA-1 Selection of Photosensitive Materials on Metal Oxide Surface by Using Machine Learning, Yen-Hsun Su , National Cheng Kung University, Taiwan
2:00pm			
2:20pm	B4-2-MoA-3 Effect of Bio-Lubricants on Wear and Friction of Borided Ti ₆ Al ₄ V Alloy, A. Nieto-Sosa, G. Rodríguez-Castro, J. Escobar-Hernández, A. Meneses-Amador, José Arciniega-Martínez, H. Martínez-Gutierrez , National Polytechnic Institute, Mexico		B6-MoA-3 On the Modeling of Particle Growth in Film Deposition, Rahul Basu , JNTU, India
2:40pm	B4-2-MoA-4 Experimental and Numerical Evaluation of Multi-Pass Scratch on Borided Armco Iron, Jesús Vidal-Torres , SEPI ESIME Instituto Politécnico Nacional, Mexico; A. Ocampo-Ramírez , Universidad Veracruzana, Mexico; G. Rodríguez-Castro, I. Campos-Silva, A. Meneses-Amador , SEPI ESIME Instituto Politécnico Nacional, Mexico		B6-MoA-4 First-Principles Investigations of the Physical Properties of Experimentally Feasible Novel Aluminum Nitride Polytypes, Mowafaq Mohammad Al-Sardia , Jejun University, Republic of Korea
3:00pm	B4-2-MoA-5 Microstructure and Tribological Characteristics of Binary Refractory Metal Nitride Coatings, Yu-Hsien Liao, S. Hsu, F. Wu , Dept. of Materials Science and Engineering, National United University, Taiwan		INVITED: B6-MoA-5 Computational Supports to Identify Structural and Elastic Relationship of Metastable Crystalline And Amorphous Thin Films Alloys: Mo _{1-x} Ni _x and Mo _{1-x} Si _x Case Studies, C. Li , 1State Key Laboratory of Superlattices and Microstructures, Institute of Semiconductors, China; G. Abadias , Institut Pprime - CNRS - ENSMA - Université de Poitiers, France; Philippe Djemia , LSPM UPR 3407, France
3:20pm	B4-2-MoA-6 Investigation of the Effect of Nitrogen Additions on the Microstructure, Mechanical and Tribological Properties of CoCrNiAlTi-Based High Entropy Alloy Coatings, Fayeka Mansura, P. Munroe , University of New South Wales, Australia		
3:40pm	B4-2-MoA-7 Influence of Si Content on the Mechanical Properties, Microstructure and Tribological Behaviors of (AlCrNbSiTi)N Coatings, Yun-Chen Chan, S. Hsu, P. Chen, J. Duh , National Tsing Hua University, Taiwan		
4:00pm	B4-2-MoA-8 Effect of CrMoN Addition on the Thermal Stability and Tribological Property of TiVN Coatings, Y. Chang, He-Qian Feng , National Formosa University, Taiwan		B6-MoA-8 Machine-Learning Guided Ab-Initio Exploration of Thermal/Mechanical Properties in Transition Metal Nitrides, Andreas Kretschmer , TU Wien, Institute of Materials Science and Technology, Austria; M. Fedrigo , Oerlikon Digital Hub, Germany; L. Lezuo , TU Wien, Institute of Materials Science and Technology, Austria; K. Yalamanchili, H. Rudigier , Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; P. Mayrhofer , TU Wien, Institute of Materials Science and Technology, Austria
4:20pm			B6-MoA-9 Descriptors Development for Stability Prediction of N-Doped High Entropy Alloy Coatings: A DFT Study, Chih-Heng Lee , National Tsing Hua University, Taiwan; J. Lee , Ming Chi University of Technology, Taiwan; H. Chen , National Tsing Hua University, Taiwan
4:40pm		f	
5:00pm			

Monday Afternoon, May 22, 2023

Topical Symposia Room Town & Country A - Session TS1-2-MoA Coatings for Energy Storage and Conversion - Batteries and Hydrogen Applications II Moderators: Nazlim Bagcivan , Schaeffler Technologies GmbH & Co. KG, Germany, Klaus Böbel , Bosch Manufacturing Solutions, Germany		
1:40pm	TS1-2-MoA-1 Influence of Oxygen Content During the Deposition of Scandium Stabilized Zirconia Thin Films by Reactive High Power Impulse Magnetron Sputtering (R-HiPIMS), Isabel Fernandez Romero , Corporate Sector Research and Advance Engineering- Robert Bosch, Germany; S. Klein , C. Engel, Corporate Sector Research and Advance Engineering - Robert Bosch, Germany; J. Fleig , Technical University of Vienna, Austria	
2:00pm	TS1-2-MoA-2 Comparison of the Impacts of High Entropy Oxide/Alloy Coatings for Lithium-Sulfur Battery Separators, Ming-Roe Wann , Y. Lin, S. Chung, J. Ting, National Cheng Kung University (NCKU), Taiwan	
2:20pm	INVITED: TS1-2-MoA-3 Coatings and Surface Modifications for Hydrogen Storage Applications, N. Kostoglou , C. Mitterer, Montanuniversität Leoben, Austria; Claus Rebholz , University of Cyprus	
2:40pm		
3:00pm	TS1-2-MoA-5 BaCeZrYO _{3-δ} Coatings Deposited by Solution Precursor Plasma Spray (SPPS) for Sustainable Energy Application, Yen-Yu Chen , W. Zeng, C. Liu, G. Yao, Chinese Culture University, Taiwan	
3:20pm	TS1-2-MoA-6 Aluminum-Doped Non-Stoichiometric Titanium Oxide (Al-TiO _x) for Anode in Lithium-Ion Batteries, Guan-Bo Liao , National Cheng Kung University (NCKU), Taiwan; Y. Shen , Hierarchical Green-Energy Materials (Hi-GEM) Research Center, Taiwan; J. Huang , National Cheng Kung University (NCKU), Taiwan	
3:40pm	TS1-2-MoA-7 Unveiling Capacitive and Diffusion-Limited Li-Ion Storage in Semiconducting 2d-MoS ₂ Compositied with Aluminium Nitride Nanoflowers for Flexible Electrodes of Supercapacitors, D. Kaur , Gagan Kumar Sharma , Indian Institute of Technology Roorkee, India	

Tuesday Morning, May 23, 2023

Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Pacific D - Session H2-1-TuM Advanced Mechanical Testing of Surfaces, Thin Films, Coatings and Small Volumes I Moderator: Olivier Pierron, Georgia Institute of Technology, USA		Coatings for Biomedical and Healthcare Applications Room Pacific C - Session D2-TuM Medical Devices: Bio-Tribo-Corrosion, Diagnostics, 3D Printing Moderators: Hamdy Ibrahim, University of Tennessee at Chattanooga, USA, Margaret Stack, University of Strathclyde, UK
8:00am		INVITED: D2-TuM-1 Empowering PVD-Coatings to Control the Time Dependent Chemical and Microstructural Coating Properties in Aqueous Electrolytes, Holger Hoche , Center for Structural Materials, TU-Darmstadt, Germany; T. Ulrich , Center for Structural Materials, TU Darmstadt, Germany; P. Polcik , Plansee Composite Materials, Germany; M. Oechsner , Center for Structural Materials, TU-Darmstadt, Germany
8:20am		
8:40am	INVITED: H2-1-TuM-3 Multifunctional Characterization of Nanomultilayers, Andrea Maria Hodge , University of Southern California, USA	D2-TuM-3 Early Detection of Fretting-Corrosion at the Hip Modular Junction Interface by Acoustic Emission Non-Invasive Technique, Bill Keaty , Y. Sun, University of Illinois at Chicago, USA; M. Mathew , University of Illinois - Chicago, USA; D. Ozevin , J. Eapen, T. Zhang, University of Illinois at Chicago, USA
9:00am		D2-TuM-4 Corrosion Evaluation of Plasma Electrolytic Oxidation Coatings on Titanium Alloys For Biomedical Implant Application, E. Sondgeroth , K. Cheng, Y. Sun, UIC School of Medicine at Rockford, USA; C. Takoudies , UIC School of Medicine, USA; E. Vries , Faculty of Engineering Technology, University of Twente, The Netherlands, USA; D. Matthews , N. Bolink, Faculty of Engineering Technology, University of Twente, The Netherlands; A. Yerokhin , Department of Materials, University of Manchester, United Kingdom; Mathew Mathew , UIC school of medicine at Rockford, USA
9:20am		D2-TuM-5 Large-Scale Metallic Nanotubes Array (MeNTA) with Plasmonic Nanoparticles for SERS Application, Alfreda Krisna Altama , J. Chu, National Taiwan University of Science and Technology, Taiwan; P. Yiu , Ming Chi University of Technology, Taiwan; W. Chiang , National Taiwan University of Science and Technology, Taiwan
9:40am	H2-1-TuM-6 Link between Cracking Mechanisms of Trilayer Films on Flexible Substrates and Electro-Mechanical Reliability Under Biaxial Loading, Shuhel Altaf Husain , Institut Pprime - CNRS - ENSMA - Université de Poitiers, France; P. Kreiml , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria; P. Renault , Institut Pprime - CNRS - ENSMA - Université de Poitiers, France; C. Mitterer , Montanuniversität Leoben, Leoben, Austria; M. Cordill , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria; D. Faurie , CNRS, France	D2-TuM-6 Carbide-derived Carbon (CDC) for Implant Application: Tribocorrosion Kinetics and Mechanisms, Kyle Kinnerk , Department of Biomedical Engineering, University of Illinois at Chicago, USA; Y. Sun , M. Daly, Department of Civil, materials, and Environmental Engineering, University of Illinois at Chicago, USA; M. Wimmer , Department of Orthopedic Surgery, Rush University Medical Center, USA; M. McNallan , Department of Civil, materials, and Environmental Engineering, University of Illinois at Chicago, USA; M. Mathew , Department of Biomedical Sciences, UIC College of Medicine at Rockford, USA
10:00am	H2-1-TuM-7 Effect of Nanometric Stacking on the Magneto-Mechanical Properties of Thin Films on Flexible Substrate, H. Ben Mahmoud , Damien Faurie , CNRS-LSPM, France; P. Renault , CNRS-Pprime, France; F. Zighem , CNRS-LSPM, France	D2-TuM-7 PEKK as Biomaterials Under Fretting Corrosion Solicitations: May This Biopolymer Be Considered as New Hip Implant Component?, Jean Geringer , J. Monnatte, Mines Saint-Etienne, France; G. Planche , EPIC sarl, France; J. Porteus , Oxford Polymers, USA
10:20am	H2-1-TuM-8 Influence of the Aspect Ratio of the Micro-Cantilever on the Determined Young's Modulus Using the Euler-Bernoulli Equation, F. Konstantiniuk , Montanuniversität Leoben, Austria; M. Krobath , W. Ecker, Materials Center Leoben Forschungs GmbH, Austria; C. Czetti , CERATIZIT Austria GmbH, Austria; Nina Schalk , M. Tkadletz, Montanuniversität Leoben, Austria	D2-TuM-8 Fretting-corrosion (<5µm) Performance of Carbide-derived Carbon (CDC) Surface Modification for Hip Implants, Yani Sun , M. Daly, M. McNallan, Department of Civil, Materials and Environmental Engineering, University of Illinois at Chicago, USA; M. Mathew , Department of Biomedical Sciences, UIC College of Medicine at Rockford, USA
10:40am	H2-1-TuM-9 Engineering Metal-MAX Phase Multilayered Nanolaminates for Tunable Strength and Toughness, Skye Supakul , S. Pathak, Iowa State University, USA; K. Yaddanapudi , University of California at Davis, USA	

Tuesday Morning, May 23, 2023

	Coatings for Use at High Temperatures Room Pacific E - Session A1-3-TuM Coatings to Resist High-temperature Oxidation, Corrosion, and Fouling III Moderators: Gustavo García-Martín , REP-Energy Solutions, Spain, Justyna Kulczyk-Malecka , Manchester Metropolitan University,	Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B4-3-TuM Properties and Characterization of Hard Coatings and Surfaces III Moderators: Naureen Ghafoor , Linköping University, Sweden, Marcus Günther , Robert Bosch GmbH, Germany, Fan-Yi Ouyang , National Tsing Hua University, Taiwan
8:00am	A1-3-TuM-1 Excellent Tribological, Mechanical, and Anti-Corrosion Performance of Agro-Waste as Corrosion Inhibitor for Carbon Steel in an Acidic Environment, Omotayo Sanni , J. Ren, T. Jen, Department of Mechanical Engineering Science, University of Johannesburg, Cnr Kingsway and University Roads, Auckland Park, 2092, Johannesburg, South Africa	
8:20am	A1-3-TuM-2 Study of Materials and Coatings for Use in High Temperature CO ₂ Environments, Jianliang Lin , Southwest Research Institute, USA	
8:40am	A1-3-TuM-3 Multi-Element Thin Film Deposition by Reactive HiPIMS for SOEC Interconnects Protection, Théo Dejob , F. Rouillard, A. Casadebaigt, CEA Saclay, France; K. Couturier, CEA LITEN Grenoble, France; F. Miserque, F. Lomello, CEA Saclay, France; F. Sanchette, Université de Technologie de Troyes, France	B4-3-TuM-3 The Oxidation Behavior of VMoN Thin Films Deposited by High Power Pulsed Magnetron Sputtering, Nan-Cheng Lai , J. Huang, National Tsing Hua University, Taiwan
9:00am	A1-3-TuM-4 Characteristics and Resistance of CVD Hafnium Carbide Coating in Extreme Environments, Hyeon-Geun Lee , J. Lee, D. Kim, B. Jun, W. Kim, J. Park, Korea Atomic Energy Research Institute, Republic of Korea	B4-3-TuM-4 Correlation Between Microstructure and Mechanical Properties of B ₄ C Thin Films Deposited by Pulsed Laser Deposition, Falko Jahn , S. Weißmantel, Laserinstitut Hochschule Mittweida, Germany
9:20am	A1-3-TuM-5 High Temperature Corrosion Protection of Zirconium Fuel Rods in Nuclear Reactors by Nanocrystalline Diamond (Ncd) Layers, Frantisek Fendrych , Institute of Physics Academy of Sciences of the Czech Republic	B4-3-TuM-5 Evaluation of Fracture Toughness of Borided Materials by Cross-Sectional Scratch Testing, F. Alfonso-Reyes , André Ballesteros-Arguello , J. Martínez-Trinidad, SEPI ESIME Instituto Politécnico Nacional, Mexico; A. Ocampo-Ramírez, Universidad Veracruzana, Mexico; G. Rodríguez-Castro, SEPI ESIME Zacatenco, Mexico; A. Meneses-Amador, SEPI ESIME Instituto Politécnico Nacional, Mexico
9:40am	A1-3-TuM-6 Effect of Vacuum Annealing on the Residual Stress of ZrN Thin Film deposited on Ni-based Superalloy Haynes 282, Kuan-Che Lan , C. Li, National Tsing Hua University, Taiwan; H. Tung, Institute of Nuclear Energy Research, Taiwan	B4-3-TuM-6 Stress Evolution in Binary Metal Alloy Systems, Tong Su , Brown University, USA; J. Robinson, G. Thompson, The University of Alabama, USA; E. Chason, Brown University, USA
10:00am		INVITED: B4-3-TuM-7 Molecular Engineering of Inorganic Thin Film Interfaces for Accessing Multiple Novel Properties for Diverse Applications, Ganpati Ramanath , Rensselaer Polytechnic Institute, USA
10:20am		

Tuesday Morning, May 23, 2023

Topical Symposia Room Town & Country A - Session TS1-3-TuM Coatings for Energy Storage and Conversion - Batteries and Hydrogen Applications III Moderators: Nazlim Bagcivan , Schaeffler Technologies GmbH & Co. KG, Germany, Klaus Böbel , Bosch Manufacturing Solutions, Germany		Tribology and Mechanical Behavior of Coatings and Engineered Surfaces Room Town & Country B - Session E3-TuM Tribology of Coatings and Surfaces for Industrial Applications Moderators: Nazlim Bagcivan , Schaeffler Technologies GmbH & Co. KG, Germany, Rainer Cremer , KCS Europe GmbH, Germany, Philipp Grützmacher , Institute of Engineering Design and Product Development, Austria
8:00am	TS1-3-TuM-1 rGo-SiO _x Nanocomposite as Anode Material in Lithium Ion Battery, Sheng Hsu , <i>J. Huang</i> , National Cheng Kung University (NCKU), Taiwan; <i>B. Sanjaya</i> , National Cheng Kung University (NCKU), Taiwan, India	INVITED: E3-TuM-1 Carbon Based Coatings Deposited Over Aisi 4140 to Improve Wear Resistance in Machine Components, <i>F. Delfin</i> , UTN, Argentina; <i>D. Heim</i> , Upper University of Applied Sciences, Wels Campus, Austria; Sonia Brühl , UTN, Argentina
8:20am	TS1-3-TuM-2 High-Performance Rechargeable Zinc Ion Batteries: From Surface Modification of Zn Anode and Structural Engineered Cathode to Deep Eutectic Solvent (DES)-Based Electrolytes, Yu-Lun Chueh , National Tsing Hua University, Taiwan	
8:40am	TS1-3-TuM-3 Electrochemical Performances of LiNi _{0.8} Co _{0.1} Mn _{0.1} O ₂ Synthesized by Hydroxide Coprecipitation Method, Chia-Hsin Lo , <i>J. Huang</i> , National Cheng Kung University (NCKU), Taiwan; <i>C. Chang</i> , National University of Tainan, Taiwan	E3-TuM-3 Tribological Behaviour of Diamond Coated Reaction-Bonded Silicon Carbide Under Dry and Seawater Environment, <i>R. Kannan</i> , <i>N. C.</i> , Indian Institute of Technology Madras, India; <i>R. Ganguly</i> , <i>S. Mandal</i> , <i>S. Rao</i> , Carborundum Universal Limited, Industrial Ceramic Division, India; M.S Ramachandra Rao , Indian Institute of Technology Madras, India
9:00am	TS1-3-TuM-4 Pb-Free Halide Perovskite/TiO ₂ Heterostructure for Enhanced Solar-Driven PFC, Yang Yu , <i>T. Jyh-Ming</i> , National Cheng Kung University (NCKU), Taiwan	E3-TuM-4 Friend or Foe? The Role of Oxygen in the Tribological Performance of Solid Lubricant MoS ₂ , Andrey Bondarev , <i>I. Ponomarev</i> , <i>T. Polcar</i> , Czech Technical University in Prague, Czechia
9:20am	TS1-3-TuM-5 Inline PVD Coating of Bipolar Plates for Electrochemical Energy Converters, <i>K. Böbel</i> , Matthias Mueller , Bosch Manufacturing Solutions, Germany; <i>D. Beisenherz</i> , <i>S. Huebner</i> , Singulus Technologies AG, Germany; <i>J. Jiao</i> , <i>S. Wetzel</i> , Bosch Automotive Products (Suzhou) Co., Ltd., Germany	E3-TuM-5 Friction and Wear Behavior of Electrostatically Developed Nanocomposite Coatings for High Performance Cutting Tool, <i>S. Ramanujam</i> , Rakesh Kumar Gunda , <i>K. Ramanjaneyulu</i> , <i>K. Sudhakar Reddy</i> , <i>K. Ankamma</i> , <i>A. Ramchandra Reddy</i> , Mahatma Gandhi Institute of Technology, India
9:40am		INVITED: E3-TuM-6 Modification of Diamond Like Carbon (DLC) to Improve Specific Tribological Characteristics for Automotive Applications, Denis Romagnoli , <i>F. Lavalle</i> , STS srl, Italy
10:00am		
10:20am		E3-TuM-8 Fabrication and Tribological Behaviors of DLC Coatings Embedded with Graphene Nanoplatelets, Guizhi Wu , <i>A. Morina</i> , <i>L. Yang</i> , University of Leeds, UK
10:40am		E3-TuM-9 Tribological Properties MoS ₂ -WC Duplex Coatings in Low Viscosity Hydrocarbons, Euan Cairns , University of North Texas, USA; <i>S. Dixit</i> , Plasma Technology Inc., USA; <i>D. Berman</i> , <i>S. Aouadi</i> , <i>A. Voevodin</i> , University of North Texas, USA

Tuesday Morning, May 23, 2023

Exhibitors Keynote Lecture Room Town & Country A - Session EX-TuM Exhibition Keynote Lecture Moderator: Samir Aouadi, University of North Texas, USA		
11:00am	INVITED: EX-TuM-1 Future Requirements for Advanced Surface Modification and Coatings Technologies for Turbine Engine Applications, <i>David Furrer</i>, Pratt and Whitney, USA	
11:20am		

Tuesday Afternoon, May 23, 2023

	Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Town & Country A - Session H3-1-TuA Characterization of Coatings and Small Volumes in Extreme and Cyclic Conditions I Moderators: Thomas Edwards, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland, Peter Hosemann, University of California, Berkeley, USA, Barbara Putz, Montanuniversität Leoben, Austria	Coatings for Biomedical and Healthcare Applications Room Pacific D - Session D3-TuA Biointerfaces: Coatings to Promote Cell Adhesion while Inhibiting Microbial Growth Moderators: Valentim A.R. Barão, University of Campinas (UNICAMP), Brazil, Sandra E. Rodil, Universidad Nacional Autónoma de México
1:40pm	INVITED: H3-1-TuA-1 Local Deformation Mechanisms under Ambient and Non-Ambient Conditions Tested via Advanced Nanoindentation, <i>Verena Maier-Kiener</i> , Montanuniversität Leoben, Leoben, Austria	INVITED: D3-TuA-1 Chemical Vapor Deposition of Tantalum for Enhanced Cell Adhesion, <i>Jessica DeBerardinis</i> , Ultramet, USA
2:00pm		
2:20pm	H3-1-TuA-3 Extracting High-Temperature Stress-Strain Curves and Assessing Transformation Pressures: The Spherical Indentation of Silicon, <i>Gerald Schaffar</i> , Montanuniversität Leoben, Austria; <i>D. Tscharnuter</i> , KAI Kompetenzzentrum Automobil- und Industrieelektronik GmbH, Austria; <i>V. Maier-Kiener</i> , Montanuniversität Leoben, Austria	D3-TuA-3 The Functionalization of N95 Masks Using Atomic Layer Deposited Silver Nano-Islands to Induce Antimicrobial Activity, <i>Harshdeep Bhatia</i> , C. Takoudis, University of Illinois, Chicago, USA
2:40pm	H3-1-TuA-4 Micro-Impact Tests of Novel Thermal Barrier Coating Systems and >1000C Nanoindentation on Ni-Base Superalloy, <i>Ben Beake</i> , Micro Materials Ltd, UK; <i>C. Chalk</i> , Cranfield University, UK; <i>S. Goodes</i> , A. Harris, Micro Materials Ltd, UK; <i>L. Isern</i> , J. Nicholls, Cranfield University, UK	INVITED: D3-TuA-4 Cold Atmospheric Plasma Jets Generated from Flexible Sources, <i>Carles Corbella</i> , S. Portal, H. Solomon, M. McCraw, M. Keidar, S. Solares, George Washington University, USA
3:00pm		
3:00pm	H3-1-TuA-5 Influence of Si on the Mechanical Properties and High-temperature Fracture Toughness of Cr-Si-B ₂₂ Coatings, <i>L. Zauner</i> , <i>Rainer Hahn</i> , CDL-SEC at TU Wien, Austria; <i>O. Hunold</i> , J. Ramm, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; <i>S. Kolozsvari</i> , P. Polcik, Plansee Composite Materials GmbH, Germany; <i>H. Riedl</i> , CDL-SEC at TU Wien, Austria	
3:20pm	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
3:40pm		
4:00pm	INVITED: H3-1-TuA-8 Nanoindentation Measurements at Combined High Sustained Strain Rates and Elevated Temperatures, <i>Benoit Merle</i> , University of Kassel, Germany	D3-TuA-8 Multifunctional Coating Approach Integrating Visible-Light Driven Photodynamic Therapy and Photocatalytic Activity for Controlling Biofilm Accumulation and Reinforcing Wear Protection, <i>Bruna Nagay</i> ¹ , C. Dini, R. Costa, A. Santos, University of Campinas (UNICAMP), Brazil; <i>J. Cordeiro</i> , Centro Universitário das Faculdades Associadas de Ensino, Brazil; <i>B. Gomes</i> , University of Campinas (UNICAMP), Brazil; <i>E. Rangel</i> , N. Cruz, Sao Paulo State University, Brazil; <i>J. van den Beucken</i> , Radboud University Medical Center, Netherlands; <i>V. Barão</i> , University of Campinas (UNICAMP), Brazil
4:20pm		
4:40pm	H3-1-TuA-10 Development of a New Test Method to Evaluate Local Adhesion Properties of Diamond-like Carbon (DLC) coating Using Vibration-Induced Cavitation, <i>Junaid Ul Hasnain</i> , Center for Structural Materials, Germany	

Tuesday Afternoon, May 23, 2023

Coatings for Use at High Temperatures Room Pacific E - Session A2-1-TuA Thermal and Environmental Barrier Coatings I Moderators: Sabine Faulhaber , University of California, San Diego, USA, Kang N. Lee , NASA Glenn Research Center, USA		Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B4-4-TuA Properties and Characterization of Hard Coatings and Surfaces IV Moderators: Naureen Ghafoor , Linköping University, Sweden, Marcus Günther , Robert Bosch GmbH, Germany, Fan-Yi Ouyang , National Tsing Hua University, Taiwan
1:40pm	A2-1-TuA-1 Influence of Microstructure on Phase Transformation of Plasma Sprayed YSZ Coatings Under Thermal Gradient Cycling Conditions, Simon Schöler , D. Mack, Y. Sohn, Forschungszentrum Juelich GmbH, Germany; M. Rudolphi, DECHEMA, Germany; M. Adam, TU Darmstadt, Germany; R. Vassen, O. Guillon, Forschungszentrum Juelich GmbH, Germany	
2:00pm	A2-1-TuA-2 A New Method to Diagnose Early Stages of CMAS Infiltration in Thermal Barrier Coatings, Vladimir Pankov , K. Chen, P. Patnaik, National Research Council of Canada	B4-4-TuA-2 Corrosion and Electrical Insulation Properties of SiO _x Thin Films Deposited by Microwave PECVD, Atreya Danturthi , R. Drummond Brydson, University of Leeds, UK; I. Kolev, Hauzer, Netherlands; L. Yang, G. Wu, University of Leeds, UK
2:20pm	A2-1-TuA-3 Mechanical Behavior of a Nial Coating: Effect of Thermal Aging on the Brittle-to-Ductile Transition Temperature, Capucine Billard , V. Maurel, Mines ParisTech, PSL Research University, France; D. Texier, Institut Clement Ader (ICA), France; D. Marquie, Safran Aircraft Engines, France; N. Bourhila, Safran aircraft engines, France; L. Marcin, Safran aircraft engines, France	INVITED: B4-4-TuA-3 High-Throughput Methodology for The Realization of High-Entropy High-Dielectric-Constant Ba(Ti,Zr,Ta,Hf,Mo)O ₃ Film-Based Metal-Oxide-Semiconductor-Related Devices, kao-shuo chang , National Cheng Kung University (NCKU), Taiwan; V. Nguyen, No.1, University Road, Taiwan; T. NAGATA, National Institute for Materials Science, Japan
2:40pm	INVITED: A2-1-TuA-4 Failure Mechanisms of Conventional Thermal Barrier Coatings and Development of Alternate Coating Systems for IGT Applications, Prabhakar Mohan , B. Cottom, Solar Turbines Inc., USA	
3:00pm		B4-4-TuA-5 Effects of Nitrogen Flow Ratio on the Mechanical and Anticorrosive Properties of Co-sputtered (TiZrHfTa)N _x Films, Ou Tzu-Yu , National Taiwan Ocean University, Taiwan; C. Li-Chun, Ming Chi University of Technology, Taiwan; C. Yung-I, National Taiwan Ocean University, Taiwan
3:20pm	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
3:40pm		
4:00pm	A2-1-TuA-8 Manufacturing and Performance of a Three-Layer Environmental Barrier Coating System for SiC/SiC CMCs by Magnetron Sputtering, Ronja Anton , V. Leisner, U. Schulz, German Aerospace Center (DLR), Germany	
4:20pm	A2-1-TuA-9 EBC Multi-Layer Coatings on SiC-CMC Substrates Synthesized in a Continuous Vacuum Deposition Process, Xavier Maeder , D. Casari, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; D. Chen, Oerlikon Metco (US) Inc., USA; K. Glaentz, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; J. Michler, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; H. Schoech, B. Widrig, J. Ramm, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein	
4:40pm	A2-1-TuA-10 Developments of the Slag-Based Geopolymer Coatings by the Flame Spray, Wan-Ting Huang , I. Huang, W. Lee, Y. Yang, Department of Material and Mineral Resources Engineering, National Taipei University of Technology, Taipei, TAIWAN	
5:00pm	A2-1-TuA-11 Thermal Spray Coating with Ceramic Microspheres for Acoustic Absorption Applications, Ting-Ya Chuang , W. Lee, Y. Yang, National Taipei University of Technology, Taiwan	

Tuesday Afternoon, May 23, 2023

	New Horizons in Coatings and Thin Films Room Town & Country C - Session F3-TuA 2D Materials: Synthesis, Characterization, and Applications Moderators: Ying-Hao Chu , National Tsing Hua Univ., Taiwan , Chih-Yen Chen , National Sun Yat-sen University, Taiwan , Yi-Cheng Chen , National Tsing Hua University, Taiwan	Topical Symposia Room Pacific C - Session TS2-TuA Sustainable Surface Solutions, Materials, Processes and Applications Moderators: Joerg Vetter , Oerlikon Balzers Coating Germany GmbH, Germany, Fan-Bean Wu , National United University, Taiwan
1:40pm	INVITED: F3-TuA-1 Tellurene Electronics and Sensors, Wenzhuo Wu , Purdue University, USA	
2:00pm		TS2-TuA-2 Euro 7/VII – Challenges for Surface Solutions in ICEVs and EVs, Joerg Vetter , Oerlikon Balzers Coating Germany GmbH, Germany; J. Becker , JB, Germany; M. Esselbach , Oerlikon Surface Solutions AG, Liechtenstein
2:20pm	INVITED: F3-TuA-3 Phase/Structure-Engineered Two-Dimensional Layered Materials for Innovative Nanoelectronics, Yu-Lun Chueh , National Tsing Hua University, Taiwan	INVITED: TS2-TuA-3 Surface Technology as a Key Technology for New Energy Systems, Yashar Musayev , L. Dobrenizki, Siemens Energy Global GmbH & Co. KG, Germany
2:40pm		
3:00pm	F3-TuA-5 Tellurene-Based Wearable Biosensor for Real-Time Longitudinal Monitoring of Neurotransmitters in Human Sweat, Ruifang Zhang , W. Wu, Purdue University, USA	TS2-TuA-5 Enhancing Hydrogen Storage in 2d Materials via Surface Modifications: An Atomistic Study, P. Habibi , S. Sagar, T. Vlugt, O. Moulton, Poulumi Dey , Delft University of Technology, Netherlands
3:20pm	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
3:40pm		
4:00pm	F3-TuA-8 A Two-Dimensional $\text{Ti}_3\text{C}_2\text{T}_x$ MXene/Mesochannel Ionic Diode Membrane for High-Performance Osmotic Energy Harvesting, Wen-Hsin Hung , National Taiwan University of Science and Technology, Taiwan; C. Chu , Feng Chia University, Taiwan; L. Yeh , National Taiwan University of Science and Technology, Taiwan	INVITED: TS2-TuA-8 Progress on Piezoelectrocatalysis for Hydrogen Production and Environmental Science, Jyh-Ming Wu , National Tsing Hua University, Taiwan
4:20pm	F3-TuA-9 Discussion on the Growth Parameters and Oxygen Evolution Reaction Performance of Copper Sulfide, Li-Wen Lin , C. Chen, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Taiwan	
4:40pm	F3-TuA-10 Cation and Anion Co-Doped Iron Oxide Toward Efficient Hydrogen Peroxide Formation and Electro-Fenton Degradation of Organic Pollutant, Yemima Purba , J. Ting, National Cheng Kung University (NCKU) Tainan, Taiwan	TS2-TuA-10 Visible Light Activated Photocatalytic Coatings by Reactive Magnetron Sputtering for Environmental Applications, Peter Kelly , John Dalton Building, Chester Street, UK; M. Ratova , J. Redfern, Manchester Metropolitan University, U.K.
5:00pm	F3-TuA-11 Molten Salt Synthesis of Highly Dispersible Hexagonal Boron Nitride Nanosheets for Ultrafiltration, Neon Vicente III Rosell , National Cheng Kung University (NCKU), Taiwan, Philippines; K. Chang , National Cheng Kung University (NCKU), Taiwan	TS2-TuA-11 A Covalent Organic Framework-Based Ionic Diode Membrane for Ultrahigh Blue Energy Generation, Yu-Chun Su , L. Yeh, National Taiwan University of Science and Technology, Taiwan

Tuesday Afternoon, May 23, 2023

Tribology and Mechanical Behavior of Coatings and Engineered Surfaces Room Town & Country B - Session E1-1-TuA Friction, Wear, Lubrication Effects, and Modeling I Moderators: Andreas Rosenkranz, Universidad de Chile, Manel Rodriguez Ripoll, AC2T Research GmbH, Austria, Noora Manninen, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein		
1:40pm	INVITED: E1-1-TuA-1 Chemistry and Mechanical Properties of 2D Transition Metal Carbides and Carbonitrides (MXenes), Vadym Mochalin , University of Missouri S&T, USA	
2:00pm		
2:20pm	E1-1-TuA-3 Tribocorrosion Behaviours of VNbMoTaWCr High Entropy Alloy Coatings, Ismail Rahmadtulloh , C. Wang, W. Wang, National Taiwan University of Science and Technology, Taiwan; B. Lou, Chang Gung University, Taiwan; J. Lee, Ming Chi University of Technology, Taiwan	
2:40pm	E1-1-TuA-4 Fundamentals of Phototribology, B. Perotti, UCS, Brazil; A. Cammarata, Czech Technical University in Prague, Czech Republic; F. Cemin, Nantes Université, France; S. Sales de Mello, Université Grenoble Alpes, CNRS, France; L. Leidens, UCS, Brazil; F. Echeverrigaray, UNICAMP, Brazil; T. Minea, Université Paris-Saclay, France; F. Alvarez, UNICAMP, Brazil; A. Michels, UCS, Brazil; T. Polcar, University of Southampton, UK; Carlos Figueroa , UCS, Brazil	
3:00pm	E1-1-TuA-5 Ultra-thin nanotwinned (CoCrNi) _{100-x} W _x Medium Entropy Alloy Film: Role of Nanotwin in Mechanical and Tribology Behaviors, Jhen-De You , National Taiwan University, Taiwan; P. Yiu, Ming Chi University of Technology, Taiwan; C. Hsueh, National Taiwan University, Taiwan	
3:20pm	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	
3:40pm		

Tuesday Evening, May 23, 2023

Special Interest Talks

Room Town & Country A - Session SIT2-TuSIT

Special Interest Session II

Moderator:

Jyh-Wei Lee, Ming Chi University of Technology, Taiwan

7:00pm

INVITED: SIT2-TuSIT-1 Functional Nitride and Oxide Thin Films – the Key to Our Digital World,
Joerg Patscheider, Evatec AG, Switzerland

7:20pm

Wednesday Morning, May 24, 2023

Functional Thin Films and Surfaces Room Pacific C - Session C1-1-WeM Optical Materials and Thin Films I Moderators: Silvia Schwyn-Theony , Evatec AG, Switzerland, Juan Antonio Zapien , City University of Hong Kong		Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Pacific D - Session H2-2-WeM Advanced Mechanical Testing of Surfaces, Thin Films, Coatings and Small Volumes II Moderator: James Gibson , University of Oxford, UK
8:00am	INVITED: C1-1-WeM-1 Structural Colors and Flexible Transparent Conductors Based on Thin Film Technology, L. Jay Guo , The University of Michigan, USA	
8:20am		
8:40am	C1-1-WeM-3 High-Rate Deposition of Calcium Fluoride Coatings Using Radio-Frequency Magnetron Sputtering, Sharon Waichman , I. Zukerman, M. Buzaglo, S. Barzilai, NRCN, Israel	INVITED: H2-2-WeM-3 The Nature of Defects and their Dynamics Characterized using Scanning Electron Microscopy Approaches, Dan S. Gianola , University of California Santa Barbara, USA
9:00am	C1-1-WeM-4 Reactive Sputter Deposition of Nanoporous Black Zinc and White Zinc Oxide Coatings, J. Zawadzki , Michał Borysiewicz , Łukasiewicz Research Network - Institute of Microelectronics and Photonics, Poland	
9:20am	C1-1-WeM-5 High Hall Mobility W-Doped In ₂ O ₃ Conductive Films with Thicknesses of Less Than 10 Nm Deposited on Glass Substrates, Tetsuya Yamamoto , R. Palani, H. Makino, Kochi University of Technology, Japan	H2-2-WeM-5 Measurement of Hardness and Elastic Modulus by Depth Sensing Indentation: Improvements to the Technique Based on Continuous Stiffness Measurement, Warren Oliver , KLA-Tencor, USA; P. Sudharshan , ARCI, India; G. Pharr , Texas A&M University, USA
9:40am	C1-1-WeM-6 The Effects of Growth and Post-Annealing Temperatures on MoS ₂ Thin Films Deposited by Magnetron Sputtering, C. Chao , National Dong Hwa University, Taiwan; P. Tsai , National Chung-Shan Institute of Science & Technology, Taiwan; P. Wu , Stone & Resource Industry R&D Center, Taiwan; Ing-Song Yu , National Dong Hwa University, Taiwan	H2-2-WeM-6 Ultrasonically Induced Nanofatigue During Nanoindentation, Antanas Daugela , Nanometronix LLC, USA; J. Daugela , Johns Hopkins University, USA
10:00am	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
10:20am		
10:40am		
11:00am		H2-2-WeM-10 Comparison of Electrical and Image-Based Sensing for Quantitative in Situ TEM Nanomechanical Testing, S. Stangebye , L. Daza , X. Liu , J. Kacher , Olivier Pierron , Georgia Tech, USA
11:20am		H2-2-WeM-11 Unraveling Deformation Localization in Thin Film Metallic Glasses During in-Situ Deformation Using 4D-STEM, Christoph Gammer , L. Schretter , A. Lassnig , S. Fellner , J. Eckert , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria

Wednesday Morning, May 24, 2023

	Coatings for Use at High Temperatures Room Pacific E - Session A2-2-WeM Thermal and Environmental Barrier Coatings II Moderators: Vladislav Kolarik , Fraunhofer Institute for Chemical Technology ICT, Germany, Pantcho Stoyanov , Concordia University, Canada	Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes Room Town & Country A - Session H3-2-WeM Characterization of Coatings and Small Volumes in Extreme and Cyclic Conditions II Moderators: Thomas Edwards , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland, Peter Hosemann , University of California, Berkeley, USA, Barbara Putz , Montanuniversität Leoben, Austria
8:00am	A2-2-WeM-1 On the Suitability of MoNbTaW Based Thin Films to Act as Diffusion Barriers, Georg C. Gruber ¹ , Montanuniversität Leoben, Austria; <i>A. Lassnig, S. Zak</i> , Austrian Academy of Sciences, Austria; <i>M. Kirchmair</i> , Montanuniversität Leoben, Austria; <i>S. Wurster, C. Gammer, M. Cordill</i> , Austrian Academy of Sciences, Austria; <i>R. Franz</i> , Montanuniversität Leoben, Austria	INVITED: H3-2-WeM-1 Characterizing Interfacial Straining Mechanisms Using High Temperature <i>in situ</i> Tem, Shen Dillon , University of California Irvine, USA H3-2-WeM-3 Quantitative in Situ TEM Observations of a Grain-Boundary-Migration-Assisted, Radiation-Damage Healing Mechanism in Ultrafine Grained Au Thin Films, Lina Daza , <i>S. Stangebye, K. Ding, X. Liu, T. Zhu, J. Kacher, O. Pierron</i> , Georgia Tech, USA
8:20am	INVITED: A2-2-WeM-2 Improvement of EBC Performance by Controlling Driving Forces for Mass Transfers in Oxides, Satoshi Kitaoa , JFCC, Japan; <i>T. Matsudaira, T. Ogawa, M. Wada</i> , Japan Fine Ceramics Center, Japan	
8:40am		
9:00am	A2-2-WeM-4 Steam Oxidation Kinetics of Si / Modified Yb ₂ Si ₂ O ₇ Environmental Barrier Coatings on SiC/SiC Ceramic Matrix Composites at 1250 °C – 1350 °C, Kang Lee , <i>J. Stuckner, M. Presby, B. Pulio</i> , NASA Glenn Research Center, USA; <i>W. Jennings</i> , HX5, USA	
9:20am	A2-2-WeM-5 Oxygen Permeability, Failure Analysis and Life Prediction of Environmental Barrier Coatings Under Adverse Environments, Prakash Patnaik , Aerospace Research Centre, National Research Council Canada; <i>A. Kumar</i> , TECSIS Corporation, Canada; <i>K. Chen</i> , Aerospace Research Centre, National Research Council Canada	
9:40am	A2-2-WeM-6 Raman Spectroscopic Investigation of SiO ₂ TGO Phase Transformation and Si and SiC Substrate Stress, Michael J. Lance , Oak Ridge National Laboratory, USA; <i>M. Ridley, T. Aguirre, B. Pint</i> , Oak Ridge National Laboratory, USA	
10:00am	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
10:20am		
10:40am		
11:00am	INVITED: A2-2-WeM-10 Hot Section Coating Technology as an Enabler for Sustainable Propulsion, Eli Ross , Pratt & Whitney, USA	
11:20am		
11:40am	A2-2-WeM-12 Internal Coating for Nuclear Cladding Deposited by DLI-MOCVD: Application to the Mitigation of Pellet-Cladding Interaction (PCI), Kenza Zougagh , <i>J. Brachet, R. Chanson, T. Guilbert, F. Lomello, A. Quaini, F. Rouillard, F. Schuster, S. Gossé</i> , CEA Saclay, France	
12:00pm	A2-2-WeM-13 Development of Tantalum Coating by the Cold Spray, Zeng Sheng-Wei , Department of Material and Mineral Resources Engineering, National Taipei University of Technology, Taipei, Taiwan; <i>Y. Chung, W. Li</i> , National Chung Shan Institute of Science and Technology, Materials and Electro-Optics Research Division, Long-tan, Taiwan; <i>Y. Yang</i> , Department of Material and Mineral Resources Engineering, National Taipei University of Technology, Taipei, Taiwan	

Wednesday Morning, May 24, 2023

Room Town & Country B		
8:00am		Tribology and Mechanical Behavior of Coatings and Engineered Surfaces Session E1-2-WeM Friction, Wear, Lubrication Effects, and Modeling II Moderators: Michael Chandross , Sandia National Laboratories, USA, Andreas Rosenkranz , Universidad de Chile Noora Manninen , Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein
8:20am		
8:40am		
9:00am	E1-2-WeM-4 Catalytic Transformation of Lubricants to Wear-Protective Tribofilms on Selected Steel Surfaces During Sliding, Yip-Wah Chung , A. Khan, J. Ahmed, T. Martin, S. Liu, Northwestern University, USA; S. Berkebile, Army Research Laboratory, USA; Q. Wang, Northwestern University, USA	
9:20am	INVITED: E1-2-WeM-5 Aromatic Compounds as Sustainable Lubricants for Iron, Sophie Loehlé , TotalEnergies, France	
9:40am		
10:00am	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	
10:20am		
10:40am		
11:00am	INVITED: E1-2-WeM-10 How Efficient Is the Self Adaption Concept for Low Friction with TMD-Based Sputtered Coatings, Albano Cavaleiro , University of Coimbra, Portugal	
11:20am		
11:40am	E1-2-WeM-12 Self-Lubricating Titanium Alloys: Design and High Temperature Tribological Performance Up to 800 °C, H. Torres, K. Pichelbauer, S. Budnyk, AC2T Research GmbH, Austria; T. Schachinger, C. Gachot, TU Wien, Austria; Manel Rodriguez Ripoll , AC2T Research GmbH, Austria	
12:00pm	E1-2-WeM-13 Electrodeposited of Silver Nano-Particules Plant Based to Improve Lubrication of Composite Films, Pierre-Antoine Gay , Haute Ecole Arc Ingénierie, Switzerland; I. Markovic Milosevic, HEPIA Institut inSTI, Switzerland; T. Journot, HE ARC Ingénierie, Switzerland; J. Maurer, Faculty of Biology and Medicine. Clinical pharmacology, Switzerland	

Wednesday Morning, May 24, 2023

Room Town & Country C		
8:00am	G1-WeM-1 Designed for Impact: Successful Forming of 3 rd Generation Advanced High Strength Steels in Electric Vehicles’ Body-in-White, <i>Tobias Brögelmann, T. Hurkmans</i> , IHI Ionbond Netherlands B.V., Netherlands; <i>J. Owens-Mawson, G. Savva</i> , IHI Ionbond LLC, USA	Surface Engineering - Applied Research and Industrial Applications Session G1-WeM Advances in Application Driven Research: New Methods, Materials, and Equipment for PVD, CVD, and PECVD Processes Moderators: Ladislav Bardos , Uppsala University, Sweden, Vikram Bedekar , The Timken Company, USA
8:20am	INVITED: G1-WeM-2 Passivation in a Wide Range of III-V Semiconductor Materials and Device Types, <i>Jouko Lång</i> , Comptek Solutions Oy, Finland	
8:40am		
9:00am	G1-WeM-4 AlTiN Hard Coatings with AlN Cubic Phase, <i>Joern Kohlscheen, C. Bareiss</i> , Kennametal GmbH, Germany; <i>B. Macshane, A. Roy</i> , Kennametal, Inc., USA	
9:20am	G1-WeM-5 High-Resolution Investigation of the Microstructural Features and Crystal Forms of Industrial Ti(C,N) CVD Thin Hard Coating, <i>Idriss El Azhari</i> , Saarland University, Germany; <i>J. García</i> , Sandvik Coromant R&D Materials and Processes, Sweden; <i>C. Pauly, J. Barrirero, M. Engstler, F. Soldera</i> , Saarland University, Germany; <i>L. Llanes</i> , Universitat Politècnica de Catalunya, Spain; <i>F. Mücklich</i> , Saarland University, Germany	
9:40am		
10:00am	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL	
10:20am		
10:40am		
11:00am	G4-WeM-10 Water-Repellent and Low Emissivity Coatings on Fabric Prepared by Roll-to-Roll Hollow Cathode PECVD and Magnetron Sputtering, <i>Jerome Jolibois</i> , AGC Interpane Demonstration Center, Germany; <i>G. Arnoult</i> , AGC Plasma Technology Solutions, Belgium; <i>N. Koyra</i> , AGC Interpane Demonstration Center, Germany; <i>J. Chambers</i> , AGC Plasma Technology Solutions, USA; <i>H. Weis</i> , AGC Interpane Demonstration Center, Germany; <i>H. Wiame</i> , AGC Plasma Technology Solutions, Belgium	Surface Engineering - Applied Research and Industrial Applications Session G4-WeM Hybrid Systems, Processes and Coatings Moderators: Hana Barankova , Uppsala University, Sweden, Sang-Yul Lee , Korea Aerospace University, Republic of Korea
11:20am	G4-WeM-11 Amorphous Carbon Coatings on Glass for High Voltage Protection, <i>Hana Barankova, L. Bardos</i> , Uppsala University, Sweden	
11:40am	G4-WeM-12 Plasma Pretreatment of Small Parts and Granular Materials in Bulk Vacuum Coating, <i>Heidrun Klostermann, B. Krätzschar, F. Fietzke</i> , Fraunhofer FEP, Germany	

Wednesday Morning, May 24, 2023

Room Town & Country D	
8:00am	G3-WeM-1 A Novel AlCr-Based PVD Coating Design for Threading Operation of Super Duplex Stainless Steel, Qianxi He , J. M. DePaiva, T. K. Filho, McMaster University, Canada; F. L. Amorim, R. D. Torres, Pontificia Universidade Católica do Paraná, Brazil; G. Fox-Rabinovich, S. C. Veldhuis, McMaster University, Canada
8:20am	G3-WeM-2 Property and Deposition Technology for Highly Al-Containing AlCrN Coatings by Arc Ion Plating, Ryosuke Takei , T. Takahashi, S. Kujime, Kobe Steel Ltd., Japan
8:40am	INVITED: G3-WeM-3 Challenges and Target-Oriented Paths to Maintenance-Free High-Performance Progressive Dies Using HiPIMS-Coatings, Martin Hess , Robert-Bosch-Str., 5, Germany
9:00am	
9:20am	G3-WeM-5 Oxidation and Wear Behavior of CrAlMoN with Varied Mo-content for Cutting TiAl ₆ V ₄ , K. Bobzin, C. Kalscheuer, Nina Stachowski , Surface Engineering Institute - RWTH Aachen University, Germany; W. Hintze, J. Dege, C. Möller, P. Ploog, Institute of Production Management and Technology - Hamburg University of Technology, Germany
9:40am	
10:00am	COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL
10:20am	
10:40am	
11:00am	INVITED: G3-WeM-10 The Significance and Application Area of CVD TiCN/Al ₂ O ₃ based Coatings for Today's Cutting Tools, Christoph Czettl , CERATIZIT Austria Gesellschaft m.b.H., Austria; M. Pohler, CERATIZIT Austria GmbH, Austria; N. Schalk, M. Tkadletz, Montanuniversität Leoben, Austria; F. Konstantiniuk, Christian Doppler Laboratory for Advanced Coated Cutting Tools at the Department of Materials Science, Montanuniversität Leoben, Austria
11:20am	
11:40am	G3-WeM-12 Indentation and Sliding Contact Testing of Three Laser-textured and PVD-coated Cemented Carbide Tools, Shiqi Fang , Saarland University, Germany; C. Colominas, Flubetech, S.L., Spain; C. Pauly, Saarland University, Germany; N. Salán, L. Llanes, Universitat Politècnica de Catalunya, Spain

Surface Engineering - Applied Research and Industrial Applications
Session G3-WeM
Innovative Surface Engineering for Advanced Cutting and Forming Tool Applications
Moderators:
Markus Esselbach, Oerlikon Luxembourg,
Christoph Schiffers, CemeCon AG, Germany

Wednesday Afternoon, May 24, 2023

Special Interest Talks
Room Town & Country A - Session SIT3-WeSIT
Special Interest Session III
Moderator:
Jyh-Wei Lee, Ming Chi University of Technology, Taiwan

1:00pm

INVITED: SIT3-WeSIT-1 Thin Film Sputtering
Technologies Enabling Manufacturing of Functional
Devices for Smart Society,
Koukou Suu, ULVAC, Inc., USA

1:20pm

Wednesday Afternoon, May 24, 2023

Functional Thin Films and Surfaces Room Pacific C - Session C1-2-WeA Optical Materials and Thin Films II Moderators: Silvia Schwyn-Theony, Evatec AG, Switzerland, Juan Antonio Zapien, City University of Hong Kong		Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B8-1-WeA HiPIMS, Pulsed Plasmas and Energetic Deposition I Moderators: Tiberiu Minea, Université Paris-Saclay, France, Martin Rudolph, Leibniz Inst. of Surface Eng. (IOM), Germany
2:00pm		INVITED: B8-1-WeA-1 Impact of Selective Acceleration of High-mass Ions - Low Temperature Growth of Stress-free Single Phase α -W Films, Tetsuhide Shimizu , Tokyo Metropolitan University, Japan; H. Du , Guizhou University, China; R. Boyd, R. Viloan, D. Lundin , Linköping University, IFM, Sweden; M. Yang , Tokyo Metropolitan University, Japan; U. Helmersson , Linköping University, IFM, Sweden
2:20pm		
2:40pm	C1-2-WeA-3 Studies on Sulfur Induced Binary Targets for the Formation of $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) Absorber Layer Thin Films for the Fabrication of SLG/Mo/CZTS/CdS/GZO/Al Thin Film Solar Cells, Balaji Gururajan , Yuan Ze University, Taiwan; B. Rangasamy, P. Sankaran , PSG College of Technology, India; L. Wei-Sheng , Yuan Ze University, Taiwan; D. McIlroy , Oklahoma State University, USA; E. Echeverria , The Center for Bright Beams, Cornell University, USA; S. Kaliappan , PSG College of Technology, India; D. Velauthapillai , Western Norway University of Applied Sciences, Norway	B8-1-WeA-3 Modeling of High Power Impulse Magnetron Sputtering Discharges with Tungsten Target, Swetha Suresh Babu , University of Iceland; M. Rudolph , Leibniz Institute of Surface Engineering (IOM), Germany; D. Lundin , Linköping University, Sweden; T. Shimizu , Tokyo Metropolitan University, Japan; J. Fischer , Linköping University, Sweden; J. Bradley , University of Liverpool, UK; J. Gudmundsson , University of Iceland
3:00pm	C1-2-WeA-4 Hysteresises on Voltage-Current Characteristics and Optical Responses of PEDOT:PSS/ZnO Nanorods/ZnO:Ga Heterojunctions, Tomoaki Terasako , Graduate School of Science and Engineering, Ehime University, Japan; M. Yagi , National Institute of Technology, Kagawa College, Japan; T. Yamaoto , Materials Design Center, Research Institute, Kochi University of Technology, Japan	B8-1-WeA-4 Combinatorial Deposition of Highly Oriented AlScN Films Using Synchronized-HiPIMS for Piezoelectric Applications, Jyotish Patidar , S. Zhuk, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; A. Sharma , Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; M. Ghosh, A. Wiczorek, K. Thorwarth, S. Siol , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
3:20pm	C1-2-WeA-5 Effective Ways to Enhance the Performance of n-MoS ₂ /p-CuO Heterojunction Based Self-Powered Photodetectors, KRISHAN KUMAR, D. Kaur , Indian Institute of Technology Roorkee, India	B8-1-WeA-5 Fabrication of TiZrNbTaFeBN Coatings Using Superimposed HiPIMS-MF Systems: Mechanical and Chemical Properties Evaluation, Igamcha Moirangthem, S. Chen, C. Wang , National Taiwan University of Science and Technology, Taiwan; B. Lou , Chang Gung University, Taiwan; J. Lee , Ming Chi University of Technology, Taiwan
3:40pm	C1-2-WeA-6 Femtosecond Laser Ablation (FESLA) XPS – A Novel XPS Depth Profiling Technique for Optical/Electrical Thin Films and Multi-Layered Structures, Mark Baker, S. Bacon, S. Sweeney , University of Surrey, UK; A. Bushell, T. Nunney, R. White , Thermo Fisher Scientific, UK	B8-1-WeA-6 Effect of Synchronous Bias Mode with Different Duty Cycles on Microstructure and Mechanical Properties of AlTiN Coatings Deposited by HiPIMS Process, J. Tang , Department of Electronic Engineering, Loughwa University of Science and Technology, Germany; S. Huang, I-Hong Chen, G. Shen , Department of Materials Engineering, Ming Chi University of Technology, Germany; C. Chang , Department of Materials Engineering, Center for Plasma and Thin Film Technologies, Ming Chi University, Germany
4:00pm	C1-2-WeA-7 2-Dimensional Growth of GaS _x Crystal by Low-Pressure Vapor Phase Deposition, Yijia Chen , National Dong Hwa University, Taiwan; C. Huang , National Dong Hwa University, Taiwan	B8-1-WeA-7 Bipolar HiPIMS: A New Route to Deposit Advanced Coatings on 3D Complex Geometries, IVAN FERNANDEZ, J. SANTIAGO-VARELA, P. DIAZ-RODRIGUEZ , NANO4ENERGY SLNE, Spain; L. MENDIZABAL, C. ZUBIZARRETA , IK4 TEKNIKER, Spain
4:20pm		B8-1-WeA-8 On the Control of the Composition of NbC Films Deposited by HiPIMS from a Compound Target: Plasma Diagnostics, Tomáš Kozák, M. Farahani, A. Pajdarová , University of West Bohemia, Czechia; A. Bahr, R. Hahn, H. Riedl , TU Wien, Austria; P. Zeman , University of West Bohemia, Czechia

Wednesday Afternoon, May 24, 2023

	New Horizons in Coatings and Thin Films Room Pacific E - Session F4-1-WeA Boron-Containing Coatings I Moderators: Marcus Hans, RWTH Aachen University, Germany, Helmut Riedl , TU Wien, Institute of Materials Science and Technology, Austria, Johanna Rosén , Linköping University, Sweden	Surface Engineering - Applied Research and Industrial Applications Room Pacific D - Session G2-WeA Surface Modification of Components in Automotive, Aerospace and Manufacturing Applications Moderator: Jan-Ole Achenbach , KCS Europe GmbH, Germany
2:00pm	F4-1-WeA-1 Improving the Oxidation Resistance of TiB ₂ Coatings by TM-silicide Alloying (TM = Ti, Ta, Mo), Ahmed Bahr^A , O. Beck, T. Glechner, A. Grimmer, T. Wojcik, P. Kutrowatz, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; J. Ramm, O. Hunold, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; S. Kolozsvári, P. Polcik, Plansee Composite Materials GmbH, Germany; E. Ntemou, D. Primetzhofer, Department of Physics and Astronomy, Uppsala University, Sweden; H. Riedl, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria	G2-WeA-1 Effect of Different Diffusion Treatments on the Surface Properties of Austenitic Stainless Steels, Phillip Marvin Reinders , P. Kaestner, G. Bräuer, Technische Universität Braunschweig, Germany
2:20pm	INVITED: F4-1-WeA-2 Quaternary CrTaBN: Experimental and Theoretical Insights Into a Novel Coating Material with Promising Mechanical Properties and Exceptional Thermal Stability, Christina Kainz , Christian Doppler Laboratory for Advanced Coated Cutting Tools at the Department of Materials Science, Montanuniversität Leoben, Austria; M. Tkadletz, Department of Materials Science, Montanuniversität Leoben, Austria; L. Patterer, D. Bogdanovski, Materials Chemistry, RWTH Aachen University, Germany; H. Krüger, Institute of Mineralogy and Petrography, University of Innsbruck, Austria; A. Stark, N. Schell, Institute of Materials Physics, Helmholtz-Zentrum Hereon, Germany; I. Letofsky-Papst, Institute for Electron Microscopy and Nanoanalysis and Center for Electron Microscopy, Austria; M. Pohler, C. Czettl, Ceratizit Austria GmbH, Austria; J. Schneider, Materials Chemistry, RWTH Aachen University, Germany; C. Mitterer, Department of Materials Science, Montanuniversität Leoben, Austria; N. Schalk, Christian Doppler Laboratory for Advanced Coated Cutting Tools at the Department of Materials Science, Austria	G2-WeA-2 Plasma Electrolytic Oxidation (PEO) for Production of High-Performance Coatings on Ti-Al Intermetallic Compounds, Khaldon Munassar , B. Mingo, A. Yerokhin, University of Manchester, UK
2:40pm		INVITED: G2-WeA-3 Fine-Tuning of PVD Conditions for Tools Used in Automotive and Manufacturing Applications, Miha Cekada , A. Drnovsek, M. Drobnic, M. Panjan, P. Panjan, Jozef Stefan Institute, Slovenia
3:00pm	F4-1-WeA-4 Transition Metal Diboride Superlattices: Combination of <i>Ab Initio</i> and Experimental Approach for Investigation of Ceramic Thin Films with Improved Ductility and Fracture Toughness, Tomáš Fiantok , Comenius University, Slovakia; N. Koutná, Linköping University, IFM, Sweden; V. Šroba, Comenius University, Slovakia; M. Meindlhuber, Austrian Academy of Sciences, Austria; T. Roch, M. Truchlý, M. Vidiš, L. Satrapinskyy, M. Gocník, Comenius University, Slovakia; D. G. Sangiovanni, Linköping University, IFM, Sweden; M. Mikula, Comenius University, Slovakia	
3:20pm	F4-1-WeA-5 Tissue Phase Affected Fracture Toughness of Nano-Columnar TiB ₂₊₂ Thin Films, Anna Hirle , C. Fuger, R. Hahn, T. Wojcik, P. Kutrowatz, Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Austria; M. Weiss, Institute of Chemical Technologies and Analytics, TU Wien, A-1060 Vienna, Austria; O. Hunold, Oerlikon Balzers, Oerlikon Surface Solutions AG, 9496 Balzers, Liechtenstein; P. Polcik, Plansee Composite Materials GmbH, D-86983 Lechbruck am See, Germany; H. Riedl, Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Austria	G2-WeA-5 Development of Al ₂ O ₃ -B ₂ O ₃ -SiO ₂ Glass for Space Shuttle Coating, Jun-Yan Qiu , Y. Lee, C. You, G. Hung, Ming Chi University of Technology, Taiwan; R. Montecillo, Ming Chi University of Technology, Taiwan, Philippines; P. Chen, C. Tu, K. Feng, Ming Chi University of Technology, Taiwan
3:40pm	INVITED: F4-1-WeA-6 Characterization of Ti-Al-La-B-N Hard Coating and Cutting Tool Application, Shin Takayama , T. Ishigaki, M. Takahashi, Mitsubishi Materials Corporation, Japan	G2-WeA-6 Analysis of the Temperature Variation of Bizarre Thermal Barrier Coatings and Their Impacts on Engine, Thirunavukkarasu Raja , P.S.V College of Engineering and Technology, India; P. Sivanandi, Government College of Technology, Coimbatore, India; S. Dhandabani, V. Murugan, Sri Ramakrishna Institute of Technology, India
4:00pm		G2-WeA-7 Novel High-Entropy Alloy Powders and Their Thermal-Sprayed Coatings for High-Temperature Applications, Shih-Hsun Chen , NTUST, Taiwan
4:20pm	F4-1-WeA-8 Mechanical Properties and Thermal Stability of ZrBSiTaN Films, Kuo-Hong Yeh , National Taiwan Ocean University, Taiwan; L. Chang, Ming Chi University of Technology, Taiwan; Y. Chen, National Taiwan Ocean University, Taiwan	G2-WeA-8 A Facile Fluoride Sealing Treatment to Improve Corrosion Resistance of Magnetism Alloy (AZ31B) Micro-arc Oxidation Layer, C. Lee, National Defense University, Republic of China; J. Lee, Lung Hwa University of Science and Technology, Taiwan; S. Jian, Ming Chi University of Technology, Taiwan; Ming-Der Ger , National Defense University, Republic of China
4:40pm	F4-1-WeA-9 Effect of Current Density on the Pulsed-DC Powder-Pack Boriding Process (PDCPB), Jorge Luis Rosales-Lopez , I. Campos-Silva, E. Hernández-Ramírez, F. Espino-Cortés, Instituto Politécnico Nacional, Mexico; A. Contreras-Hernández, Tecnológico Nacional de México; M. Keddad, Département de Sciences des Matériaux, Algeria	G2-WeA-9 Laser Shock Peening for Enhanced Surface Properties of Austempered Ductile Iron, Ann Zammit , P. Subramaniyan, G. Cassar, P. Mollicone, University of Malta; D. Glaser, Nelson Mandela University, South Africa; P. Shukla, The Manufacturing Technology Centre, UK; R. Michalczewski, Lukaszewicz Research Network - Institute for Sustainable Technologies, Poland
5:00pm		G2-WeA-10 Evolution of Microstructure And Composition of Superalloy Haynes 282 by Pulse Laser System, Yan-Zhi Chen , National Tsing Hua University, Taiwan
5:20pm		G2-WeA-11 Chemical Vapor Infiltration Technology for Coatings of Fibers and 3D Porous Bodies, Dennis Zywitzki , H. Strakov, IHI Bernex AG, Switzerland

Wednesday Afternoon, May 24, 2023

Topical Symposia Room Town & Country B - Session TS3-WeA Processes of Materials for Printed and Flexible Film Technologies Moderators: Panos Patsalas , Aristotle University of Thessaloniki, Greece, Demosthenes Koutsogeorgis , Nottingham Trent University, UK		
2:00pm	INVITED: TS3-WeA-1 Upscalable Nanomanufacturing of Thin-Film Electronics, Thomas Anthopoulos , King Abdullah University of Science and Technology (KAUST), Division of Physical Sciences and Engineering, Saudi Arabia	
2:20pm		
2:40pm	TS3-WeA-3 Plasma Technologies for Sustainable Packaging Materials, Glen West , Manchester Metropolitan University, U.K.; T. Cosnahan , C. Struller , N. Copeland , Bobst Manchester Ltd., UK; P. Kelly , Manchester Metropolitan University, U.K.	
3:00pm	TS3-WeA-4 Oxide-Based Nanostructured Thin Film Electrodes for High Performance Flexible Asymmetric Supercapacitor Application, M. Sharma , R. Adalati , Ramesh Chandra , Indian Institute of Technology Roorkee, India	
3:20pm	TS3-WeA-5 Fully Inkjet-Printed Gas Sensing Antenna Based on Carbon Nanotubes for Wireless Communication Applications, Hsuan-Ling Kao , Chang Gung University, Taiwan; L. Chang , Ming Chi University of Technology, Taiwan; Y. Tsai , Chang Gung University, Taiwan	
3:40pm	TS3-WeA-6 Characterization and Evaluation of PVD-Coatings on Bipolar Plates for PEMFC, Julian Kapp , V. Lukasek , V. Mackert , J. Wartmann , H. Hoster , ZBT Zentrum für BrennstoffzellenTechnik GmbH, Germany; R. Cremer , P. Jaschinski , KCS Europe GmbH, Germany	
4:00pm	INVITED: TS3-WeA-7 Towards Large Area Scalable Organic Solar Cells using Solution Processing, S. Ravi P. Silva , Advanced Technology Institute, University of Surrey, UK	
4:20pm		
4:40pm	TS3-WeA-9 Transition Metal Nitride Colloids: From PVD Targets to Laser-Ablated Nanoparticles, N. Pliatsikas , S. Panos , I. Fekas , S. Kassavetis , Panos Patsalas , Aristotle University of Thessaloniki, Greece	

Wednesday Afternoon, May 24, 2023

Awards Ceremony and Honorary Lecture
Room Town & Country A - Session HL-WeHL
Bunshah Award Honorary Lecture
Moderator:
Ivan G. Petrov, University of Illinois at Urbana-Champaign, USA

5:45pm

6:05pm

INVITED: HL-WeHL-2 R.F. Bunshah Award and ICMCTF Lecture Invited Talk: What TEM, XRD, STM, AFM, HIM, LEED, 3DATP, DSC, Nanoindentation, DFT, and MD Tell You About Functional Nanostructured Ceramics,
Lars Hultman¹, Linköping University, Sweden

6:25pm

¹ R.F. Bunshah Awardee

Thursday Morning, May 25, 2023

Functional Thin Films and Surfaces Room Pacific D - Session C3-1-ThM Thin Films and Novel Surfaces for Energy I Moderators: Clio Azina , RWTH Aachen University, Germany, Carlos Tavares , University of Minho, Portugal		Hard Coatings and Vapor Deposition Technologies Room Town & Country C - Session B1-1-ThM PVD Coatings and Technologies I Moderators: Christian Kalscheuer , RWTH Aachen University, Germany, Vladimir Pankov , National Research Council of Canada
8:00am		INVITED: B1-1-ThM-1 New Challenges and Opportunities for PVD Coatings in Metal Cutting Applications, Aharon Insektor , Carnegie Mellon University, USA
8:20am		
8:40am	INVITED: C3-1-ThM-3 Tailoring Surface Reactivity of Perovskite Oxides for Water Oxidation, Kelsey Stoerzinger , Oregon State University, USA	B1-1-ThM-3 Custom-Fit Hipims Coatings for Cutting Tools Used in a Wide Variety of Machining Applications, Stephan Bolz , B. Mesic , O. Lemmer , W. Kölker , C. Schiffers , CemeCon AG, Germany
9:00am		B1-1-ThM-4 Film Growth Control at Cutting Edges to Overcome Edge Rounding, Otmar Zimmer , T. Litterst , Fraunhofer Institute for Material and Beam Technology (IWS), Germany; T. Kruelle , Technical University Dresden, Germany
9:20am	C3-1-ThM-5 The Influence of Sb Doping on the Local Structure and Disorder in Thermoelectric ZnO:Sb Thin Films, J. Ribeiro , F. Rodrigues , F. Correia , University of Minho, Portugal; A. Kuzmin , University of Latvia; E. Alves , N. Barradas , University of Lisbon, Portugal; O. Bondarchuk , International Iberian Nanotechnology Laboratory, Portugal; A. Welle , Karlsruhe Institute of Technology (KIT), Portugal; Carlos Jose Tavares , University of Minho, Portugal	B1-1-ThM-5 Computational Tool for Analyzing Stress in Thin Films, Eric Chason , T. Su , Z. Rao , Brown University, USA
9:40am	C3-1-ThM-6 An Economic Experimental Approach to Optimize the Microstructure and Thermoelectric Performance of ZnSe Thin Films, Khalid Mahmood , Department Of Physics, Government College University Faisalabad, Pakistan	B1-1-ThM-6 Effect of CrAlN Coating Properties on Impact Fatigue of Tool Steel, K. Bobzin , C. Kalscheuer , M. Carlet , Muhammad Tayyab , Surface Engineering Institute - RWTH Aachen University, Germany
10:00am	INVITED: C3-1-ThM-7 Designing Thin Film for Li-Solid State Batteries, Haemin Paik , MIT, USA; J. Rupp , Technical University Munich, Germany	B1-1-ThM-7 Toward Energy-efficient Physical Vapor Deposition: Routes Fordensification of $(\text{Ti}_{1-x}\text{Al}_x)_{1-x}\text{W}_x\text{N}$ Thin Films Grown with no External Heating, Xiao Li , A. Pshyk , B. Bakht , Linköping Univ., IFM, Thin Film Physics Div., Sweden; M. Johansson Jösaar , J. Andersson , SECO Tools AB, Sweden; I. Petrov , University of Illinois at Urbana, USA; L. Hultman , G. Greczynski , Linköping Univ., IFM, Thin Film Physics Div., Sweden
10:20am		B1-1-ThM-8 Effects of Nitrogen Contents on the Microstructure and Corrosion Resistant Evaluation of ZrTiNbSiFeN _x High Entropy Alloy Coatings, Chen Wei-Yang , K. Yu-Lin , National Taiwan University of Science and Technology, Taiwan; L. Bih-Show , Chang Gung University, Taiwan; L. Jyh-Wei , Ming Chi University of Technology, Taiwan
10:40am	C3-1-ThM-9 Hydrothermal-Based Synthesis of Piezo-Composite Thin Films and Their Applications, Thi Nghi Nhan Nguyen , K. Chang , National Cheng Kung University, Taiwan	B1-1-ThM-9 Development of a Multilayer Ti/TiN/TiAlN/ReN Coating System and Evaluation of their Microstructural, Mechanical and Tribological Properties, Hernán Darío Mejía Vásquez , G. Bejarano Gaitán , University of Antioquia, Colombia
11:00am	C3-1-ThM-10 A Comparative Study of the Thermochromic Performances of VO ₂ Films Obtained by Air Oxidation of V and VN Precursors, David Pilloud , A. Garcia-Wong , F. Capon , J. Pierson , Institut Jean Lamour - Université de Lorraine, France	B1-1-ThM-10 High-Power-Density Sputtering of Industrial-Scale Targets: Micromechanical Case Study of Al-Cr-N, Fedor F. Klimashin , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; A. Lümkmann , PLATIT AG, Switzerland; J. Kluson , M. Ucik , M. Jilek , PLATIT a.s., Czechia; J. Michler , T. Edwards , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland
11:20am		B1-1-ThM-11 Triboactive CrAlN+XS Coatings Deposited by Pulsed Arc PVD, K. Bobzin , C. Kalscheuer , Max Philip Möbius , Surface Engineering Institute - RWTH Aachen University, Germany
11:40am		B1-1-ThM-12 Mechanical and Electrochemical Properties of AlCrN/FexN Coating Deposited onto AISI 4140 Steel, Omar Ramirez-Reyna , National Polytechnic Institute, Mexico; J. Pérez-Álvarez , University of Guadalajara, Mexico; G. Rodríguez-Castro , National Polytechnic Insitute, Mexico; C. Rivera-Tello , University of Guadalajara, Mexico; A. Meneses-Amador , National Polytechnic Institute, Mexico
12:00pm		B1-1-ThM-13 Mechanical and Electrochemical Properties for SiC _x N _y Coating as a Function of Nitrogen Content, L. Chang , Pin-Feng Huang , B. Chen , S. Tsai , Ming Chi University of Technology, Taiwan

Thursday Morning, May 25, 2023

Hard Coatings and Vapor Deposition Technologies Room Pacific C - Session B5-ThM Hard and Multifunctional Nanostructured Coatings Moderators: Rainer Hahn, TU Wien, Institute of Materials Science and Technology, Austria, Tomas Kozak, University of West Bohemia, Czechia		Hard Coatings and Vapor Deposition Technologies Room Town & Country D - Session B8-2-ThM HIPIMS, Pulsed Plasmas and Energetic Deposition II Moderators: Tiberiu Minea, Université Paris-Saclay, France, Martin Rudolph, Leibniz Inst. of Surface Eng. (IOM), Germany
8:00am		
8:20am	B5-ThM-2 Development of TiB ₂ Coatings in a New Generation Industrial Reactor Based on Hybrid DC-Pulsed and HIPIMS Magnetron Sputtering on HSS Steels – A Tribological Study, Gonzalo Garcia Fuentes, J. Fernández, J. Fernández-Palacio , AIN, Spain; H. Gabriel , PVT Vakuum Technik, Germany	
8:40am	B5-ThM-3 Effect of Ion Density Flux Ratio on Properties of Protective Hard (Ti,V)B ₂ Coatings Sputtered by Cylindrical Magnetron, Daniel Karpinski, P. Karvankova, C. Krieg , Platin AG, Switzerland; J. Kluson , Platin a.s., Czechia; B. Torp , Platin Inc., USA; A. Lümkmann , Platin AG, Switzerland	
9:00am	INVITED: B5-ThM-4 High-Temperature Properties of Multicomponent Nitride Coatings Deposited by PVD, Yuxiang Xu , Guangdong University of Technology, China	B8-2-ThM-4 Ion Beam Sputter Deposition of Epitaxial Ga ₂ O ₃ Thin Films, Dmitry Kalanov, Y. Unutulmazsoy, J. Gerlach, A. Lotnyk, A. Anders, C. Bundesmann , Leibniz Institute of Surface Engineering (IOM), Germany
9:20am		B8-2-ThM-5 Self-Sputtering Identification in Helium HIPIMS Discharge with Molybdenum Target, Abderzak el-Farsy, E. Mmorel , Laboratoire de Physique des Gaz et des Plasmas, France; Y. Yoann Rozier , SuperGrid Institute, Villeurbanne, France; T. Minea , Laboratoire de Physique des Gaz et des Plasmas, France
9:40am	B5-ThM-6 Microstructure and Mechanical Properties of Ta-Al-B Coatings, Chun Hu, S. Lin , TU Wien, Institute of Materials Science and Technology, Austria; P. Pöllmann, S. Mráz, J. Schneider , RWTH Aachen University, Germany; N. Koutná, P. Mayrhofer , TU Wien, Institute of Materials Science and Technology, Austria	B8-2-ThM-6 On Working Gas Rarefaction in High Power Impulse Magnetron Sputtering, Kateryna Barynova, S. Suresh Babu , University of Iceland; M. Rudolph , Leibniz Institute of Surface Engineering (IOM), Germany; J. Gudmundsson , University of Iceland
10:00am	B5-ThM-7 The Effect of Water Uptake on the Mechanical Behavior of Hybrid Thin Films Fabricated by Sequential Infiltration Synthesis, Shachar Keren , Technion-Israel Institute of Technology, Israel; C. Bukowski, M. Kim, A. Crosby , University of Massachusetts, Amherst, USA; N. Cohen, T. Segal-Peretz , Technion-Israel Institute of Technology, Israel	INVITED: B8-2-ThM-7 Spokes in HIPIMS: Help or Hindrance?, Julian Held , University of Minnesota, USA; P. Maaß, M. George, W. Breilmann, S. Thiemann-Monjé, V. Schulz-von der Gathen, A. von Keudell , Ruhr University Bochum, Germany
10:20am	INVITED: B5-ThM-8 Nanoporous/Nanocomposite Thin Films by Magnetron Sputtering Deposition in Helium and Other Light Gases: New Materials and Applications, Asunción Fernández , Instituto de Ciencia de Materiales de Sevilla (CSIC-US), Spain	
10:40am		B8-2-ThM-9 Effect of Plasma Nitriding Pretreatment on the Mechanical and Wear Properties of Tungsten Carbide Substrate, and AlCrN Coating Deposited by High-Power Impulse Magnetron Sputtering, F. Yang , Department of Mechanical Engineering, National Taiwan University of Science and Technology, and Center for Plasma and Thin Film Technologies, Ming Chi University of Technology, Taiwan; T. Liu, Guan-Lun Shen, I. Chen , Department of Materials Engineering, Ming Chi University of Technology, Taiwan; Y. Kuo , Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan; C. Chang , Department of Materials Engineering, Ming Chi University of Technology, and Center for Plasma and Thin Film Technologies, Ming Chi University of Technology, Taiwan
11:00am	B5-ThM-10 Mechanical Properties of Epitaxial TiN(001)-TiC(001) Superlattices, Moishe Azoff-Slifstein , Rensselaer Polytechnic Institute, USA; S. Lee , University of Connecticut, USA; D. Gall , Rensselaer Polytechnic Institute, USA	B8-2-ThM-10 Highly Ionized Pulse Sputtering of Seed Layers for Through Silicon Vias, Juergen Weichart , Evatec AG, Switzerland
11:20am	B5-ThM-11 Tensile and Compressive Stress in Sputtered Cu/W Nanomultilayers: Correlation with Microstructure, Thermal Stability, and Thermal Conductivity, Giacomo Lorenzin , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; M. bin Hoque , University of Virginia, USA; D. Ariosa , Universidad de la Republica, Montevideo, Uruguay; L. Jeurgens , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; E. Hoglund, J. Tomko, P. Hopkins , University of Virginia, USA; C. Cancellieri , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland	B8-2-ThM-11 Deposition Environment and Microstructure of Transition Metal Nitride Thin Films Deposited at CMOS-Compatible Temperatures for Tunable Optoelectronic and Plasmonic Devices, Arutun P. Eghasarian , Sheffield Hallam University, UK; R. Bower , Imperial College London, UK; D. Loch , Sheffield Hallam University, UK; A. Berenov, B. Zou , Imperial College London, UK; P. Hovsepian , Sheffield Hallam University, UK; P. Petrov , Imperial College London, UK
11:40am	B5-ThM-12 Investigation of Thermal Properties of PECVD Ti-Si-C-N Nanocomposite Coatings, Alexander Thewes, L. Broecker , IOT TU Braunschweig, Germany; H. Paschke, T. Brueckner , Fraunhofer Institute for Surface Engineering and Thin Films IST, Germany; C. Sternemann, M. Paulus , DELTA TU Dortmund, Germany	B8-2-ThM-12 On the Connection between the Self-Sputter Yield and Deposition Rate in High Power Impulse Magnetron Sputtering Operation, Jon Tomas Gudmundsson , University of Iceland; M. Rudolph , Leibniz Institute of Surface Engineering (IOM), Germany; K. Barynova , University of Iceland; J. Fischer , Linköping University, Sweden; S. Suresh Babu , University of Iceland; N. Brenning, M. Raadu , KTH Royal Institute of Technology, Sweden; D. Lundin , Linköping University, Sweden; H. Hajihoseini , University of Twente, Netherlands

Thursday Morning, May 25, 2023

New Horizons in Coatings and Thin Films Room Pacific E - Session F4-2-ThM Boron-Containing Coatings II Moderators: Marcus Hans , RWTH Aachen University, Germany, Helmut Riedl , TU Wien, Institute of Materials Science and Technology, Austria, Johanna Rosén , Linköping University, Sweden		Tribology and Mechanical Behavior of Coatings and Engineered Surfaces Room Town & Country B - Session E2-1-ThM Mechanical Properties and Adhesion I Moderators: Jazmin Duarte , MPI für Eisenforschung GMBH, Germany, Alice Lassnig , Austrian Academy of Sciences, Austria, Bo-Shiuan Li , National Sun-Yat Sen University, Taiwan
8:00am		INVITED: E2-1-ThM-1 Residual Stress and Interfaces in Optical Coatings for Space Applications, Chelsea Appleget , K. Folgner, V. Jiao, S. Dunscombe, S. Sitzman, The Aerospace Corporation, USA; D. White, A. Hodge, University of Southern California, USA; J. Barrie, The Aerospace Corporation, USA
8:20am		
8:40am	INVITED: F4-2-ThM-3 Ternary Tungsten Boride Coatings with Improved Mechanical Properties Deposited by High-Power Pulsed Magnetron Sputtering from One Spark Plasma Sintered Target, Tomasz Mościcki , Institute of Fundamental Technological Research of Polish Academy of Science, Poland; R. Psiuk , Institute of Fundamental Technological Research of Polish Academy of Science, Pawinskiego 5b St., 02-106 Warsaw, Poland; J. Chrzanowska-Gizynska , Institute of Fundamental Technological Research of Polish Academy of Science, Poland; D. Garbiec , Łukasiewicz Research Network – Poznań Institute of Technology, Poland	E2-1-ThM-3 Increased Adhesion of Mo Films on Polyimide Through Interface Modification, Megan Cordill , P. Kreiml, Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Austria; M. Rausch , C. Mitterer, Dept. of Materials Science, Montanuniversität Leoben, Austria
9:00am		E2-1-ThM-4 Picosecond Acoustics as a Local and Quantitative Adhesion Technique, Arnaud DEVOS , A. Vital-Juarez, IEMN, France; J. Desmarres, CNES, France
9:20am	F4-2-ThM-5 The Architectural Design of High-Temperature Protective Coatings: Improving the Oxidation Resistance of TMB ₂ (TM = Hf, Ti, W) Thin Films, Sophie Richter , T. Glechner, T. Wojcik, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; B. Widrig , O. Hunold, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; S. Kolozsvári , P. Polcik, Plansee Composite Materials GmbH, Germany; J. Ramm , Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; H. Riedl , TU Wien, Institute of Materials Science and Technology, Austria	E2-1-ThM-5 Accurate Measurement of Thin Film Elastic Properties Using Thermal Loading, Claus O. W. Trost , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences & Dept. of Materials Science, Montanuniversität Leoben, 8700 Leoben, Austria; S. Zak , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Austria; M. Cordill , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences & Dept. of Materials Science, Montanuniversität Leoben, 8700 Leoben, Austria
9:40am	F4-2-ThM-6 Stoichiometry, Structure, and Mechanical Properties of Superhard Zirconium Diboride Films Prepared by the High-Power Impulse Magnetron Sputtering, Viktor Šroba , K. Viskupová, T. Roch, L. Satrapinskyy, M. Truchlý, T. Fiantok, Comenius University, Bratislava, Slovakia; Š. Nagy , Institute of Materials and Machine Mechanics SAS, Slovakia; B. Grančič , P. Kúš, M. Mikula, Comenius University, Bratislava, Slovakia	E2-1-ThM-6 Mechanical Properties and Microstructure Evaluation of HiPIMS Cu/W and Cu/Cr bilayers with Different Thickness Ratios, Tra Anh Khoa Nguyen , T. Zhang, Graduate Institute of Precision Engineering, National Chung Hsing University, Taiwan; H. Wang , H. Wu, National Chung Hsing University, Taiwan; M. Lin , Graduate Institute of Precision Engineering, National Chung Hsing University, Taiwan
10:00am	F4-2-ThM-7 Exploring Phase Evolution and its Consequences on Mechanical Properties of a Novel HfB ₂ -AlB ₂ Coating System, Samyukta Shrivastav , D. Yun, K. Canova, J. Abelson, J. Krogstad, University of Illinois at Urbana Champaign, USA	E2-1-ThM-7 Nanoengineered Thin Film Metallic Glasses with Mutual Combination of Large Yield Strength and Ductility, F. Bignoli , CNRS, France; A. Brognara , J. Best, Max-Planck Institut für Eisenforschung GmbH, Germany; P. Djemia , D. Faurie, CNRS, France; A. Li Bassi , Politecnico di Milano, Italy; G. Dehm , Max-Planck Institut für Eisenforschung GmbH, Germany; Matteo Ghidelli , CNRS, France
10:20am	INVITED: F4-2-ThM-8 Challenges and Perspectives of Wear Resistant Boron-Containing Coatings, Jose L Endrino , Nano4energy SL, Spain; J. Rao , Cranfield University, UK; T. Brzezinka , Dell Technologies, UK; A. Mendez , J. Santiago, Nano4energy SL, Spain; J. Molina , Polytechnic University of Madrid, Spain	E2-1-ThM-8 Measurements and Simulation of Mechanical Behavior of Amorphous and Crystalline Zr(-Hf)-Cu Thin-Film Alloys, Stanislav Haviar , T. Kozák, University of West Bohemia, Czechia; M. Meindlhumer , Montanuniversität Leoben, Austria; M. Zitek , University of West Bohemia, Czechia; J. Keckes , Erich Schmid Institute of Materials Science, Austria; P. Zeman , University of West Bohemia, Czechia
10:40am		E2-1-ThM-9 A Nanotwinned CoCrFeNi Medium Entropy Alloy with Ultrahigh Strength Over a Wide Range of Temperature, Yun-Xuan Lin , J. Wang, C. Tsai, S. Chang, F. Ouyang, National Tsing Hua University, Taiwan
11:00am		INVITED: E2-1-ThM-10 Material Properties and Mechanics of Eggshells—Nature’s Survival Capsules, Jia-Yang Juang , National Taiwan University, Taiwan
11:20am		

Thursday Lunch, May 25, 2023

Focused Topic Session Room Town & Country C - Session FTS-ThL Focused Topic Session		
12:20pm	FTS-ThL-1 How to Publish in a Scientific Journal, <i>Dutta Biswanath</i> , Elsevier, USA	
12:40pm		
1:00pm		

Thursday Afternoon, May 25, 2023

Functional Thin Films and Surfaces Room Pacific C - Session C2-1-ThA Thin Films for Electronic Devices I Moderators: Julien Keraudy, Oerlikon Balzers, Oerlikon Surface Solution AG, Liechtenstein, Jörg Patscheider, Evatec AG, Switzerland		Hard Coatings and Vapor Deposition Technologies Room Town & Country C - Session B1-2-ThA PVD Coatings and Technologies II Moderators: Christian Kalscheuer, RWTH Aachen University, Germany, Vladimir Pankov, National Research Council of Canada
1:20pm	INVITED: C2-1-ThA-1 An Imperfect High k Dielectric (O Vacancies, Contamination) Can Give a Perfect MIM Device, Christophe Vallee, N. Tokranova, K. Beckmann , SUNY College of Nanoscale Science and Engineering, USA; N. Cady , SUNY college of Nanoscale Science and Engineering, USA	B1-2-ThA-1 Contemporary Trends in the Decorative Coatings, Ivan Kolev, A. Fuchs, P. Immich, H. Vercoulen, D. Barnholt , IHI Hauzer Techno Coating B.V., Netherlands
1:40pm		B1-2-ThA-2 Metallic Chromium Coatings with Different Thicknesses on Polycarbonate Surface, Filipa Ponte, P. Sharma, N. Figueiredo, S. Carvalho , CEMMPRE, Department of Mechanical Engineering, University of Coimbra, Coimbra, Portugal
2:00pm	C2-1-ThA-3 Optoelectronic and Thermoelectric Properties of New Heterobilayers of Janus-Type Noble-Metal Chalcogenides Materials, Mourad Boujnah , CINVESTAV-Unidad Queretaro, Mexico	B1-2-ThA-3 Effect of O ₂ Addition During Magnetron Sputtering Deposition on the Growth and Chemistry of Ag Thin Films, Ramiro Zapata , Laboratoire Surface du Verre et Interfaces UMR 125 / Institut de Nanosciences de Paris UMR 7588, France; R. Lazzari , Institut des Nanosciences de Paris UMR 7588, France; H. Montigaud, M. Balestrieri, I. Gozhyk , Laboratoire Surface du Verre et Interfaces UMR 125, France
2:20pm	C2-1-ThA-4 High-Entropy Ba(Ti,Zr,Ta,Hf,Mo)(on) ₃ Gate Dielectric Films for Zn-Channel Thin Film Transistors, Van Dung Nguyen , Department of Materials Science and Engineering, National Cheng Kung University (NCKU), Taiwan, Viet Nam; K. Chang , Department of Materials Science and Engineering, National Cheng Kung University (NCKU), Taiwan	B1-2-ThA-4 Cromatipic®: Additional Functionality with an Industrial Coating Solution, Chinmay Trivedi, P. Immich, E. Cabeo , IHI Hauzer Techno Coating BV, Netherlands
2:40pm	C2-1-ThA-5 Hydrothermal Fabrication of The Heterojunction of BaTiO ₃ Nanorod Arrays with Ag ₂ O and their Applications, Yen-Lun Chiu, K. Chang , National Cheng Kung University (NCKU), Taiwan	B1-2-ThA-5 Enhanced Adhesion and Thermal Stability of Thick (Al,Cr) ₂ O ₃ Coatings on Hot Work Steel, K. Bobzin, C. Kalscheuer, Parisa Hassanzadegan Aghdam , RWTH Aachen University, Germany
3:00pm	C2-1-ThA-6 The Investigation of Electro-Optical Properties of Hybrid Organic-Inorganic Thin Films, Tomasz Tański , Department of Engineering Materials and Biomaterials, Faculty of Mechanical Engineering, Silesian University of Technology, Poland	B1-2-ThA-6 Combinatorial Synthesis of Novel Compositionally, Mechanically, and Structurally Heterogenous CuWCrTi Alloys with Unique Properties, Michal Zitek , Montanuniversität Leoben, Austria; E. Rossi , Università degli Studi Roma Tre, Italy; G. Konstantopoulos , National Technical University of Athens, Greece; M. Sebastiani , Università degli Studi Roma Tre, Italy; J. Keckes, R. Daniel , Montanuniversität Leoben, Austria
3:20pm	C2-1-ThA-7 Fabrication of 5g sub-6 Ghz Antennas on Polyimide Substrates Using Laser Thermo-Responsive Polymer Silver Nanocatalysts, Y. Chen, J. You , National Defense University, Republic of China; M. Youh , Ming Chi University of Technology, Taiwan, Republic of China; C. Lee, T. Chiang, Chang-Pin Chang, M. Ger , National Defense University, Republic of China	B1-2-ThA-7 Deposition Aspects of High Entropy Alloy Nitride Coatings with Arc-PVD, Tim Krülle, M. Kuczyk , TU Dresden, Germany; M. Leonhardt, O. Zimmer, J. Kaspar , Fraunhofer Institute for Material and Beam Technology (IWS), Germany; C. Leyens , TU Dresden, Germany
3:40pm	C2-1-ThA-8 Vanadium Doped Zn Nanorod Array Piezoelectric Pressure Sensor, Shu-Yu Lin, J. Huang, S. Brahma , National Cheng Kung University (NCKU), Taiwan	B1-2-ThA-8 Compositional Modulations in Coatings Synthesized by Cathodic Arc Deposition from a Multi-Element Target with Substrate Rotation, Nicholas Bandiera, S. Veldhuis , McMaster University, Canada
4:00pm	C2-1-ThA-9 Metal-Semiconductor Amorphous Boron Carbide Contacts, Vojislav Medic, N. Ianno , University of Nebraska - Lincoln, USA	B1-2-ThA-9 Modifications of Structure Tuning and Mechanical Properties on CoCrNi Medium-Entropy Alloys Films by Multiple Strengthening Mechanism, Chia-lin Li , National Taiwan University, Taiwan
4:20pm	C2-1-ThA-10 Toughening Mechanisms of Al Nanoparticles in Flexible Mo Thin Films Revealed by in-Situ Synchrotron Diffraction Experiments, Barbara Putz, T. Edwards , Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; P. Kreiml , Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria; E. Huszar, L. Pethö , Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; D. Többers , Helmholtz Zentrum Berlin, Germany; J. Michler , Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland	B1-2-ThA-10 Effect of Molybdenum Interlayer on Corrosion Resistance of Molybdenum Nitride-Coated Stainless Steel, Te-Hsin Liu, J. Huang , National Tsing Hua University, Taiwan
4:40pm		B1-2-ThA-11 Hydrothermal Corrosion Behaviors of Cr-Based Alloy and Nitride Coated Nuclear Fuel Cladding, Jung Ho Shin, S. Park , Daegu Mechatronics & Materials Institute, Republic of Korea; D. Kim, J. Park, H. Kim , Korea Atomic Energy Research Institute, Republic of Korea

Thursday Afternoon, May 25, 2023

	Hard Coatings and Vapor Deposition Technologies Room Pacific D - Session B7-ThA Plasma Surface Interactions, Diagnostics and Growth Processes Moderators: Yin-Yu Chang , National Formosa Univ., Taiwan, Arutun P. Eghisarian , Sheffield Hallam University, UK, Yolanda Aranda Gonzalvo , University of Minnesota, USA	New Horizons in Coatings and Thin Films Room Pacific E - Session F2-ThA High Entropy and Other Multi-principal-element Materials Moderators: Erik Lewin , Uppsala University, Sweden, Jean-François Pierson , IJL - Université de Lorraine, France
1:20pm	INVITED: B7-ThA-1 On (simple) Measurement of Energy and Momentum Transport Between Process Plasmas and Substrates, Holger Kersten , T. Trottenberg, M. Klette, L. Hansen, IEAP, U Kiel, Germany; F. Schlichting, IAP, U Kiel, Germany	INVITED: F2-ThA-1 Data Driven Methods Enable Rational Design of High Entropy Materials for Hydrogen Storage, Matthew Witman , V. Stavila, M. Allendorf, Sandia National Laboratories, USA
1:40pm		
2:00pm	B7-ThA-3 Chemical Stability of Sputter Deposited Silver Thin Films, Diederik Depla , Ghent University, Belgium	F2-ThA-3 Effect of Mo Content on the Corrosion and Tribocorrosion Behavior of (CoCrFeNi) _{100-x} Mo _x HEA Thin Films Deposited by HiPIMS, Alessandro Togni , R. Tinazzi, Department of Engineering "Enzo Ferrari", University of Modena and Reggio Emilia, Italy; S. Deambrosio, E. Miorin, F. Montagner, C. Mortalò, V. Zin, Institute of Condensed Matter Chemistry and Technologies for Energy, National Research Council, Italy; G. Bolelli, L. Lusvarghi, Department of Engineering "Enzo Ferrari", University of Modena and Reggio Emilia, Italy
2:20pm	B7-ThA-4 Electron Drift and Electron Property Studies in HiPIMS by Incoherent Thomson Scattering, T. Dubois, S. Tsikata, CNRS-ICARE, France; Tiberiu Minea , Université Paris-Saclay, France	F2-ThA-4 Corrosion Behavior of Sputter-Deposited CoCrNiFeAl High Entropy Alloy, A. Korra, University of Tennessee at Chattanooga, USA; H. Raji, Florida Institute of Technology, USA; Hamdy Ibrahim , University of Tennessee at Chattanooga, USA; S. Saedi, Florida Institute of Technology, USA
2:40pm	B7-ThA-5 Engineered Phase Differences between HiPIMS Power and Substrate bias for Improved Mechanical Properties of TiN and CrN, Ying-Xiang Lin , P. Liu, National Chung Hsing University, Taiwan; D. Wu, National Chinan International University, Taiwan; W. Wu, National United University, Taiwan	F2-ThA-5 Mechanical Properties of Low Density Ternary Titanium-rich Medium-entropy Alloy with Heterogeneous Structure, Che-Wei Chang , Department of Materials and Optoelectronic Science, National Sun Yat-sen University, Taiwan; P. Chen, S. Jang, Institute of Material Science and Engineering, National Central University, Taiwan; C. Chen, Department of Materials and Optoelectronic Science, National Sun Yat-sen University, Taiwan
3:00pm	B7-ThA-6 Influence of Microwave Power and Substrate Biasing on the Structure and Properties of Zinc Tin Nitride Films Deposited via Microwave Plasma-Assisted R-HiPIMS, Caroline Hain , EMPA (Swiss Federal Laboratories for Materials Science and Technology), Swiss Cluster AG, Bern University of Applied Sciences, Switzerland; K. Wiecek, D. Casari, A. Sharma, A. Xomalis, EMPA (Swiss Federal Laboratories for Materials Science and Technology), Switzerland; P. Sturm, Tofwerk AG, Switzerland; J. Michler, EMPA (Swiss Federal Laboratories for Materials Science and Technology), Switzerland; A. Hessler-Wyser, EPFL, Switzerland; T. Nelis, Bern University of Applied Sciences, Switzerland	F2-ThA-6 Charge Transfer Effects in Multicomponent Materials – Shown by Ab-Initio Calculations and X-Ray Photoelectron Spectroscopy XPS, Barbara Osinger , Uppsala University, Angstrom Laboratory, Sweden; L. Casillas-Trujillo, Linköping University, Sweden; R. Lindblad, Uppsala University, Angstrom Laboratory, Sweden; B. Alling, Linköping University, Sweden; U. Jansson, Uppsala University, Angstrom Laboratory, Sweden; I. Abrikosov, Linköping University, Sweden; E. Lewin, Uppsala University, Angstrom Laboratory, Sweden
3:20pm	B7-ThA-7 Influence of Duty Cycle on Microstructure of TaN Coatings Prepared by High-Power Pulse Magnetron Sputtering Technique, Yung-Chi Chang , National United University, Taiwan; F. Wu, National United University, Taiwan	F2-ThA-7 Toughness Estimation of High Entropy Nitride Coatings by Tensile Testing, Martin Kuczyk , T. Krülle, Technische Universität Dresden, Germany; M. Zawischa, M. Leonhardt, O. Zimmer, J. Kaspar, Fraunhofer IWS, Germany; C. Leyens, M. Zimmermann, Technische Universität Dresden, Germany
3:40pm	B7-ThA-8 Synthesis of Vanadium Dioxide and Vanadium Pentoxide Nanoparticle Films Using Magnetron-Based Gas Aggregation Source, A. Kuzminova, N. Khomiakova, J. Prokes, T. Kosutova, M. Prochazka, Ondrej Kylian , Charles University, Prague, Czech Republic	F2-ThA-8 Synthesis and Characterisation of (Gd,Hf,Sc,Ti,Zr)-Oxide Coatings, Alexander Kirnbauer , E. Peck, M. Derflinger, TU Wien, Institute of Materials Science and Technology, Austria; P. Polcik, Plansee Composite Materials GmbH, Germany; P. Mayrhofer, TU Wien, Institute of Materials Science and Technology, Austria
4:00pm	B7-ThA-9 Diagnostics with an Optically Trapped Microparticle in the Sheath of an Asymmetric CCP, Viktor Schneider , J. Schleitzer, H. Kersten, Institute of Experimental and Applied Physics, Kiel University, Germany	F2-ThA-9 Characterization and Surface Properties of Magnetron Sputtered Cr-Co-Nb-B Thin Film Metallic Glass, Pak Man Yiu , Ming Chi University of Technology, Taiwan; N. Bönninghoff, J. Chu, National Taiwan University of Science and Technology, Taiwan
4:20pm	B7-ThA-10 Investigating the Plasma Physics of Plasma-Enhanced Pulsed Laser Deposition of Photocatalytic Thin Films, Matthew Hill , University of York, UK	INVITED: F2-ThA-10 Functional Materials for Energy Applications, Susan Sinnott , Pennsylvania State University, USA
4:40pm	B7-ThA-11 Thin Film Modification in a DC Microplasma – Understanding the Importance of Ions under Atmospheric Pressure Conditions for the Plasma Surface Interaction, Luka Hansen , Institute of Experimental and Applied Physics, Kiel University, Germany; N. Kohlmann, L. Kienle, Institute of Materials Science, Kiel University, Germany; H. Kersten, Institute of Experimental and Applied Physics, Kiel University, Germany	

Thursday Afternoon, May 25, 2023

Tribology and Mechanical Behavior of Coatings and Engineered Surfaces Room Town & Country B - Session E2-2-ThA Mechanical Properties and Adhesion II Moderators: Jazmin Duarte, MPI für Eisenforschung GMBH, Germany, Alice Lassnig, Austrian Academy of Sciences, Austria, Bo-Shiuan Li, National Sun-Yat Sen University, Taiwan		
1:20pm	INVITED: E2-2-ThA-1 Scratching the Surface: Understanding Plasticity Associated with Microscale Asperity Contacts, <i>Anna Kareer</i> , University of Oxford, UK	
1:40pm		
2:00pm	E2-2-ThA-3 Effect of Al/Ti ratio and Bias on Mechanical and Tribological Properties of AlTiN Coatings, <i>Jiri Nohava</i> , Anton Paar TriTec SA, Switzerland; <i>J. Sondor</i> , LISS, a.s., Czechia	
2:20pm	E2-2-ThA-4 Effect of Nb and V Doped Elements on the Mechanical and Tribological Properties of CrYN Coatings, <i>Ihsan Efeoglu</i> , G. Gülten, B. Yaylali, Y. Totik, Atatürk University, Turkey; <i>P. Kelly</i> , <i>J. Malecka</i> , Manchester Metropolitan University, U.K.	
2:40pm	E2-2-ThA-5 Effect of Mo Interlayer on the Mechanical Properties and Tribology Behavior of Molybdenum Nitride Coatings Deposited by High Power Pulsed Magnetron Sputtering, <i>Yu-Che Fang</i> , <i>J. Huang</i> , National Tsing Hua University, Taiwan	
3:00pm	E2-2-ThA-6 Effect of Nitrogen Flow Rate on Tribological Behavior of TiN Thin Film on Ti-6Al-4V Deposited by Ion Plating Method, <i>K. Lan</i> , <i>An-Jia Chen</i> , National Tsing Hua University, Taiwan	
3:20pm	E2-2-ThA-7 Tailor the Tribological Behavior of TiN Coatings on D2 Steel by Adjusting Process Parameters during Deposition, <i>I-Sheng Ting</i> , <i>J. Huang</i> , National Tsing Hua University, Taiwan	
3:40pm	E2-2-ThA-8 Micromechanics of Hydrogen Barrier Coatings During <i>in Situ</i> Hydrogen Charging, <i>Maria Jazmin Duarte Correa</i> , <i>H. Gopalan</i> , <i>J. Rao</i> , <i>P. Patil</i> , <i>C. Scheu</i> , <i>G. Dehm</i> , Max-Planck Institut für Eisenforschung, Germany	
4:00pm	E2-2-ThA-9 Nano-Scale Mechanical Characteristics of Epitaxial Stabilization ZrTiN/NbN Superlattice Coatings, <i>Pin-Yuan Lai</i> , <i>T. Ku</i> , <i>S. Hsu</i> , <i>P. Chen</i> , <i>J. Duh</i> , National Tsing Hua University, Taiwan	

Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes

Room Golden State Ballroom - Session HP-ThP

Advanced Characterization Techniques for Coatings, Thin Films, and Small Volumes (Symposium H) Poster Session 5:00pm

HP-ThP-1 Femtosecond Laser Ablation (FESLA) XPS – A Novel XPS Depth Profiling Technique for Thin Films, Coatings and Multi-Layered Structures, *Mark Baker, S. Bacon, S. Sweeney*, University of Surrey, UK; *A. Bushell, T. Nunney, R. White*, ThermoFisher Scientific, UK

HP-ThP-2 Phase Transformation and Solid-State Dewetting of Precious Metal High Entropy Alloy Thin Films on a Sapphire Substrate, *Amit Sharma, P. Schweizer, J. Michler, X. Maeder*, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland

HP-ThP-3 *In Situ* and Real-Time Measurements in Metallic Thin Film Research and Applications: The MISSTIC Experimental Setup, *Ramiro Zapata*, Laboratoire Surface du Verre et Interfaces UMR 125 / Institut des Nanosciences de Paris UMR 7588, France; *R. Lazzari*, Institut des Nanosciences de Paris UMR 7588, France; *H. Montigaud, M. Balestrieri, I. Gozhyk*, Laboratoire Surface du Verre et Interfaces UMR 125, France

HP-ThP-4 Ultrasonic Contact Impedance Measurements at Nanometer Scale, *Jurgis Daugela*, Johns Hopkins University, USA; *A. Daugela*, Nanometronix LLC, USA

Coatings for Biomedical and Healthcare Applications

Room Golden State Ballroom - Session DP-ThP

Coatings for Biomedical and Healthcare Applications (Symposium D) Poster Session 5:00pm

DP-ThP-1 Antibacterial Properties of Ag Doped Tetrahedral Amorphous Carbon Coatings Synthesized Using Hybrid Filtered Cathodic Vacuum Arc and Magnetron Sputtering System, *Y. JANG*, Korea Aerospace University, Republic of Korea; *J. KIM*, Incheon National University, Republic of Korea; *D. KIM, J. KIM*, KIMS, Republic of Korea; *SANGYUL LEE*, Korea Aerospace University, Republic of Korea

DP-ThP-2 Adhesion, Corrosion Resistance, and Blood Compatibility of Mao-Pretreated Magnesium Alloy Coated with Graphene Oxide and Pyrolytic 1,8-Diaminooctane-Incorporated Oxidized Polydopamine, *Chau-Chang Chou, S. Chang, H. Lee*, National Taiwan Ocean University, Taiwan; *W. Chen*, Cheng Gung Memorial Hospital, Keelung, Taiwan

DP-ThP-3 Surface Alloying for Antibacterial Martensitic Stainless Steel Fabrication, *Z. Chen, B. Liu, Wen-Ta Tsai*, National Cheng Kung University (NCKU), Taiwan; *C. Huang*, Tung Mung Development Co., Ltd., Taiwan

DP-ThP-4 Enhancing the Surface Properties of Polymethylmethacrylate (PMMA) by Functionalizing with Atomic Layer Deposited Titanium(IV) Dioxide, *Harshdeep Bhatia, C. Takoudis*, University of Illinois, Chicago, USA

DP-ThP-5 Diffusion-Based Plasma Nitriding for Surgical Needle, *Takao Yamauchi, P. Abrahama*, Meijo University, Japan

DP-ThP-6 Development of TiO₂/Ag Multilayer Antibacterial Coatings Using Magnetron Sputtering Technique for Potential Applications in Non-Permanent Implants, *Sebastián Rodríguez Maya, M. Restrepo Posada, F. Bolívar Osorio, G. Bejarano Gaitán, J. Lenis Rodas*, Universidad de Antioquia, Colombia

DP-ThP-7 Development of Multilayer SiO₂/Ag Coatings Fabricated by Magnetron Sputtering for Potential Applications in Removable Implants, *Magali Restrepo Posada, S. Rodriguez Maya, J. Lenis Rodas, F. Bolivar Osorio*, Universidad de Antioquia, Colombia

Coatings for Use at High Temperatures

Room Golden State Ballroom - Session AP-ThP

Coatings for Use at High Temperatures (Symposium A) Poster Session 5:00pm

AP-ThP-1 Thermal Stability of Thick α - and γ -Al₂O₃ Coatings Deposited by High Speed PVD, *K. Bobzin, Christian Kalscheuer, M. Moebius, P. Hassanzadegan Aghdam*, RWTH Aachen University, Germany

AP-ThP-2 Impeding the γ ' Depletion During the Interdiffusion between Bond Coatings and Superalloys via Introduction of Tantalum in Bond Coatings, *Xiaoyu Sun*, Linköping University, Sweden

AP-ThP-3 High-Temperature Stability and Mechanical Properties of Non-Reactive PVD-Synthesized MoSi₂ Coatings, *Sophie Richter, A. Bahr, T. Wojcik*, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; *O. Hunold*, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; *S. Kolozsvári, P. Polcik*, Plansee Composite Materials GmbH, Germany; *J. Ramm*, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; *H. Riedl*, TU Wien, Institute of Materials Science and Technology, Austria

Functional Thin Films and Surfaces

Room Golden State Ballroom - Session CP-ThP

Functional Thin Films and Surfaces (Symposium C) Poster Session 5:00pm

CP-ThP-1 Structural and Compositional Analysis of Titanium-Based PVD Coatings, *Celia Rojo-Blanco*, Sheffield University, UK, Mexico; *J. Qi*, Sheffield University, UK, China; *G. Wu, L. Yang*, University of Leeds, UK, China; *S. Creasey-Gray, A. Leyland*, Sheffield University, UK

CP-ThP-2 Effect of Si Doping on the Optical and Mechanical Properties of Tetrahedral Amorphous Carbon Coatings, *YoonJoo JANG*, Korea Aerospace University, Republic of Korea; *D. KIM*, Pusan National University, Republic of Korea; *Y. JANG*, KOREA INSTITUTE OF MATERIALS SCIENCE, Republic of Korea; *J. KIM*, KOREA INSTITUTE OF MATERIALS SCIENCE, Republic of Korea; *S. LEE*, Korea Aerospace University, Republic of Korea

CP-ThP-3 Study of Spatial Distribution of Sputtered Al-Doped Zinc Oxide for Optoelectronic Applications, *Eduard Llorens, E. Stamate*, DTU, Denmark

CP-ThP-4 Optical and Electrical Characterization of Thin NiO_x Films Obtained by R.F. Sputtering, *Francisco David Mateos-Anzaldo, R. Nedeve, E. Osorio-Urquiza, M. Curiel-Alvarez, O. Perez-Landeros, J. Castillo-Saenz*, Universidad Autónoma de Baja California, Instituto de Ingeniería, Mexico; *A. Arias-Leon*, Universidad Autónoma de Baja California, Facultad de Ingeniería Mexicali, Mexico; *B. Valdez-Salas*, Universidad Autónoma de Baja California, Instituto de Ingeniería, Mexico; *N. Nedeve*, Universidad Autónoma de Baja California, Instituto de Ingeniería, Mexico

CP-ThP-5 Deposition of Lanthanum-Doped Barium Stannate as Transparent conducting Oxides, *C. Liu, Y. Yan, S. Chen, Yijia Chen, M. Wong*, National Dong Hwa University, Taiwan

CP-ThP-6 Electrical Evaluation of Micro Water Droplets During Solidification Process Using Galvanic Array with Micro to Nano Gaps, *K. Hirayama*, Chiba Institute of Technology, Japan; *M. Mekawy, J. Kawakita*, NIMS, Japan; *Y. Sakamoto*, Chiba Institute of Technology, Japan

CP-ThP-7 Engineered Ionic Diode Membranes Based on Subnanochannel Metal-Organic Frameworks with High Space Charges for Boosted Lithium Ion Transport and Unprecedented Osmotic Energy Conversion in Organic Solution, *Amalia Rizki Fauziah, L. Yeh*, National Taiwan University of Science and Technology, Taiwan

CP-ThP-8 Designing Experimental Determination of Sheet Resistance of a Titanium Self-Aligned Silicide Formation, *Jau-Shiung Fang, Y. Chang, Y. Kuo*, National Formosa University, Taiwan

Hard Coatings and Vapor Deposition Technologies

Room Golden State Ballroom - Session BP-ThP

Hard Coatings and Vapor Deposition Technologies (Symposium B) Poster Session 5:00pm

BP-ThP-1 Superhard Tungsten-tantalum Diboride (W,Ta)₂B₂ Coatings Prepared by High Power Impulse Magnetron Sputtering HiPIMS, *Rafal Psiuk, P. Denis*, Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland; *Ł. Kurpaska*, National Centre for Nuclear Research, Poland; *T. Mościcki*, Institute of Fundamental Technological Research, Polish Academy of Sciences, Poland

BP-ThP-2 First Principles Calculation of Thermal Properties for an Aeronautic Ni Alloy, *Luis Dacal, M. Lima*, Instituto de Estudos Avançados (IEAv - DCTA), Brazil

BP-ThP-3 Direct Deposition of Nano-crystalline Diamond Coating on Steel (SS 301), *Nikhil C*, Indian Institute of Technology, Madras, India; *R. Kannan*, Indian Institute of Technology Madras, India; *R. Kannan, P. Bagaria*, Kapindra Precision Engineering Pvt. Ltd., India; *N. Arunachalam, M. Ramachandra Rao*, Indian Institute of Technology, Madras, India

BP-ThP-4 Synergistic Effect of He for the Incorporation of Ne and Ar During Magnetron Sputtering Fabrication of Gas-Charged Silicon Films: A Microstructural and Chemical Characterization Study, **Asunción Fernández**, V. Godinho, Instituto de Ciencia de Materiales de Sevilla, CSIC-Univ. Sevilla, Spain; J. Colaux, Synthesis, Irradiation & Analysis of Materials (SIAM) Platform, Namur Institute of Structured Matter (NISM), University of Namur, Belgium; J. Ávila, Synchrotron SOLEIL and Université Paris-Saclay, France; J. López-Viejobuena, J. Caballero-Hernández, D. Hufschmidt, M. Jiménez de Haro, Instituto de Ciencia de Materiales de Sevilla, CSIC-Univ. Sevilla, Spain; S. Lucas, Laboratoire d'Analyse par Réactions Nucléaires (LARN), Namur Institute of Structured Matter (NISM), University of Namur, Belgium; M. Asensio, Madrid Institute of Materials Science (ICMM), CSIC, Cantoblanco, Spain

BP-ThP-5 Custom Coating Solution for Coin Minting Dies, **Guillaume Wahli**, J. Wehrs, S. Kaminski, A. Lümekmann, PLATIT AG, Switzerland

BP-ThP-6 Influence of the Period of a Multilayer TiN / TiAlN Coating System on its Microstructure and Electrochemical Behavior for Potential Applications in Hot Work Steel, **Hernán Darío Mejía Vásquez**, G. Bejarano Gaitán, University of Antioquia, Colombia

BP-ThP-7 Diamond Synthesis on 2-Inch Si Substrates by Mode Conversion Type Microwave Plasma CVD, **Akira Inaba**, Chiba Institute of Technology, Japan

BP-ThP-8 The Phase Transformation and Mechanical Properties of Magnetron Co-Sputtering (MoHf)N Coatings through Heat Treatment, S. Hsu, Yu-Hsien Liao, F. Wu, Y. Chang, Dept. of Materials Science and Engineering, National United University, Taiwan

BP-ThP-9 Realistic Structural Properties of Amorphous SiN_x from Machine-Learning-Assisted Molecular Dynamics, **Ganesh Kumar Nayak**, Montanuniversität Leoben, Austria; P. Srinivasan, Universität Stuttgart, Germany, Austria; J. Todt, R. Daniel, D. Holec, Montanuniversität Leoben, Austria

BP-ThP-10 Reactive Remote Plasma Sputtering of Titania Thin Films Using r.f. Substrate Biasing, **Joseph Lawton**, University of Surrey, UK; S. Thornley, Plasma Quest Limited, UK; M. Baker, University of Surrey, UK

BP-ThP-11 Influence of Process Gas on Properties and Residual Stress State of TiAlCrSiN PVD Coatings, K. Bobzin, C. Kalscheuer, M. Carlet, **Muhammad Tayyab**, Surface Engineering Institute - RWTH Aachen University, Germany

BP-ThP-12 Control of TiN Thin Film Properties by the Energy of Sputtered Atoms in DC Magnetron, **Abderzak el-Farsy**, LPGP - Université Paris Saclay, France; J. Pierson, T. Gries, L. de Poucques, IJL - Université de Lorraine, France; J. Bougdira, IJL - Université de Lorraine, France

BP-ThP-13 Fabrication of TiN Coatings Using Superimposed HiPIMS and MF: Effect of Target Poisoning Ratios and MF Power, **Bih-Show Lou**, Chang Gung University, Taiwan; W. Yang, J. Lee, Ming Chi University of Technology, Taiwan, Republic of China

BP-ThP-14 Adhesion of Hydrogenated DLC Coatings on Polymer Substrates, **Akira Chikamoto**, P. Abbramo, Meijo University, Japan

BP-ThP-15 Fabrication of Pt-Nanocluster Decorated Porous Ni/MoS₂ for Hydrogen Evolution Reaction Application, **Po-Chun Chen**, National Taipei University of Technology, Taiwan

New Horizons in Coatings and Thin Films

Room Golden State Ballroom - Session FP-ThP

New Horizons in Coatings and Thin Films (Symposium F)

Poster Session

5:00pm

FP-ThP-1 Fabrication of Chemical Bath Deposited ZnO Nanorods Layer Based Ultraviolet Light Detectors and Their Device Properties: Influences of Solution Concentration and Thermal Annealing, **Tomoaki Terasako**, T. Fujikawa, K. Hirota, K. Kobayashi, Graduate School of Science and Engineering, Ehime University, Japan; M. Yagi, National Institute of Technology, Kagawa College, Japan; T. Yamamoto, Materials Design Center, Research Institute, Kochi University of Technology, Japan

FP-ThP-2 Advances in Nanosynthesis by Atmospheric Pulsed Arc Discharges, **Carles Corbella**, S. Portal, George Washington University, USA; M. Kundrapu, Tech-X Corporation, USA; M. Keidar, George Washington University, USA

FP-ThP-3 Structure, Mechanical Properties, and Thermal Stability of (Gd,Hf,Sc,Ti,Zr)-Nitride Thin Films, **Alexander Kirnbauer**, M. Derflinger, TU Wien, Institute of Materials Science and Technology, Austria; P. Polcik, Plansee Composite Materials GmbH, Germany; P. Mayrhofer, TU Wien, Institute of Materials Science and Technology, Austria

FP-ThP-4 Demystifying the Entropy Forming Ability – The Role of Atomic Size Effects, **Andreas Kretschmer**, P. Mayrhofer, TU Wien, Institute of Materials Science and Technology, Austria

FP-ThP-5 High-Temperature Oxidation Resistance of CrB₂ Coatings Alloyed by Transition Metal Disilicide Phases, **Ahmed Bahr**, T. Glechner, T. Wojcik, P. Kutrowatz, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; J. Ramm, O. Hunold, Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; S. Kolozsvári, P. Polcik, Plansee Composite Materials GmbH, Germany; E. Ntemou, D. Primetzhofer, Department of Physics and Astronomy, Uppsala University, Sweden; H. Riedl, Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria

FP-ThP-6 The Photodetection of the in-, Sn-, and Te-Doped Bi₂Se₃ Nanoplatelets, **Chih-Chiang Wang**, National Chin-Yi University of Technology, Taiwan; H. Shih, Chinese Culture University, Taiwan; F. Shieu, National Chung Hsing University, Taiwan; A. Lo, National Chin-Yi University of Technology, Taiwan

FP-ThP-7 Metallic Zn and Mg Nanowire Coatings by Conventional Reactive DC Sputter Deposition, **Jakub Zawadzki**, M. Borysiewicz, M. Wzorek, Łukasiewicz Research Network - Institute of Microelectronics and Photonics, Poland

FP-ThP-8 Synthesis and Electrical Properties of Gasb Nanowires, **Tzai-Wei Chen**, C. Wang, National Taiwan University of Science and Technology, Taiwan

FP-ThP-9 Spacing-controllable core@shell TiO₂@Ru/RuO_x Nanotube Array for Biocompatible Stimulating Electrode Applications, **Jia-Jun Li**, National Taipei University of Technology, Taiwan

FP-ThP-10 Nickel Sulfide on Organic Framework for Efficient Hydrogen Evolution Reaction, **Yu-An Ji**, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Taiwan; T. Chang, C. Kung, Department of Chemical Engineering, National Cheng Kung University, Taiwan; C. Chen, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Taiwan

FP-ThP-11 Research of The Growth Mechanism of Solvothermally Synthesized Sb₂Te₃ Nanosheets, **Yen-Jen Lin**, C. Chen, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Taiwan

Surface Engineering - Applied Research and Industrial Applications

Room Golden State Ballroom - Session GP-ThP

Surface Engineering - Applied Research and Industrial Applications (Symposium G) Poster Session

5:00pm

GP-ThP-1 Enhanced Corrosion Resistance, Wear and Antibacterial Properties of TiO₂-Incorporated Micro-Arc Oxidation on AZ31 Magnesium Alloy, **Wei-Hao Chen**, Y. Lee, S. Huang, Y. Chu, National Taiwan University, Taiwan

GP-ThP-2 The Influence of the Pause Time on Microstructure and Corrosion Resistance of AZ31 Magnesium Alloy Micro-Arc Oxidation Coating, **Shih-Yen Huang**, Y. Lee, Y. Chu, National Taiwan University, Taiwan

GP-ThP-3 Microstructure and Properties of HVOF Sprayed Coatings Remelted by Laser, E. Jonda, **Marek Sroka**, W. Pakiel, Silesian University of Technology, Poland; T. Jung, Łukasiewicz Research Network - Institute for Ferrous Metallurgy, Poland

GP-ThP-4 Fabrication Feasibility Study on Cu and Cu Alloy Coating for Spent Fuel Canister of Deep Geological Disposal, **Young-Ho Lee**, Y. Jung, D. Kim, S. Yoon, H. Kim, Korea Atomic Energy Research Institute, Republic of Korea

GP-ThP-5 Etching of B-doped Diamond Films Using RF Plasma, **Ryuhei UEDA**, Chiba Institute of Technology, Japan

GP-ThP-6 Fabrication of Si/C/SiNW Arrays Sandwich Structure at Different Annealing Parameters for Solar Cell Application, **Ai-Huei Chiou**, J. Wei, National Formosa University, Taiwan

GP-ThP-7 Barrier Properties Enhancement of Bio-Based Polymers by Means of Multilayer Coatings Applied by Pulsed DC PACVD, C. Nicoletti, C. Forsich, **Francisco A. Delfin**, S. Augl, C. Burgstaller, D. Heim, J. Weghuber, University of Applied Sciences Upper Austria

GP-ThP-8 Effect of Fluoride on Adhesion of Electroless Nickel-Phosphorus Coating on MAO-Coated AZ31B Magnesium Alloy, J. Lee, C. Lee, National Defense University, Republic of China; J. Lee, Lung Hwa University of Science and Technology, Taiwan; S. Jian, Ming Chi University of Technology, Taiwan, Republic of China; **Ming-Der Ger**, A. Cheng, National Defense University, Republic of China

GP-ThP-9 Effect of Mechanical Stress on Electrical Characteristics of Low-Dielectric-Constant Dielectric Materials, **Yi-Lung Cheng**, National Chi-Nan University, Taiwan

GP-ThP-10 Monolithic Integration of Lead Selenide Films via Surface Morphology Engineering, **Sejeong Park**, J. Park, Opto Diode Corporation, USA

Topical Symposia

Room Golden State Ballroom - Session TS1P-ThP

Coatings for Energy Storage and Conversion - Batteries and Hydrogen Applications - TS1 Poster Session

5:00pm

TS1P-ThP-1 Bacezrybo₃₋₆ Coatings Deposited by Colloidal Coating Process for Sustainable Energy Application, *Chien-Ming Lei, P. Lin, Y. Chen*, Department of Chemical and Materials Engineering, Chinese Culture University, Taiwan

TS1P-ThP-2 PVD Core-Shell-Catalysts for Use in Electrolyzers, *Jan-Ole Achenbach, S. Cremer, R. Cremer*, KCS Europe GmbH, Germany

TS1P-ThP-3 Repressing Noble Metal Ruthenium Target to Reduce the Cost of Bipolar Plate Manufacture in Fuel Cells, *Jing Yang*, SCI Engineered Materials, inc, USA

TS1P-ThP-4 Corrosion Protection of Bipolar Plates in Electrolysers, *M. Welters*, KCS Europe GmbH, Germany; *N. Kruppe*, Schaeffler Technologies GmbH & Co. KG, Germany; *Peter Jaschinski, T. Breuer, S. Yang, R. Cremer*, KCS Europe GmbH, Germany; *M. Öte, N. Bagcivan*, Schaeffler Technologies GmbH & Co. KG, Germany

Topical Symposia

Room Golden State Ballroom - Session TS2P-ThP

Sustainable Surface Solutions, Materials, Processes and Applications - TS2 Poster Session

5:00pm

TS2P-ThP-1 The Study of Different Crystalline Moissanite: Nucleation and Growth of Nanoparticle Gold Coatings, *Tsung-Jen Wu, S. Song, W. Chen*, Institute of Geosciences, National Taiwan University, Taiwan; *W. Lin*, Department of Materials and Mineral Resources Engineering, National Taipei University of Technology, Taiwan

TS2P-ThP-2 Multilayered Structure of PE-Based Polymer Film Composites, *Marcin Bilewicz*, Silesian University of Technology, Poland

Topical Symposia

Room Golden State Ballroom - Session TS3P-ThP

Processes of Materials for Printed and Flexible Film Technologies - TS3 Poster Session

5:00pm

TS3P-ThP-1 Organic and Perovskite Solar Cells based on 3D-Printed Transparent Conducting Electrodes, *H. Lee, B. Tyagi, Jae-Wook Kang*, Jeonbuk National University, Republic of Korea

TS3P-ThP-2 Development of a Microfluidic System for Oxygen Environment Detection in Cell Culture, *Wen-Cheng Kuo, L. Wu, J. Wang*, National Kaohsiung University of Science and Technology, Taiwan

Tribology and Mechanical Behavior of Coatings and Engineered Surfaces

Room Golden State Ballroom - Session EP-ThP

Tribology and Mechanical Behavior of Coatings and Engineered Surfaces (Symposium E) Poster Session

5:00pm

EP-ThP-1 Combinatorial Study of Mo₂N-Cu Coatings to Optimize Tribological Performance in Low Viscosity Fuel Environments, *Slater Caldwell, M. Dockins, E. Cairns*, University of North Texas, USA; *S. Berkebile*, US DEVCOM Army Research Laboratory, USA; *A. Voevodin, D. Berman, S. Aouadi*, University of North Texas, USA

EP-ThP-2 Triboactive CrAlN Coatings for Wear and Friction Reduction under Grease Lubrication, *K. Bobzin*, Surface Engineering Institute - RWTH Aachen University, Germany; *C. Kalscheuer*, surface Engineering Institute - RWTH Aachen University, Germany; *Max Philip Möbius*, Surface Engineering Institute - RWTH Aachen University, Germany; *M. Rank*, Institute of Machine Elements, Gears and Tribology - TU Kaiserslautern, Germany; *M. Oehler, O. Koch*, Institute for Machine Elements, Gears and Tribology, Germany

EP-ThP-3 Influence of Nb and Ta Added Elements on the Corrosion and Mechanical Properties of CrYN Coatings, *İhsan Efeoğlu, B. Yaylalı, G. Gülten, Y. Totik*, Atatürk University, Turkey; *P. Kelly, J. Malecka*, Manchester Metropolitan University, U.K.

EP-ThP-4 Evaluation of the Adhesive Strength of a Nitrided Stainless Steel Under Cyclic Contact Loads, *D. Fernández-Valdés, Jesús Vidal-Torres*, SEPI ESIME Instituto Politécnico Nacional, Mexico; *A. López-Liévano*, Universidad Veracruzana, Mexico; *G. Rodríguez-Castro, A. Meneses-Amador*, SEPI ESIME Instituto Politécnico Nacional, Mexico

EP-ThP-5 Effect of Annealing Treatment on Mechanical Properties of Nanostructured Metallic Films Deposited by Pulsed Laser Deposition, *Francesco Bignoli*, CNRS, France; *S. Rashid, E. Rossi*, Università degli studi Roma 3, Italy; *P. Djemia*, CNRS, France; *M. Sebastiani*, Università degli studi Roma 3, Italy; *A. Li Bassi*, Politecnico di Milano, Italy; *M. Ghidelli*, CNRS, France

Friday Morning, May 26, 2023

Functional Thin Films and Surfaces Room Pacific C - Session C2-2-FrM Thin Films for Electronic Devices II Moderators: Julien Keraudy , Oerlikon Balzers, Oerlikon Surface Solution AG, Liechtenstein, Jörg Patscheider , Evatec AG, Switzerland		Functional Thin Films and Surfaces Room Town & Country B - Session C3-2-FrM Thin Films and Novel Surfaces for Energy II Moderators: Clio Azina , RWTH Aachen University, Germany, Carlos Tavares , University of Minho, Portugal
8:00am		
8:20am		
8:40am	INVITED: C2-2-FrM-3 3D Device Integration Technology for AI Computing, <i>S. Chang</i> , Powerchip Semiconductor, Taiwan; Shou-Zen Chang , Powerchip Semiconductor Manufacturing Corporation, Taiwan	INVITED: C3-2-FrM-3 Survey for Ferroelectric/Antiferroelectric Films for Energy Storage, <i>Mitsuru Itoh</i> , <i>H. Takashima</i> , National Institute of Advanced Industrial Science and Technology/Tokyo Institute of Technology, Japan
9:00am		
9:20am	C2-2-FrM-5 Magnetic Nanolaminates Deposited by Magnetron Sputtering for Next Generation Electronic Devices, <i>Claudiu V. Falub</i> , <i>M. Bless</i> , <i>J. Richter</i> , <i>X. Zhao</i> , <i>H. Rohrmann</i> , <i>M. Tschirky</i> , <i>M. Padrun</i> , Evatec AG, Switzerland	C3-2-FrM-5 First Attempt to Describe the Effect of the Substrate Temperature on the Depth Concentration Profile of Reactively Sputtered ZnGeN ₂ Thin Films, <i>A. Virfeu</i> , <i>F. Alnjiman</i> , <i>A. Borroto</i> , <i>S. Migot</i> , <i>J. Ghanbaja</i> , <i>D. Mangin</i> , <i>D. Pilloud</i> , Jean-Francois Pierson , Institut Jean Lamour - Université de Lorraine, France
9:40am	C2-2-FrM-6 Tungsten-Based Thin Film Metallic Glass as Diffusion Barrier between Copper and Silicon, <i>Pei-Yu Chen</i> , <i>J. You</i> , <i>C. Hsueh</i> , National Taiwan University, Taiwan	C3-2-FrM-6 Effect of Oxygen Flow Rate on the Hydrogenation Resistance of Zn _x O _y Thin Films on Zircaloy-4, Yen-Ting Chen , <i>K. Lan</i> , National Tsing Hua University, Taiwan; <i>H. Tung</i> , Institute of Nuclear Energy Research, Taiwan
10:00am	C2-2-FrM-7 Investigation of Properties and Microstructures of Ag-Cu Alloy Thin Films by Co-sputtering and First-principles Calculations, Yu-Chieh Wang , <i>C. Chen</i> , <i>F. Ouyang</i> , <i>H. Chen</i> , National Tsing Hua University, Taiwan	C3-2-FrM-7 Engineered Metal-Organic Framework-Based Heterogeneous Membranes with High Ionic Rectification for Ultrahigh Osmotic Power Generation from Organic Solutions, Amalia Rizki Fauziah , <i>L. Yeh</i> , National Taiwan University of Science and Technology, Taiwan
10:20am	C2-2-FrM-8 Hybrid Structures of p-n junction for Improving Efficiency of Photovoltaic Devices, Paweł Jarka , <i>T. Tański</i> , Department of Engineering Materials and Biomaterials, Faculty of Mechanical Engineering, Silesian University of Technology, Poland; <i>B. Hajduk</i> , <i>H. Bednarski</i> , Centre of Polymer and Carbon Materials, Polish Academy of Sciences, Poland	C3-2-FrM-8 CVD Process Development of Thin Film Triniobium-Tin on Copper SRF Cavities, Mohamed A. Cheikh , <i>S. McNeal</i> , <i>V. Arrieta</i> , Ultramet, USA
10:40am	C2-2-FrM-9 Multi-Step Method for the Fabrication of High-Performance Continuous Ultra-Thin Silver Films for Energy Applications, Phillip Rumsby , <i>B. Baloukas</i> , <i>O. Zabeida</i> , <i>L. Martinu</i> , Polytechnique Montréal, Canada	

Friday Morning, May 26, 2023

Hard Coatings and Vapor Deposition Technologies Room Town & Country C - Session B1-3-FrM PVD Coatings and Technologies III Moderators: Christian Kalscheuer , RWTH Aachen University, Germany, Vladimir Pankov , National Research Council of Canada		Hard Coatings and Vapor Deposition Technologies Room Pacific D - Session B3-FrM Deposition Technologies and Applications for Carbon-Based Coatings Moderators: Konrad Fadenberger , Robert Bosch GmbH, Germany, Ivan Kolev , IHI Hauzer Techno Coating B.V., Netherlands	
8:00am	B1-3-FrM-1 Effect of Wettability Modification of Ti-Al-Based Thin Films on Heat Transfer Exchange During Water Drop Cooling, Alexis Carlos Garcia Wong , G. Marcos, Institut Jean Lamour - Université de Lorraine, France; G. Castanet, O. Caballina, F. Lemoine, Laboratoire d'Energétique et de Mécanique Théorique et Appliquée, France; J. Pierson, T. Czerwicz, Institut Jean Lamour - Université de Lorraine, France	INVITED: B3-FrM-1 Molecular Dynamics Study of Interfacial Phenomena in Diamond-Like Carbon Films, X. Li, China University of Mining and Technology, China; A. Wang, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, China; Kwang-Ryeol Lee , Korea Institute of Science and Technology (KIST), Republic of Korea	
8:20am	B1-3-FrM-2 Rf-Bias Assisted, Combinatorial Sputtering of Conductive (TiZr)N Hard Coatings on Insulating Substrates, Kerstin Thorwarth , Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; M. Watroba, Empa, Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland; J. Sommerhaeuser, S. Zhuk, J. Patidar, A. Wiecek, S. Siol, Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland		
8:40am	B1-3-FrM-3 The Microstructure and Properties of Highly (111)-Oriented Nano-Twinned Cu-Ag Thin Film Prepared by DC Sputtering System, Ko-Chieh Hsueh , National Tsing Hua University, Taiwan; J. Lee, F. Ouyang, National Tsing Hua University, Taiwan	B3-FrM-3 ta-C by Magnetron Sputtering Using a Newly Designed Cylindrical Rotating Cathode with Significantly Enhanced Sputter Power Density, Andreas Lümkmann , Platit AG, Switzerland; J. Kluson, M. Učík, Platit a.s., Czechia; H. Bolvardi, Platit AG, Switzerland	
9:00am	B1-3-FrM-4 Titanium Chromium Nitride Thin Films Deposited by Direct Current, Mid-Frequency, and Inductively Coupled Plasma Assisted Magnetron Sputtering, Sung-Yong Chun , Mokpo National University, Republic of Korea	B3-FrM-4 High Performance ta-C Coatings with Enhanced Temperature Stability for Industrial Applications, Klaus Böbel , Bosch Manufacturing Solutions, Germany; S. Wetzel, J. Jiao, Bosch Automotive Products, China	

Friday Morning, May 26, 2023

New Horizons in Coatings and Thin Films Room Pacific E - Session F1-FrM Nanomaterial-based Coatings and Structures Moderators: Ondrej Kylian, Charles University, Prague, Czechia, Vladimir Popok, Aalborg University, Denmark		
8:00am		
8:20am		
8:40am	INVITED: F1-FrM-3 Brain-Like Behaviour in Percolating Films of Nanoparticles, Simon Brown , The MacDiarmid Institute for Advanced Materials and Nanotechnology, School of Physical and Chemical Sciences, University of Canterbury, New Zealand	
9:00am		
9:20am	F1-FrM-5 RBS Study of Silver/Copper Diffusions in the Matrix of Amorphous Carbon Coatings Produced by Magnetron Sputtering, G. Sanzone , Teer Coatings Ltd, UK; M. Sharpe, P. Couture, J. England , University of Surrey, UK; S. Field, H. Sun, Jinlong Yin , Teer Coatings Ltd, UK	
9:40am	F1-FrM-6 C:H:N:O Plasma-polymer with Anchored LSPR Active Ag Nanoparticles for Detection of Borrelia Pathogen, S. Kumar , University of South Bohemia, Czechia; H. Maskova , University of South Bohemia, Biology Centre ASCR, Institute of Parasitology Branisovska, Czechia; A. Kuzminova , Charles University, Czechia; R. Rego , University of South Bohemia, Biology Centre ASCR, Institute of Parasitology Branisovska, Czechia; J. Sterba , University of South Bohemia, Czechia; O. Kylian , Charles University, Czechia; Vitezslav Stranak , University of South Bohemia, Czechia	
10:00am	F1-FrM-7 Aln Nanostructures for Piezoelectric Nanogenerators, Manohar Chirumamilla , M. Sandager, V. Popok, K. Pedersen , Aalborg University, Denmark	
10:20am	F1-FrM-8 Super-Amphiphobic Nano-Wall Structured Teflon Films Deposited by Microwave Plasma, Ta-Chin Wei , Chung Yuan Christian University, Taiwan	
10:40am	F1-FrM-9 Diamond-Based Nanostructured Interfaces for Electrochemical Applications, Robert Bogdanowicz , Gdańsk University of Technology, Poland	
11:00am	F1-FrM-10 Engineering Nanostructured Metallic Thin Films by Pulsed Laser Deposition with an Outstanding Combination of Mechanical Properties, Francesco Bignoli , D. Faurie , CNRS, France; C. Gammer, A. Lassnig , Austrian Academy of Sciences, Austria; S. Lee, C. Aguiar Teixeira , Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany; A. Li Bassi , Politecnico di Milano, Italy; M. Ghidelli , CNRS, France	
11:20am	F1-FrM-11 Preparation and Properties of Fluoroalkyl End-Capped Oligomer/Cellulose Nanofiber Composites, Hideo Sawada , Y. Endo, Y. Oikawa , Hirosaki University, Japan	
11:40am	F1-FrM-12 Synthesis and Electrical Properties of Single Crystalline Cu ₃ Ge Nanowires, Chang Ting- Hsiang , L. Bo-Yan, W. Chiu-Yen , National Taiwan University of Science and Technology, Taiwan	

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