ICMCTF 2026 Program Key

CM Advanced Characterization, Modelling and Data Science for Coatings and Thin Films

EX Exhibitors Keynote Lecture

HL Awards Ceremony and Honorary Lecture

IA Surface Engineering - Applied Research and Industrial Applications

IUVSTA International Union for Vacuum Science, Technique and Applications

KYL Keynote Lectures

MA Protective and High-temperature Coatings

MB Functional Thin Films and Surfaces

MC Tribology and Mechanics of Coatings and Surfaces

MD Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health, Food, and Agriculture Applications

PL Plenary Lecture

PP Plasma and Vapor Deposition Processes

TS Topical Symposium on Sustainable Surface Engineering

TS1 Coatings for Batteries and Hydrogen Applications

TS2 Coatings and Surfaces for Renewable Energy Technology

TS3 Circular Strategies for Surface Engineering

ICMCTF 2026 Program Overview

Room /Time	Golden State	Palm 1-2	Palm 3-4	Palm 5-6	Town & Country A	Town & Country B	Town & Country C	Town & Country D
MoPL					PL-MoM: Plenary Lecture			
MoM		MD1-1-MoM: Coat & Surf for Med Dev: Mech, Corr, Tribo, & Surf Processing I	MA1-1-MoM: Coatings for High Temps & Harsh Envir Applications I	MB3-MoM: Low-dimensional Materials and Structures	PP1-1-MoM: PVD Coatings and Technologies I	TS1-1-MoM: Coatings for Batteries and Hydrogen Applications I		
MoKYL					KYL1-MoKYL: Keynote Lecture I			
MoA			MA1-2-MoA: Coatings for High Temps & Harsh Envir Applications II	MB2-1-MoA: TF for Emerging Elect & Quantum Photonic Dev I	PP1-2-MoA: PVD Coatings and Technologies II	TS1-2-MoA: Coatings for Batteries and Hydrogen Applications II	MA4-1-MoA: Boron-containing Coatings I	CM3-1-MoA: Data-Driven TF Design: Hi-Through Exper, Simul, & ML I
TuM		CM1-1-TuM: Spatially-res and in situ Char of TF, Coating & Eng Surfaces I	MA3-1-TuM: High Entropy & Otr Multi-princ-element Materials I	MB2-2-TuM: TF for Emerging Elect & Quantum Phot Devices II		MD1-2-TuM: Coat & Surf for Med Dev: Mech, Corr, Tribo, & Surf Proc II	MC3-1-TuM: Tribology of Coatings & Surf for Ind Applications I	MA4-2-TuM: Boron-containing Coatings II
TuEx					EX-TuM: Exhibitors Keynote Lecture			
TuA		CM1-2-TuA: Spatially-res-olved & in situ Char of TF, Coating and Eng Surfaces I	MA3-2-TuA: High Entropy & Otr Multi-princ-element Materials II	MC2-1-TuA: Mechanical Properties and Adhesion	MA2-1-TuA: Hard and Nanostructured Coatings I	MD2-1-TuA: Coatings & Sens Health, Food & Agric: Antibac, Bio, & Flexible Interfaces I	TS3-TuA: Circular Strategies for Surf Engineering	
WeM		IA2-1-WeM: Surf Mod of Comp in Auto, Aero & Manuf Apps I	MA3-3-WeM: High Entropy & Otr Multi-princ-elem Matls III	IUVSTA-WeM: IUVSTA Special Session	MA2-2-WeM: Hard and Nanostructured Coatings II	PP2-1-WeM: HIPIMS, Pulsed Plasmas, & Ener Deposition I	CM3-2-WeM: Data-Driven TF Design: High-Through Exper, Simul & ML II	
WeKYL					KYL2-WeKYL: Keynote Lecture II			
WeA		MB1-WeA: Optical Materials and Thin Films		TS2-1-WeA: Coatings & Surf for Renew Energy Tech I		PP2-2-WeA: HiPIMS, Pulsed Plasmas, & Ener Deposition II	MC3-2-WeA: Tribology of Coatings & Surf for Ind Apps II	
WeHL					HL-WeHL: Bunshah Award Honorary Lecture			
ThM		IA3-ThM: Innov Surf Eng for Adv Cutting & Forming Tool Apps	MB2-3-ThM: TF for Emerging Elec & Quantum Phot Devices III			MD2-2-ThM: Coat & Sensors for Health, Food & Agr: Antibact, Bio, & Flex Int II	CM2-1-ThM: Adv Mech-Phys Testing of Surf, TF, Coat & Small Volumes I	TS2-2-ThM: Coatings & Surf for Renewable Energy Tech II
ThKYL						KYL3-ThKYL: Keynote Lecture III		
ThA		PP4-ThA: Greybox Models for Wear Prediction	MC1-1-ThA: Friction, Wear, Lub Effects, & Modeling I	ASED Executive Session		PP3-ThA: CVD, ALD, and Laser-based Dep & Microfab Tech	CM3-3-ThA: Data-Driven TF Des: Hi-Through Exper, Simul, & ML III	IA2-2-ThA: Surface Mod of Comp in Auto, Aero & Manuf Applications II
ThP					POSTER SESSIONS			
FrM		PP2-3-FrM: HiPIMS, Pulsed Plasmas, & Energ Dep III	MC1-2-FrM: Friction, Wear, Lub Effects, & Modeling II			MC3-3-FrM: Trib of Coatings and Surf for Indl Applications III		IA1-FrM: Adv in App Driven Res & Hybrid Syst, Proc, & Coatings

Monday Morning, April 20, 2026

	Plenary Lecture **Room Town & Country A - Session PL-MoM** **Plenary Lecture** **Moderator:** **Sandra E. Rodil**, Universidad Nacional Autónoma de México
8:00am	**PL-MoM-1** Welcome and Opening Remarks
8:20am	**INVITED: PL-MoM-2** Nano-Engineered Materials: Heterostructures and Composites*,* ***Pulickel M. Ajayan****,* Rice University, USA
8:40am	
9:00am	

	Functional Thin Films and Surfaces **Room Palm 5-6 - Session MB3-MoM** **Low-dimensional Materials and Structures** **Moderators:** **Kostas Sarakinos**, University of Helsinki, Finland	**Plasma and Vapor Deposition Processes** **Room Town & Country A - Session PP1-1-MoM** **PVD Coatings and Technologies I** **Moderator:** **Christian Kalscheuer**, IOT, RWTH Aachen, Germany
10:00am	**INVITED: MB3-MoM-1** Shape and Symmetry Engineering in Transition Metal Dichalcogenide Nanoribbons for Light Harvesting, *Ganesh Ghimire,* ***Stela Canulescu,*** Technical University of Denmark, Denmark	**PP1-1-MoM-1** Optimizing Sputter-Deposited MoS2 Coatings: Insights from Monte Carlo Simulations and In-Situ Plasma Diagnostics, ***Alexander Mings (Student),*** *Steven Larson, Kyle Doorman, Tomas Babuska, John Curry, Remi Dingreville, David Adams,* Sandia National Laboratories, USA
10:20am		**PP1-1-MoM-2** HiPIMS and Digitalization: Increasing Efficiency in Machining, ***Stephan Bolz,*** *Biljana Mesic, Oliver Lemmer, Christoph Feig,* CemeCon AG, Germany
10:40am	**INVITED: MB3-MoM-3** Discovery of Goldene Comprising Single-atom Layer Gold; Prospects for Novel Noble Metallenes, ***Lars Hultman,*** Linköping University, IFM, Thin Film Physics Division, Sweden	**INVITED: PP1-1-MoM-3** From Poisoned Targets to Healthy Models: The Quest for Parameters, ***Diederik Depla,*** Ghent University, Belgium
11:00am		
11:20am	**MB3-MoM-5** Nanoporous TiO2 Thin Films by Helium-Assisted Sputtering for Noble-Metal-Free Hydrogen Sensing, ***Stanislav Haviar,*** *Akash Kumar, Tomáš Kozák, Petr Zeman,* University of West Bohemia in Pilsen, Czechia	**PP1-1-MoM-5** Advanced YSZ Coatings Deposited by Magnetron Sputtering for High-Temperature Applications, ***Imene Toumi (Student),*** Université de Technologie de Troyes, France; *Sofiane Achache,* Université de technologie de Troyes, France; *Akram Alhussein, Benoit Panicaud,* Université de Technologie de Troyes, France
11:40am		
12:00pm		

Monday Morning, April 20, 2026

	Protective and High-temperature Coatings **Room Palm 3-4 - Session MA1-1-MoM** **Coatings for High Temperatures and Harsh Environment Applications I** **Moderators:** **Francisco Javier Perez Trujillo**, Universidad Complutense de Madrid, Spain	**Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health, Food, and Agriculture Applications** **Room Palm 1-2 - Session MD1-1-MoM** **Coatings and Surfaces for Medical Devices: Mechanical, Corrosion, Tribocorrosion, and Surface Processing I** **Moderator:** **Jean Geringer**, Ecole Nationale Superieure des Mines, France, **Mathew T. Mathew,** University of Illinois College of Medicine at Rockford and Rush University Medical Center
10:00am	**MA1-1-MoM-1** Improving the Lifetime and Efficiency of Next Gen Aircraft Turbine Engines with PVD, ***Thibault Maerten***, Oerlikon Balzers Coating AG, France	**INVITED: MD1-1-MoM-1** NaOh Etching and Oxygen Plasma Treatments on Surface Characteristics and Their Potential to Activate Micro-Arc Oxidized TiO_2 Biomedical Coatings, ***Paulo Noronha Lisboa-Filho***, UNESP, Brazil
10:20am	**MA1-1-MoM-2 Graduate Student Award Finalist Talk:** Mechanisms of Solid Particle Erosion in Aerospace Materials and Protective Coatings, ***Stephen Brown (Student)***[1], *Etienne Bousser, Benjamin Milan-Ramos,* Polytechnique Montréal, Canada*; Juan Manuel Mendez,* MDS Coating Technologies, Canada*; Marjorie Cavarroc-Weimer,* Safran Tech, France*; Ludvik Martinu, Jolanta Ewa Klemberg-Sapieha,* Polytechnique Montréal, Canada	
10:40am	**INVITED: MA1-1-MoM-3** Microstructure and Oxidation of PVD Coatings on TiAl and Ni Superalloys for High-Temperature Applications, ***Radosław Swadźba***, Łukasiewicz Research Network - Uppersilesian Institute of Technology, Poland	**MD1-1-MoM-3** Influence of Microstructures on the Corrosion Behavior of Cobalt-Chromium Alloys Under Different Ortho Joint Conditions, ***Mathew T. Mathew***, *Avirup Sinha, Sujoy Ghosh, Maansi Thapa, Remya Ramachandran, Nicki Ta,* University of Illinois at Chicago, USA
11:00am		**INVITED: MD1-1-MoM-4** Synergistic Fretting–Corrosion Mechanisms in DLC Coatings, ***Tomasz Liskiewicz***, Manchester Metropolitan University, UK*; Samuel McMaster,* Anglia Ruskin University, UK*; Michael Bryant,* University of Birmingham, UK*; Thawhid Khan*, University of Sheffield, UK*; Yu Yan,* University of Science and Technology Beijing, China*; Ben Beake,* Micro Materials Ltd, UK
11:20am	**MA1-1-MoM-5** Predictive Analytics of Aluminide Diffusion Coatings Using Machine Learning to Forecast Their Aging and Service Life, ***Vladislav Kolarik***, *Maria del Mar Juez Lorenzo,* Fraunhofer Institute for Chemical Technology ICT, Germany*; Pavel Praks, Renata Praksová,* IT4Innovations National Supercomputing Center, VSB - Technical University of Ostrava, Czechia	
11:40am	**MA1-1-MoM-6** Tailored Formation of Intermetallic Phases in Nanolayered Metallic Systems, ***Vincent Ott***, *Sven Ulrich, Michael Stüber,* Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany	**MD1-1-MoM-6** Mechanisms of Fretting Corrosion in Titanium-based Biomedical Modular Implant Interfaces, ***Avirup Sinha (Student)***, *Vinod Prabhakar, Mathew T. Mathew,* University of Illinois - Chicago, USA
12:00pm		

[1] **Graduate Student Award Finalist**

Topical Symposium on Sustainable Surface Engineering
Room Town & Country B - Session TS1-1-MoM
Coatings for Batteries and Hydrogen Applications I
Moderators: Chen-Hao Wang, National Taiwan University of Science and Technology, Taiwan,
Martin Welters, KCS Europe GmbH, Germany,
Fan-Bean Wu, National United University, Taiwan

10:00am		
10:20am		
10:40am	**INVITED: TS1-1-MoM-3** Hydrogen Technology – Which Role Play Thin Films on the Performance and Sustainability?, ***Christina Scheu,*** Max-Planck-Institut for Sustainable Materials, Germany	
11:00am		
11:20am	**TS1-1-MoM-5** PVD-synthesized Nitrides as Hydrogen Barrier Coatings, ***Phillip Rückeshäuser (Student),*** TU Wien, Austria*; Szilard Kolozsvari, Peter Polcik,* Plansee Composite Materials GmbH, Germany*; Timea Stelzig,* Oerlikon AM Europe GmbH, Germany*; Konrad Fadenberger,* Oerlikon Balzers Coating Germany GmbH, Germany*; Klaus Boebel,* Oerlikon Balzers, Liechtenstein*; Tomasz Wojcik, Helmut Riedl,* TU Wien, Austria	
11:40am	**TS1-1-MoM-6** Low-Temperature Sintering of $Li_7La_3Zr_2O_{12}$ (LLZO) Electrolyte Coatings by the Sol Impregnation Method for All Solid-State Lithium-Ion Batteries, ***Yen-Yu Chen****, Guang-Yi Yao, Shao-Chien Tai,* National Pingtung University of Science and Technology, Taiwan	
12:00pm	**TS1-1-MoM-7 Graduate Student Award Finalist Talk:** Nitride and Amorphous/Crystalline Multilayers as Hydrogen Permeation Barriers, ***Balint Istvan Hajas (Student)***[1], TU Wien, Institute of Materials Science and Technology, Austria*; Vincenc Nemanič, Marko Žumer, Ardita Kurtishaj Hamzaj,* Jožef Stefan Institute, Slovenia*; Alexander Kirnbauer, Tomasz Wojcik,* TU Wien, Institute of Materials Science and Technology, Austria*; Szilard Kolozsvari,* Plansee Composite Materials GmbH, Germany*; Paul Heinz Mayrhofer,* TU Wien, Institute of Materials Science and Technology, Austria	

[1] **Graduate Student Award Finalist**

Keynote Lectures
Room Town & Country A - Session KYL1-MoKYL
Keynote Lecture I
Moderator:
Sandra E. Rodil, Universidad Nacional Autónoma de México

1:00pm **INVITED: KYL1-MoKYL-1** HiPIMS with Cathode Reversal -- Physics and Applications*,*
David N. Ruzic*, Tag Choi, Nicholas Connolly,* University of Illinois at Urbana-Champaign, USA

1:20pm

Monday Afternoon, April 20, 2026

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Town & Country D - Session CM3-1-MoA** **Data-Driven Thin Film Design: High-Throughput Experimentation, Simulation, and Machine Learning I** **Moderators: Kevin Kaufmann**, Oerlikon, USA, **Po-Liang Liu**, National Chung Hsing Univ., Taiwan, **Sebastian Siol**, Empa, Switzerland	**Functional Thin Films and Surfaces** **Room Palm 5-6 - Session MB2-1-MoA** **Thin Films for Emerging Electronic and Quantum Photonic Devices I** **Moderators:** **Shirly Espinoza**, ELI Beamlines, ELI ERIC, Czechia, **Jaroslav Vlcek**, University of West Bohemia, Czechia
1:40pm	**INVITED: CM3-1-MoA-1** Predicting Outcomes of Thin-Film Synthesis from First Principles, ***Vladan Stevanovic,*** Colorado School of Mines, USA	**INVITED: MB2-1-MoA-1** AlScN Thin Films and Heterostructures for High Temperature Non-volatile Memory, ***Nicholas Glavin,*** Air Force Research Laboratory, Materials and Manufacturing Directorate, USA
2:00pm		**MB2-1-MoA-2** Optical and Electrical Properties of Nitrogen-doped p-type Cu_2O Thin Films Prepared by Reactive HiPIMS, ***Jan Koloros (Student),*** *Jiří Rezek, Pavel Baroch,* University of West Bohemia in Pilsen, Czechia
2:20pm	**CM3-1-MoA-3** A Refined Toolbox for Predicting Phase Formation in PVD Thin Films, ***Christian Gutschka (Student),*** TU Wien, Austria; *David Holec,* Montanuniversität Leoben, Austria; *Jochen Schneider,* RWTH Aachen University, Germany; *Helmut Riedl-Tragenreif,* TU Wien, Austria	**INVITED: MB2-1-MoA-3** Fabrication and Manipulation of Weakly-Interacting Interfaces for Optoelectronic Applications, ***Kostas Sarakinos,*** University of Helsinki, Finland
2:40pm	**INVITED: CM3-1-MoA-4 Bill Sproul Awardee Honorary ICMCTF Lecture:** Pathways for the Preparation of Functional Coatings by Multiscale Modelling, ***Jiri Houska***[1], University of West Bohemia, Czechia	
3:00pm		**MB2-1-MoA-5** Investigation of High-temperature Morphology and Electrical Performance of YZr-alloyed Amorphous Al_2O_3 Thin Films, ***Norma Salvadores Farran (Student),*** *Florentine Scholz, Tomasz Wojcik,* TU Wien, Austria; *Astrid Gies, Jürgen Ramm, Klaus Böbel,* Oerlikon Balzers, Liechtenstein; *Szilard Kolozsvári, Peter Polcik,* Plansee Composite Materials, Austria; *Tobias Huber, Jürgen Fleig, Helmut Riedl,* TU Wien, Austria
3:20pm	**INVITED: CM3-1-MoA-6** HADB Database: From Data Generation to AI-Supported Predictions of Properties of Hard-Coating Alloys, ***Igor Abrikosov,*** *Sheuly Ghosh, Lalith Kumar Gurram, Jonatan Wästlund, Davide Sangiovanni, Ferenc Tasnádi,* Linköping University, IFM, Sweden	
3:40pm	**BREAK**	**BREAK**
4:00pm	**INVITED: CM3-1-MoA-8** The Intersection of Energy, Entropy, and Exploration: Data-Driven Discovery of High-Entropy Materials, ***Corey Oses,*** Johns Hopkins University, USA	**INVITED: MB2-1-MoA-8** Ion-Beam Assisted Deposition of P-Type Oxide Semiconductor Thin Films in Room Temperature, ***Tsung-Yu Huang,*** Ming Chi University of Technology, Taiwan
4:20pm		
4:40pm	**INVITED: CM3-1-MoA-10** Optimal Catalysts for Methane Pyrolysis by Atomistic Modelling of Molecule-Surface Interactions, ***David Holec,*** *Martin Matas,* Montanuniversität Leoben, Austria	**MB2-1-MoA-10** Influence of Bonding Temperature on Electromigration Suppression in Cu-Doped Ag Bumps, ***Chien-Cheng Chiang (Student),*** *Peng-Hsiang Hsu, Fan-Yi Ouyang,* National Tsing Hua University, Taiwan
5:00pm		**INVITED: MB2-1-MoA-11** Piezoelectric MEMS – from Advanced Material Systems to Novel Device Architectures, ***Ulrich Schmid,*** *Daniel Platz, Michael Schneider,* TU Wien, Austria
5:20pm	**CM3-1-MoA-12** Multiscale Simulations from Precursors and Surface Chemistry to Thin Film Properties, ***Fedor Goumans,*** *Nestor Aguirrre, Nicolas Onofrio,* Software for Chemistry & Materials, Netherlands	

[1] **Bill Sproul Awardee Honorary ICMCTF Lecture**

Monday Afternoon, April 20, 2026

	Plasma and Vapor Deposition Processes **Room Town & Country A - Session PP1-2-MoA** **PVD Coatings and Technologies II** **Moderators:** **Yen-Yu Chen**, National Pingtung University of Science and Technology, Taiwan, **Christian Kalscheuer**, IOT, RWTH Aachen, Germany	**Protective and High-temperature Coatings** **Room Palm 3-4 - Session MA1-2-MoA** **Coatings for High Temperatures and Harsh Environment Applications II** **Moderators: Vladislav Kolarik**, Fraunhofer Institute for Chemical Technology ICT, Germany, **Fernando Pedraza**, La Rochelle Univ., Laboratory LaSIE, France
1:40pm	**PP1-2-MoA-1** Spot Stabilization and Thin Film Synthesis Using an Industrial-Sized DC Vacuum Arc Source with Magnetic Steering and Zr-Cu/Zr-Ni Cathodes, ***Igor Zhirkov,*** *Andrejs Petruhins,* Linkoping University, Sweden*; Philipp Immich,* IHI Hauzer Techno Coating B.V., Netherlands*; Szilard Kolozsvari, Peter Polcik,* PLANSEE Composite Materials GmbH, Germany*; Johanna Rosen,* Linkoping University, Sweden	**MA1-2-MoA-1** Synergistic Effects of Ta and Si Alloying on the Longterm Oxidation and Hot Corrosion Resistance of Ti–Al–N Coatings, ***Anna Hirle (Student),*** *Rainer Hahn, Oliver E. Hudak, Philip Kutrowatz, Tomasz Wojcik,* Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Vienna, Austria*; Szilard Kolozsvári, Peter Polcik,* Plansee Composite Materials GmbH, Lechbruck am See, Germany*; Anders.O Eriksson, Carmen Jerg, Klaus Boebel,* Oerlikon Balzers, Oerlikon Surface Solutions AG, Balzers, Liechtenstein*; Helmut Riedl,* Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Vienna, Austria; Institute of Materials Science and Technology, TU Wien, Vienna, Austria
2:00pm	**PP1-2-MoA-2** Relationship Between Substrate Bias and Hydrogen Barrier Behavior of Pulsed DC ZrN Thin Films on Zircaloy-4 Deposited by RF Magnetron Sputtering, ***Cheng-Han Wu,*** *Kuan-Che Lan,* National Tsing Hua University, Taiwan	**MA1-2-MoA-2** Fabrication, Characterisation and Tribological Testing of Magnetron Sputtered Cr Coated Zr Alloy Cladding for Enhanced Accident Tolerance in Light Water Reactors, *Thais Netto,* Manchester Metropolitan University, Brazil*; Adele Evans,* Manchester Metropolitan University, UK*; David Goddard, Jack Cooper,* United Kingdom National Nuclear Laboratory, UK*;* ***Peter Kelly,*** Manchester Metropolitan University, UK
2:20pm	**PP1-2-MoA-3** Spherical Tungsten Coating as Inertial Fusion Targets, ***Ali Basaran,*** *Priya Raman, Pavel Lapa, Ruben Santana, Hongwei Xu, Wendi Sweet, Fred Elsner, carlos monton,* General Atomics, USA*; Sasikumar Palaniyappan, Eric Loomis,* Los Alamos National Laboratory, USA	**INVITED: MA1-2-MoA-3** Second Phase-Driven Surface Engineering Strategies for Corrosion and Oxidation Protection of Mg–8Al–4Ca Alloy, ***Yueh-Lien Lee,*** National Taiwan University, Taiwan
2:40pm	**PP1-2-MoA-4** Structural Transformation and Electrical Transport in Magnetron-Sputtered Pr-Ni-CoThin Films, ***Bisheswor Acharya (Student),*** *You Qiang, Xavier Naranjo,* University of Idaho, USA*; Wenjuan Bian, Haixia Li,* Idaho National Laboratory, USA*; Hanping Ding,* The University of Oklahoma, USA*; Thomas Williams,* University of Idaho, USA	
3:00pm	**INVITED: PP1-2-MoA-5** From Anode-Assisted Magnetron Sputtering to Newer Developments Such as Inverted Fireball-Assisted Magnetron Sputtering, ***Martin Fenker,*** fem Research Institute, Germany	**MA1-2-MoA-5** Development of High-Temperature Ceramic Bond Coats for Environmental Barrier Coatings, ***Rebekah Webster,*** *Benjamin Kowalski, Bryan Harder,* NASA Glenn Research Center, USA
3:20pm		**MA1-2-MoA-6** Statistical Correlation between Microstructural Features and Process Forces in Conventional and Ultrasonic-Assisted Milling of Plasma Claddings, *Kai Treutler,* TU Clausthal, Germany*;* ***Dirk Schröpfer,*** Bundesanstalt für Materialforschung und -prüfung, Germany*; Maraike Willeke,* TU Clausthal, Germany*; Thomas Kannengießer,* Bundesanstalt für Materialforschung und -prüfung, Germany*; Volker Wesling,* TU Clausthal, Germany
3:40pm	**BREAK**	**BREAK**
4:00pm	**INVITED: PP1-2-MoA-8** Particle, Momentum and Energy Fluxes in PVD Processes - Probe Diagnostics Are Still in Vogue?", ***Holger Kersten,*** Kiel University, Germany	**MA1-2-MoA-8** Oxidation Resistance of Binary and Ternary Nitrides Obtained by Magnetron Sputtering, ***Ludovic Mereaux (Student),*** IRCER, France*; Edern Menou, Thomas Vaubois,* Safran, France*; Cédric Jaoul,* IRCER, France*; Marjorie Cavarroc,* Safran, France
4:20pm		**MA1-2-MoA-9** Adaptive Opto-Neuromorphic Device Based on Monolayer MoS_2 for Extreme-Temperature Cognitive Operations, ***Pukhraj Prajapat (Student),*** *Govind Gupta,* National Physical Laboratory, India
4:40pm	**PP1-2-MoA-10** High Fidelity Discrete Element Modelling of Particles in Motion for PVD Coating Optimization, ***Faranak Tayefi Ardebili,*** University of Namur, Namur Institute of Structured Matter (NISM), Namur, Belgium, USA*; Jerome Muller, pavel Moskovkin, Cedric Vandenabeele, stephane Lucas,* University of Namur, Namur Institute of Structured Matter (NISM), Namur, Belgium	**MA1-2-MoA-10** Reactive Sputtering of CrMoNbWxTiCy Carbide Films by High Power Impulse Magnetron Sputtering System: Effect of W and Carbon Contents, ***ChunHao Cheng (Student),*** *Yung-Chin Yang,* National Taipei University of Technology, Taiwan*; Jyh-Wei Lee,* Ming Chi University of Technology, Taiwan*; Bih-Show Lou,* Chang Gung University, Taiwan*; Chia-Lin Li,* Ming Chi University of Technology, Taiwan
5:00pm	**PP1-2-MoA-11** Investigation on Surface Properties Evolution during PVD Duplex Coating Production Steps for H13 Hot Work Steel, *João Vitor Piovesan Dalla Nora,* Federal University of Rio Grande do Sul, Brazil*; Felipe Canal,* Universidade Federal do Rio Grande do Sul, Brazil*;* ***Leandro Bettoni Ortega,*** Oerlikon Balzers, USA*; Steffen Aichholz, Rafael Lopes da Silva,* Oerlikon Balzers, Brazil*; Alexandre Da Silva Rocha,* Universidade Federal do Rio Grande do Sul, Brazil	**INVITED: MA1-2-MoA-11** Materials for Aerospace Extreme Environments, ***Samir M. Aouadi,*** University of North Texas, USA
5:20pm		

	Protective and High-temperature Coatings **Room Town & Country C - Session MA4-1-MoA** **Boron-containing Coatings I** **Moderator:** **Martin Dahlqvist**, Linköping University, Sweden	**Topical Symposium on Sustainable Surface Engineering** **Room Town & Country B - Session TS1-2-MoA** **Coatings for Batteries and Hydrogen Applications II** **Moderators: Chen-Hao Wang**, National Taiwan University of Science and Technology, Taiwan, **Martin Welters**, KCS Europe GmbH, Germany, **Fan-Bean Wu**, National United University, Taiwan
1:40pm		
2:00pm		
2:20pm		**TS1-2-MoA-3** Hydrogen-Induced Failure of High-Strength Austenitic Steel Under Wet Friction Conditions, ***Damian Batory***, Lodz University of Technology, Poland; *Pedro Avila, Etienne Bousser, Thomas Chagnon, Ludvik Martinu, Jolanta Klemberg-Sapieha,* Polytechnique Montréal, Canada
2:40pm	**INVITED: MA4-1-MoA-4** Charge Trapping Behavior in BN Films Fabricated by a Reactive Plasma-Assisted Coating Technique and Their Design Strategies, ***Koji Eriguchi***, Kyoto University, Japan	**INVITED: TS1-2-MoA-4** Advances in *Operando* and *In Situ* Cross-sectional Characterization of Thin Films for Battery and Hydrogen Applications, ***Juraj Todt***, Montanuniversität Leoben, Austria; *Francois Lienard, Manfred Burghammer,* ESRF, Grenoble, France; *Tobias Huber,* Huber Scientific, Austria; *Henrik Bratlie, Daniel Rettenwander,* Norwegian University of Science and Technology (NTNU), Norway; *Rostislav Daniel, Markus Alfreider, Michael Tkadletz, Jozef Keckes,* Montanuniversität Leoben, Austria
3:00pm		
3:20pm	**MA4-1-MoA-6** Development of TiB_2:h-BN:a-C Based Nanocomposite Coatings with Enhanced Wear and Corrosion Resistance for Turbojet and Gas Turbine Components, ***Gokhan Gulten***, *Banu Yaylali, Mustafa Yesilyurt, Ali Emre, Yasar Totik,* Atatürk University, Turkey; *Justyna Kulczyk-Malecka, Peter Kelly,* Manchester Metropolitan University, UK; *Ihsan Efeoglu,* Atatürk University, Turkey	**TS1-2-MoA-6** Atomic Layer Deposition for Enhancing Durability of Fuel Cell Catalysts, *Shao-Chuan Chang*, ***Chih-Liang Wang***, Department of Materials Science and Engineering, National Tsing Hua University, Taiwan
3:40pm	**BREAK**	**BREAK**
4:00pm	**INVITED: MA4-1-MoA-8** Energy Efficiency in Pulsed-DC Powder-Pack Boriding: A Sustainable Approach to Surface Hardening of Metallic Materials, ***Ivan E Campos Silva***, Instituto Politecnico Nacional, Mexico	**TS1-2-MoA-8** Electrocatalytic Performance Analysis of FeNixMoWCu High Entropy Alloy Thin Films: Effects of Ni Content, ***Yen-Chin Lai (Student)***, *Po-Chun Chen,* National Taipei University of Technology, Taiwan; *Bih-Show Lou,* Chang Gung University, Taiwan; *Jyh-Wei Lee,* Ming Chi University of Technology, Taiwan
4:20pm		**TS1-2-MoA-9** Development of FeNiMoWCuN and FeNiMoWCuC High Entropy Alloy Thin Film as Efficient Electrocatalysts for Water-splitting Applications, ***TAI Kao Cheng (Student)***, *Lee Jyh-Wei,* Ming Chi University of Technology, Taiwan; *Lou Bih-Show,* Chang Gung University, Taoyuan, Taiwan; *Li Chia-Lin,* Ming Chi University of Technology, Taiwan
4:40pm	**INVITED: MA4-1-MoA-10** Investigation of Technologically Driven Compositional and Structural Changes, Mechanical Properties, and Alloying of Transition Metal Diboride Thin Films, ***Viktor Sroba***, Linkoping University, Sweden, Slovakia	**INVITED: TS1-2-MoA-10** High-Entropy Oxide Thin Films for Sustainable Battery Applications, ***Pavel Soucek***, *Tatiana Pitonakova, Tomas Rada,* Masaryk University, Czechia; *Tomas Kazda, Antonin Simek,* Brno University of Technology, Czechia; *Petr Vasina,* Masaryk University, Czechia
5:00pm		
5:20pm		

Tuesday Morning, April 21, 2026

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Palm 1-2 - Session CM1-1-TuM** **Spatially-resolved and in situ Characterization of Thin Films, Coating and Engineered Surfaces I** **Moderators: Damien Faurie**, Univ. Sorbonne Paris Nord, France, **Naureen Ghafoor**, Linköping University, Sweden, **Aparna Saksena**, Max Planck Institute for Sustainable Materials, Germany	**Functional Thin Films and Surfaces** **Room Palm 5-6 - Session MB2-2-TuM** **Thin Films for Emerging Electronic and Quantum Photonic Devices II** **Moderators:** **Ufuk Kilic**, University of Nebraska - Lincoln, USA, **Ulrich Schmid**, TU Wien, Austria
8:00am	**INVITED: CM1-1-TuM-1** *Accelerated Atomic-Scale Exploration of Phase Evolution in Compositionally Complex Solid Solution Using Combinatorial Processing Platforms (CPP),* ***Yujiao Li,*** Ruhr University Bochum, Germany	**INVITED: MB2-2-TuM-1** Polyoxometalate Thin Film Heterostructures and Blends with Neuromorphic Computing Capabilities*,* ***Dimitra Georgiadou,*** University of Southampton, UK
8:20am		
8:40am	**CM1-1-TuM-3** Advanced Thin Film Characterization Through the Combination of New GD-OES System and Raman Analysis*,* ***Kayvon Savadkouei,*** Horiba, USA*; Suyeon Lee, Patrick Chapon, Lionel Garrido,* Horiba Europe Research Center, France	**INVITED: MB2-2-TuM-3** Yttrium-Doped Aluminum Nitride Memristors to Enhance the Pattern Recognition Accuracy of Unsupervised Spiking Neural Network*,* ***Jer-Chyi Wang,*** Chang Gung University, Taiwan
9:00am	**INVITED: CM1-1-TuM-4** *In Situ* Micromechanical Characterization of Nanocrystalline Materials Coupled with X-Ray Nanodiffraction*,* ***Michael Meindlhumer,*** *Juraj Todt,* Technical University of Leoben, Austria*; Manfred Burghammer, Martin Rosenthal, Asma A. Medjahed,* ESRF, Grenoble, France*; Noel Sheshi,* University of Udine, Italy*; Michal Zitek, Anton Hohenwarter,* Technical University of Leoben, Austria*; Enrico Salvati,* University of Udine, Italy*; Doris Steinmüller-Nethl,* CarbonCompetence GmbH, Austria*; Daniel Kiener, Jozef Keckes, Markus Alfreider,* Technical University of Leoben, Austria	
9:20am		**MB2-2-TuM-5** Impact of Interlayers on the Electrical and Microstructural Stability of Cu Films Deposited on SiC Substrates*,* ***Jui-Wei Hsu (Student),*** College of Semiconductor Research, National Tsing Hua University, Hsinchu, Taiwan*; Fan-Yi Ouyang,* Department of Engineering and System Science, National Tsing Hua University, Hsinchu, Taiwan
9:40am		**INVITED: MB2-2-TuM-6** Ternary-Blending Energetics and 3d Packing in Thin Films Enable Ultralow-Noise Nir Opds and Thermally Durable All-Polymer Opvs*,* ***Chih-Ping Chen,*** Ming Chi University of Technology, Taiwan
10:00am		
10:20am	**INVITED: CM1-1-TuM-8** Advanced Nanoscale 3D Tomography (APT) for Corrosion Barrier Healing in Steels*,* ***Robert Ulfig,*** CAMECA Instruments Inc., USA	
10:40am		

	Protective and High-temperature Coatings **Room Palm 3-4 - Session MA3-1-TuM** **High Entropy and Other Multi-principal-element Materials I** **Moderators: Frederic Sanchette**, Université de Technologie de Troyes, France, **Frédéric Schuster**, CEA, France	**Protective and High-temperature Coatings** **Room Town & Country D - Session MA4-2-TuM** **Boron-containing Coatings II** **Moderators:** **Martin Dahlqvist**, Linköping University, Sweden, **Anna Hirle**, TU Wien, Austria
8:00am	**MA3-1-TuM-1** A Combinatorial Approach to Develop Sputter-Deposited Lanthanide-Containing High Entropy Alloys for ICF Applications, ***Daniel Goodelman,*** Lawrence Livermore National Laboratory, USA*; Minsuk Seo,* Lawrence Livermore National Laboratory, Republic of Korea*; Gregory Taylor, Alison Engwall-Holmes, Swanee Shin, David Strozzi, Brandon Bocklund, John Chesser, Jimmy Aut, Sergei Kucheyev, Leonardus Bimo Bayu Aji,* Lawrence Livermore National Laboratory, USA	**MA4-2-TuM-1** Tuning Structure and Mechanical Properties of TaB_x Films using HiPIMS, ***Kateryna Smyrnova****, Tomáš Roch, Martin Truchlý,* CENAM FMPI, Comenius University in Bratislava, Slovakia*; Peter Švec,* Institute of Physics, SAS, Slovakia*; Rainer Hahn, Helmut Riedl,* TU Wien, Austria*; Leonid Satrapinskyy,* CENAM FMPI, Comenius University in Bratislava, Slovakia*; Viktor Šroba,* Linkoeping University, Sweden*; Marián Mikula,* CENAM FMPI, Comenius University in Bratislava, Slovakia
8:20am	**MA3-1-TuM-2** Lanthanide- and Actinide-Containing High-Entropy-Alloy Coatings for Inertial Confinement Fusion Hohlraums, ***Leonardus Bimo Bayu Aji,*** Lawrence Livermore National Laboratory, USA	**MA4-2-TuM-2** Solid Self-Lubrication Mechanism of B_2O_3 in Boride Based Thin Film Materials Under Various Atmospheres, ***Daniel Pölzlberger (Student),*** Institute of Materials Science and Technology, TU Wien, Austria*; Norma Salvadores Farran, Tomasz Wojcik, Philip Kutrowatz, Rainer Hahn,* Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria*; Eleni Ntemou, Daniel Primetzhofer,* Department of Physics and Astronomy, Uppsala University, Sweden*; Carsten Gachot,* Institute of Engineering Design and Product Development, Research Unit Tribology, TU Wien, Austria*; Helmut Riedl,* Institute of Materials Science and Technology, TU Wien, Austria
8:40am	**INVITED: MA3-1-TuM-3** Machine Learning Assisted Design of Complex and High Entropy Alloys by Hybrid Hipims/Pulsed Dc Pvd Process for Low Carbon Energy Applications in Extreme Environments, ***Paul Foulquier,*** CEA-INSTN, France*; Frédéric Schuster, Ryma Haddad, Fanny Balbaud-Célérier,* CEA, France*; Jean-Philippe Poli,* CEA List, France*; Eric Monsifrot,* AZ Concept, France	**MA4-2-TuM-3** Super-Ordered MAB Phases: Theoretical Design of Novel Boron-Containing Materials with Simultaneous in-Plane and Out-of-Plane Chemical Ordering, ***Martin Dahlqvist****, Johanna Rosen,* Materials Design Division, Linköping University, Sweden
9:00am		
9:20am	**MA3-1-TuM-5** EELS study of Fe–Co–Ni Phosphides electrocatalysts for Hydrogen Evolution Reaction, ***Chun-Te Chiang (Student),*** Southern Taiwan University of Science and Technology, Taiwan*; Yu-Min Shen,* National Dong Hwa University (NDHU), Taiwan*; Yu-Tsung Lin, Jow-Lay Huang,* National Cheng Kung University (NCKU), Taiwan*; Sheng-Chang Wang,* Southern Taiwan University of Science and Technology, Taiwan	
9:40am	**MA3-1-TuM-6** Solid-State Synthesis and In-Situ XRD Analysis of Titanium-Based Composite Oxides for Lithium-Ion Battery Anodes and Application, ***Guan-Hong Lin (Student)****, Hsing-I Hsiang,* National Cheng Kung University (NCKU), Taiwan*; Yu-Min Shen,* National Dong Hwa University (NDHU), Taiwan	
10:00am		
10:20am		
10:40am		

Tuesday Morning, April 21, 2026

	Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health, Food, and Agriculture Applications **Room Town & Country B - Session MD1-2-TuM** **Coatings and Surfaces for Medical Devices: Mechanical, Corrosion, Tribocorrosion, and Surface Processing II** **Moderators: Po-Chun Chen**, National Taipei University of Technology, Taiwan, **Jean Geringer**, Ecole Nationale Superieure des Mines, France	**Tribology and Mechanics of Coatings and Surfaces** **Room Town & Country C - Session MC3-1-TuM** **Tribology of Coatings and Surfaces for Industrial Applications I** **Moderators:** **Osman Eryilmaz**, Argonne National Laboratory
8:00am	**INVITED: MD1-2-TuM-1** Metallic-Capped Nanoslit Structure Integrating with Microfluidic Devices for Biosensing Applications., ***Yu-Jui (Ray) Fan***, National Yang Ming Chiao Tung University (NYCU), Taiwan	**INVITED: MC3-1-TuM-1** Bridging Research and Industrial Application: Advanced Coatings and Surface Treatments for Tribological Challenges, ***Andras Korenyi-Both***, Woodward Inc., USA
8:20am		
8:40am	**INVITED: MD1-2-TuM-3** Plasma-Activated Chitosan-Hydrogel Coating Incorporating Natural Immunomodulatory Protein (GMI) for Enhanced Tissue Regeneration and Oral Cancer Inhibition, *Yu-Rou Lin, Meng Yun Wu, Sheng-Yen Lin,* ***Ying-Sui Sun***, Taipei Medical University, Taiwan	**MC3-1-TuM-3** DLC-Based Coatings with Enhanced Cavitation Resistance for Automotive Applications, *Kenny Bislin,* Oerlikon Surface Solutions AG, Liechtenstein; *Martin Bohley,* Oerlikon Balzers Coating Germany GmbH, Germany; *Christian Fleischmann,* ***Astrid Gies***, *Theresa Huben, Kaushik Hebbar Kannur, Felix Oelschlegel, Stefan Moser,* Oerlikon Surface Solution AG, Liechtenstein; *Timea Stelzig,* Oerlikon AM Europe GmbH, Germany
9:00am		**INVITED: MC3-1-TuM-4** Surface Technologies for Geothermal Energy Applications, ***Oyelayo Ajayi***, *Levent Eryilmaz, Aaron Greco,* Argonne National Laboratory, USA
9:20am	**INVITED: MD1-2-TuM-5** Low Temperature Plasma Assisted Strategies to Surface Engineering of Biomaterial, *Claude Côté, Noureddine Oudini, Alexa Bagdasarian,* PLASMIONIQUE Inc., Canada; *Kambiz Chizari,* PLSMIONIQUE Inc, Canada; *Eduardo Loreto,* PLASMIONIQUE Inc, Canada; *Anita Sarkissian, Ryan Porter,* ***Andranik Sarkissian***, PLASMIONIQUE Inc., Canada	
9:40am		**MC3-1-TuM-6** Tailoring Ice Adhesion Behavior of Erosion Resistant Coatings: Tuning Surface Chemistry and Physical Properties, ***Olayinka Abegunde***, *Nathan Madden, Grant Crawford, Forest Thompson,* South Dakota School of Mines and Technology, USA; *Emily Asenath-Smith,* US Army Engineer Research and Development Center (ERDC) Cold Regions Research and Engineering Laboratory (CRREL), Hanover, NH 03755, USA
10:00am	**MD1-2-TuM-7** Superhydrophilic Metallic Coating: PVD Fabrication and Applications, *Sea-Fue Wang,* National Taipei University of Technology, Taiwan; ***Jinn P. Chu***, National Taiwan University of Science and Technology, Taiwan	**INVITED: MC3-1-TuM-7** 2D MXene Coatings – Combining Macro-Scalesuperlubricity and Durability, ***Andreas Rosenkranz***, University of Chile
10:20am	**INVITED: MD1-2-TuM-8** Ti-Nb-Mo Alloy Coatings Sputter-Deposited on 316L for Biomedical Applications, *Katherine Martinez-Orozco, Bruno Aquino,* Federal University of Sao Carlos, Brazil; *Raira Apolinario, Haroldo Pinto,* University of Sao Paulo, Brazil; *Conrado Afonso,* ***Pedro Nascente***, Federal University of Sao Carlos, Brazil	
10:40am		**MC3-1-TuM-9** Friction and wear of composite MXene/MoS_2 coating under low viscosity fuels under reciprocating sliding, ***Ali Zayaan Macknojia (Student)***, *Mohammad Eskandari,* University of North Texas, USA; *Stephan Berkebile,* Army Research Laboratory, USA; *Andrey Voevodin, Samir Aouadi, Diana Berman,* University of North Texas, USA

Exhibitors Keynote Lecture
Room Town & Country A - Session EX-TuM
Exhibitors Keynote Lecture
Moderator: Peter Kelly, Manchester Metropolitan University, UK

11:00am **INVITED: EX-TuM-1** Thin Film Tribological Coatings to Enhance the Durability of Engineered Bearings and Industrial Motion Components,
Ryan Evans, The Timken Company, USA

11:20am

11:40am

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Palm 1-2 - Session CM1-2-TuA** **Spatially-resolved and in situ Characterization of Thin Films, Coating and Engineered Surfaces I** **Moderators: Damien Faurie**, Univ. Sorbonne Paris Nord, France, **Naureen Ghafoor**, Linköping University, Sweden, **Aparna Saksena**, Max Planck Institute for Sustainable Materials, Germany	**Protective and High-temperature Coatings** **Room Town & Country A - Session MA2-1-TuA** **Hard and Nanostructured Coatings I** **Moderators:** **Stanislav Haviar**, University of West Bohemia, Czechia, **Kuan-Che Lan**, National Tsing Hua University, Taiwan, **Norma Salvadores Farran**, TU Wien, Austria
1:40pm		**MA2-1-TuA-1** The Fabrication, Microstructure, and Characterization of Functional Electroless Ni-P Composite Surface Coatings on Dried Luffa as Bio-Plate, ***Tzu-Hsiu Hung (Student)***, *Kai-Tse Tsai, Fan-Bean Wu,* National United University, Taiwan
2:00pm	**CM1-2-TuA-2** Advancements in XPS Depth Profiling using Femtosecond Laser Ablation (fs-LA) for Thin Film and Metal Oxide Surfaces, ***James Lallo***, Thermo Fisher Scientific, USA; *Tim Nunney, Robin Simposn,* Thermo Fisher Scientific, UK; *Mark Baker, Charlie Chandler,* University of Surrey, UK	**MA2-1-TuA-2** Erosion-Corrosion Analysis of Cr2N/Ni3N Multi-Layer Coating System Deposited on Nickel Aluminium Bronze (Nab) Using the Dc Magnetron Sputtering, ***Aakanksha Jain (Student)***, *Ramesh Chandra, Rahul S Mulik,* Indian Institute of Technology Roorkee, India
2:20pm	**INVITED: CM1-2-TuA-3** Sample Charging During X-Ray Photoelectron Spectroscopy Analyses of Thin Film Insulators: From Understanding to Solution, ***Grzegorz (Greg) Greczynski***, Linkoping University, Sweden	**MA2-1-TuA-3** Characteristics of TiBCN-based Thin Film with Different Mo Content by Direct Current Plasma Chemical Vapor Deposition, ***Takeyasu Saito***, *Rizu Kurogi, Noki Okamoto,* Osaka Metropolitan University, Japan
2:40pm		**INVITED: MA2-1-TuA-4** CrAlN-based Protective Nanostructured Coatings: Process–Structure–Property Correlations and Performance in Energy-Related Applications, ***Juan Carlos Sanchez-Lopez***, *Teresa Cristina Rojas,* Institute of Materials Science of Seville (ICMS), Spanish National Research Council (CSIC), Spain; *Ramón Escobar-Galindo,* Universidad de Sevilla (US), Spain; *Santiago Dominguez-Meister, Marta Brizuela,* TECNALIA, Basque Research and Technology Alliance (BRTA), Spain; *Sonia Mato, Francisco Javier Pérez,* Universidad Complutense de Madrid (UCM), Spain
3:00pm	**INVITED: CM1-2-TuA-5** Automated XPS/XAS Multiplet Fitting for Reproducible Orbital Covalency Extraction in Transition-Metal Systems, ***Mariela Bravo-Sanchez***, *Mario U. Delgado-Jaime, Tania E. Gonzalez-Robles,* Universidad de Guadalajara, Mexico	
3:20pm	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
3:40pm		
4:00pm	**CM1-2-TuA-8** Is Platinum a Proton-Blocking Catalyst?, ***Aparna Saksena***, *Bingxin Li, Yujun Zhao, Manoj Prabhakar, Jörg Neugebauer, Mira Todorova, Dierk Raabe, Baptiste Gault, Yug Joshi,* Max-Planck-Institut for Sustainable Materials, Germany	**MA2-1-TuA-8** Enhancement of Thermal Stability of Sputtered Nanotwinned Ag Thin Films by Cu Doping for Reliable Electronic Applications, ***Jun-Hui Qiu (Student)***, Department of Engineering and System Science, National Tsing Hua University, Taiwan; *Yu-Lin Liao,* College of Semiconductor Research, National Tsing Hua University, Taiwan; *Fan-Yi Ouyang,* Department of Engineering and System Science, National Tsing Hua University, Taiwan
4:20pm	**CM1-2-TuA-9** Correlating Spectroscopic Ellipsometry Measurements in Imaging and Diffractive Modes, *Md Rashedul Huqe, Yishu Foo, Kawshik Shikder, Yee Man Kwong, Zhang Yun, May Thawda Phoo,* ***Juan Antonio Zapien***, City University of Hong Kong	**MA2-1-TuA-9** Backscattered Argon Neutrals: Hidden Architects of Hf–Al–N Nanostructure Evolution, ***Naureen Ghafoor***, *Marcus Lorentzon,* Linköping Univ., IFM, Thin Film Physics Div., Sweden; *Rainer Hahn,* TU Wien, Austria; *Diederik Depla,* Ghent University, Belgium; *Justinas Palisaitis, Jens Birch,* Linköping Univ., IFM, Thin Film Physics Div., Sweden
4:40pm	**CM1-2-TuA-10** Machine Learning Assisted Structure-Property Relationships by Nanoindentation, ***Ude Dirk Hangen***, Bruker Nano GmbH, Germany; *Eric Hintsala, Bernhard Becker, Benjamin Stadnick, Kevin Schmalbach, Douglas Stauffer,* Bruker, Inc., USA	**MA2-1-TuA-10** From Grain Refinement to Precipitation Hardening: Si-Driven Microstructural Control in (Al,Mo,Ta,V,W)C Coatings, *M.A. Altaf, Balint Hajas,* TU Wien, Austria; *Szilard Kolozsvári,* Plansee Composite Materials GmbH, Germany; *Tomasz Wojcik, Alexander Kirnbauer,* ***Paul Mayrhofer***, TU Wien, Austria
5:00pm		**MA2-1-TuA-11** Influence of Interlayers on Thermal Stability and Abnormal Grain Growth in Co-Sputtered Nanotwinned Cu–Ag Alloy Thin Films, ***Ding-Peng Lin (Student)***, *Yu-Lin Liao, Fan-yi Ouyang,* National Tsing Hua University, Taiwan

Tuesday Afternoon, April 21, 2026

	Protective and High-temperature Coatings **Room Palm 3-4 - Session MA3-2-TuA** **High Entropy and Other Multi-principal-element Materials II** **Moderators:** **Alexander Kirnbauer**, TU Wien, Austria, **Pavel Soucek**, Masaryk University, Czechia	**Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health, Food, and Agriculture Applications** **Room Town & Country B - Session MD2-1-TuA** **Coatings and Sensors for Health, Food and Agriculture: Antibacterial, Bioactive, and Flexible Interfaces I** **Moderators: Diego Mantovani**, Université Laval, Canada, **Phaedra Silva-Bermudez**, Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico
1:40pm	**INVITED: MA3-2-TuA-1** On the Structure and Properties of Refractory-Metal-Based High-Entropy Metal-Sublattice Ceramics, ***Alexander Kirnbauer,*** TU Wien, Thin Film Materials Science Division, Austria	**INVITED: MD2-1-TuA-1** Deposition and Surface Characterization of Low-Pressure Plasma Ultra-Thin Coatings Designed for Biomedical Applications, ***Laurent Houssiau,*** University of Namur, Belgium
2:00pm		
2:20pm	**MA3-2-TuA-3** Influence of Nitrogen Contents on the Microstructure, Mechanical, and Electrochemical Behaviors of AlCrNbSiTiMoNx high entropy alloy films deposited by HiPIMS, ***CHANG-YI JIANG (Student),*** Department of Materials Engineering Ming Chi University of Technology, Taiwan; *Chia-Lin Li,* Center for Plasma and Thin Film Technologies, Taiwan; *Bih-Show Lou,* Chemistry Division, Center for General Education, Chang Gung University, Taiwan; *Jyh-Wei Lee,* Department of Materials Engineering Ming Chi University of Technology, Taiwan	**MD2-1-TuA-3** Silver-Copper Nanocoating (Sakcu®) Deposited on Stainless Steel Brackets to Reduce Biofilm Formation of *Streptococcus Mutans* and Potentially Prevent Early Dental Caries, ***Alejandra Cervantes-Ramírez (Student),*** *Lorena Reyes-Carmona, David Eduardo Martínez-Lara, Andrea Quiroz-Cervantes, Gina Prado-Prone, Sandra E. Rodil, Argelia Almaguer-Flores,* UNAM, Mexico
2:40pm	**MA3-2-TuA-4** Development of CrMoNbWTi and CrMoNbTiWC high entropy alloy films by HiPIMS: effect of Ti and C contents, *Han-Chieh Chen, Chia-Lin Li, Bih-Show Lou,* ***Jyh-Wei Lee,*** Ming Chi University of Technology, Taiwan	**INVITED: MD2-1-TuA-4** ZnO Nanowires: A Platform for Biosensing Applications, *Rafael Salinas, Shirlley Martínez, Guillermo Santana Rodriguez, Carlos Ramos,* ***Ateet Dutt,*** UNAM, Mexico
3:00pm	**MA3-2-TuA-5** Synthesis and Characterization of Amorphous CrCuTaTiV High-Entropy Thin Films: The Role of Sputter Yield in Custom Target Design, *Uriel Cárdenas-Rojas,* ***Sandra E. Rodil,*** *Carlos Ramos-Vilchis,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México	
3:20pm	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
3:40pm		
4:00pm	**MA3-2-TuA-8** Combinatorial Approach for the Synthesis of High-Entropy-Like Protective Nitride Coatings for Highly Aggressive Tribo-Corrosion Applications, ***Etienne Bousser,*** *Olayinka Abegunde, Fellipy S. Rocha, Pedro Avila, Ludvik Martinu, Jolanta Ewa Klemberg-Sapieha,* Polytechnique Montréal, Canada	**MD2-1-TuA-8 Graduate Student Award Finalist Talk:** Photoresponsive Bilayer Coating Integrating Zinc and a Chitosan-Antibiotic Drug Delivery Film for on-Demand Antimicrobial Photodynamic Therapy in Biomedical Implants, ***Samuel Santana Malheiros (Student)***[1], *Maria Helena Rossy Borges,* University of Campinas (UNICAMP), Brazil; *João Gabriel Silva Souza,* UnG, Brazil; *Elidiane Cipriano Rangel,* UNESP, Brazil; *Carlos Fortulan,* University of São Paulo, Brazil; *Nilson Cristino da Cruz,* UNESP, Brazil; *Eduardo Buozi Moffa,* University of Saskatchewan, Canada; *Bruna Egumi Nagay, Valentim Adelino Ricardo Barão,*
4:20pm		**MD2-1-TuA-9** Electrospun Nanocomposite Membranes for the Development of Osteoinductive Microambients, ***Phaedra Silva-Bermudez,*** *Julieta García-López,* Unidad de Ingeniería de Tejidos, Terapia Celular y Medicina Regenerativa; Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico; *Gina Prado-Prone,* Laboratorio de Biointerfases, DEPeI, Facultad de Odontología, Universidad Nacional Autónoma de México; *Monserrat Ramirez-Arellano, Gustavo E. Martínez-Murillo,* Unidad de Ingeniería de Tejidos, Terapia Celular y Medicina Regenerativa; Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico; *Lucia S. Flores-Hidalgo,* Posgrado en Ciencia e Ingeniería de Materiales, Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México; *Sandra E. Rodil,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México
4:40pm		
5:00pm		

[1] **Graduate Student Award Finalist**

Tuesday Afternoon, April 21, 2026

	Topical Symposium on Sustainable Surface Engineering Room Town & Country C - Session TS3-TuA Circular Strategies for Surface Engineering **Moderators:** **Marcus Hans**, RWTH Aachen University, Germany, **Arnaud Le Febvrier**, Uppsala University, Sweden	Tribology and Mechanics of Coatings and Surfaces Room Palm 5-6 - Session MC2-1-TuA Mechanical Properties and Adhesion **Moderators:** **Chia-Lin Li**, Ming Chi University of Technology, Taiwan, **Michael Meindlhumer**, Montanuniversität Leoben, Austria, **Balila Nagamani Jaya**, Indian Institute of Technology, India
1:40pm	**INVITED: TS3-TuA-1** Rethinking Resources: Circular Strategies in Target Material Production, ***Lukas Zauner**, Marie Friedl, Laszlo Sajti, Mariangela Fedel, Emanuel Feuerstein, Michael Kitzmantel, Erich Neubauer,* RHP Technology, Austria	**INVITED: MC2-1-TuA-1** Mechanical and Interfacial Behavior of Liquid-Like Polymer Surfaces at Extremes, ***Megan J. Cordill**,* Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria
2:00pm		
2:20pm	**TS3-TuA-3** Opportunities of Combinatorial Thin Film Materials Design for the Sustainable Development of Magnesium-Based Alloys, ***Marcus Hans**,* RWTH Aachen University, Germany*; Philipp Keuter,* GTT-Technologies, Germany*; Aparna Saksena,* Max Planck Institute for Sustainable Materials, Germany*; Janis Sälker, Markus Momma,* RWTH Aachen University, Germany*; Hauke Springer,* Universität Duisburg-Essen, Germany*; Jakub Nowak, Daniela Zander,* RWTH Aachen University, Germany*; Daniel Primetzhofer,* Uppsala University, Sweden*; Jochen Schneider,* RWTH Aachen University, Germany	**INVITED: MC2-1-TuA-3** In Situ Observation of Multicracking in Thin Films and Nanostructures, ***Damien Faurie**,* Université Sorbonne Paris Nord, France
2:40pm	**INVITED: TS3-TuA-4** Life Cycle Analysis for Next Generation Sustainable Flexible Food Packaging Materials, ***Glen West**,* Manchester Metropolitan University, UK	
3:00pm		**MC2-1-TuA-5** Numerical and Experimental Evaluation of Cyclic Contact Loads on Titanium Borides, *Hugo Alberto Pérez Terán, GERMAN ANIBAL RODRIGUEZ CASTRO, ALFONSO MENESES AMADOR,* ***Felipe Nava Leana (Student)**,* Instituto Politécnico Nacional, Mexico*; Daybelis Fernández Valdés,* Tecnológico Nacional de México*; VICTOR MANUEL ARAUJO MONSALVO,* Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico
3:20pm	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
3:40pm		
4:00pm	**INVITED: TS3-TuA-8** Advanced Chemical and Environmental Design of Coatings: From TG-Mass Spectrometry Through Thermodynamic and Life Cycle Analysis Application, ***Francisco Javier Perez Trujillo**,* Calle Cantalejo 11, Spain	**INVITED: MC2-1-TuA-8** Grain Boundaries and “Complexions” in Metallic Thin Films: New Insights on the Interplay of Atomic Structure, Chemistry and Material Properties, ***Gerhard Dehm**,* Max Planck Institute for Sustainable Materials, Germany
4:20pm		
4:40pm	**TS3-TuA-10** Reversible Solid Oxide Cells for Hydrogen Production and Storage Developed by Reactive Magnetron Co-Sputtering, ***Justyna Kulczyk-Malecka**, Kleitos Panagi, David Shaw, Peter Kelly,* Manchester Metropolitan University, UK	**MC2-1-TuA-10** Many-to-one Mapping Between Stress-Strain Curves and Spherical Indentation Load-Displacement Curves, ***Santosh Thapa (Student)**, Yang-Tse Cheng, Madhav Baral,* University of Kentucky, USA
5:00pm		**MC2-1-TuA-11** Tribological Performance and Mechanistic Insights of Aluminium-Sic Composites Fabricated by Computerized Bottom-Pouring Stir Casting, *Vishal Mehta,* Automobile Engineering Department, Parul Institute of Technology, India*; **Anand Joshi,*** Micro Nano Research and Development Center, Parul University, India*; Unnati Joshi,* 3Mechanical Engineering Department, Parul Institute of Engineering & Technology, India

Wednesday Morning, April 22, 2026

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Town & Country C - Session CM3-2-WeM** **Data-Driven Thin Film Design: High-Throughput Experimentation, Simulation, and Machine Learning II** **Moderators: Andrea Giunto**, LBL **David Holec**, Montanuniversität Leoben, Austria	**International Union for Vacuum Science, Technique, and Applications Special Session** **Room Palm 5-6 - Session IUVSTA-WeM** **IUVSTA Special Session** **Moderator:** **Ivan G. Petrov**, University of Illinois at Urbana-Champaign
8:00am		**INVITED: IUVSTA-WeM-1** The Enabling Power of Vacuum Science, IUVSTA and Field-Deployable Quantum-Based Innovations with the NIST-on-a-Chip Program, ***Jay Hendricks,*** NIST, USA
8:20am		
8:40am	**CM3-2-WeM-3** Investigating growth twinning in NiCr and NiFe alloys by employing a combinatorial high throughput approach, ***Ashley Maldonado Otero (Student)***, *Anthony Botros,* University of Southern California, USA*; Yi Liu,* University of California Irvine, USA*; Mohammad Hadi Yazdani, Aoyan Liang,* University of Southern California, USA*; Irene Beyerlein,* University of California Santa Barbara, USA*; Diana Farkas,* Virginia Tech, USA*; Paulo Branicio,* University of Southern California, USA*; Timothy Rupert,* Johns Hopkins University, USA*; Andrea Hodge,* University of Southern California, USA	**INVITED: IUVSTA-WeM-3** Chalcogenide Ovonic Threshold Switch (OTS) and Selector-Only Memory (SOM) Devices for Neuromorphic Applications, ***Jong-Souk Yeo***, *Siwon Park, Young-Min Kim, Sangyeop Kim,* Yonsei University, Republic of Korea
9:00am	**CM3-2-WeM-4** High-Throughput Combinatorial Studies of Nanocrystalline Ni-Pt Thin Films, ***Kyle Dorman***, *Finley Haines, Heekwon Lee, Manish Jain, Tomas Babuska, Sadhvikas Addamane, Christian Harris, Luis Jauregui, Ping Lu, Brad Boyce, John Curry, David Adams,* Sandia National Lab, USA	
9:20am	**INVITED: CM3-2-WeM-5** Experiment and Computation Meet in Mixed-Anion Thin Films, ***Andrea Crovetto***, Technical University of Denmark	**INVITED: IUVSTA-WeM-5** Quantum Effects of Hydrogen in Metal Thin Films, ***Katsuyuki Fukutani***, University of Tokyo, Japan
9:40am		
10:00am	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
10:20am		
10:40am		
11:00am	**INVITED: CM3-2-WeM-10** Ion-Surface Interaction Models – Unraveling Microstructure Evolution in Oxides and Nitrides, ***Denis Music***, Malmö University, Sweden	**INVITED: IUVSTA-WeM-10** Stable and Metastable High Entropy Alloys, ***Sven Ulrich***, *Dimitri Litvinov, Jarir Aktaa, Adam Bichler, Michael Stueber,* Karlsruhe Institute of Technology (KIT), Institute for Applied Materials (IAM), Germany
11:20am		
11:40am	**CM3-2-WeM-12** Ai-Driven Prediction of Work Function Variations in $ZnGa_2O_4$(111) Under Multi-Gas Adsorption, *Chao-Chang Shen,* National Chung Hsing University, Taiwan*; Sheng-Fang Huang,* China University of Science and Technology, Taiwan*;* ***Po-Liang Liu,*** National Chung Hsing University, Taiwan	
12:00pm	**CM3-2-WeM-13** Artificial Intelligence Framework for Understanding Defect-Mediated Transport in Se–Te–Pb Thin Films, ***Maninder Kamboj,*** *Farah Mohammadi,* Toronto Metropolitan University, Canada	

Wednesday Morning, April 22, 2026

	Plasma and Vapor Deposition Processes **Room Town & Country B - Session PP2-1-WeM** **HIPIMS, Pulsed Plasmas, and Energetic Deposition I** **Moderators:** **Arutiun P. Ehiasarian**, Sheffield Hallam University, UK, **Tetsushide Shimizu**, Tokyo Metropolitan University, Japan	**Protective and High-temperature Coatings** **Room Town & Country A - Session MA2-2-WeM** **Hard and Nanostructured Coatings II** **Moderators: Stanislav Haviar**, Univ. of West Bohemia, Czechia, **Kuan-Che Lan**, National Tsing Hua University, Taiwan, **Norma Salvadores Farran**, TU Wien, Austria
8:00am	**PP2-1-WeM-1** Alpha-alumina thin films at low temperature: how R-HiPIMS process parameters influence purity and crystallinity, ***Célia Dieudonné (Student)***, ICMCB, France; *Marjorie Cavarroc-Weimer,* Safran, France	**INVITED: MA2-2-WeM-1** Dual-Phase Crystalline-Amorphous Coatings Based on Thin-Film Metallic Glasses: Synthesis and Properties, ***Petr Zeman***, University of West Bohemia, Czechia
8:20am	**PP2-1-WeM-2** Influence of Pulse Parameters in Multi-Pulse Hipims on Reactive Mode Transition for VO_2 Thin Film Deposition, ***Erdong Chen (Student)***, *Rina Watabe,* Tokyo Metropolitan University, Japan; *Stephanos Konstantinidis,* University of Mons, Belgiums, Belgium; *Daniel Lundin,* Linköping University, Sweden; *Tetsuhide Shimizu,* Tokyo Metropolitan University, Japan	
8:40am	**INVITED: PP2-1-WeM-3** Bipolar HiPIMS Discharges: Principles, Diagnosticsand Thin Film Deposition Strategies, ***Jiří Čapek***, *Tomáš Kozák, Andrea Dagmar Pajdarová, Mina Farahani, Tomáš Tölg,* University of West Bohemia in Pilsen, Czechia	
9:00am		**MA2-2-WeM-4** Hardness and Fracture Toughness Enhancement in Non-Stoichiometric Diboride Superlattices, ***Marek Vidiš***, *Tomáš Fiantok, Martin Truchlý, Vitalii Izai, Leonid Satrapinskyy, Tomáš Roch,* Comenius University Bratislava, Slovakia; *Rainer Hahn, Helmut Riedl,* TU Wien, Austria; *Peter Švec,* Slovak Academy of Sciences, Slovakia; *Viktor Šroba, Marián Mikula,* Comenius University Bratislava, Slovakia
9:20am	**PP2-1-WeM-5** Synthesis-Dependent Phase Evolution in the W–N System: A Case Study with HiPIMS and N+ ion source, ***Oleksandr Pshyk***, *Kerstin Thorwarth, Nathan Rodkey, Sebastian Siol,* Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland	**MA2-2-WeM-5** Effects of Nitrogen Flow Rate and Deposition Temperature on the Structure and Properties of VMoN Thin Films Deposited by High Power Impulse Magnetron Sputtering, ***Jia-Hong Huang***, *Pei-Fen Peng,* National Tsing Hua University, Taiwan
9:40am	**PP2-1-WeM-6** Development and Optimization of CrN and CrSiN Hipims Coatings for Enhanced Tool Performance in Cryogenic Machining of Ti6Al4V, ***Gaya CHETTOUH (Student)***, University of Technology of Troyes (UTT), France; *Soufyane ACHACHE, Lamine GUEYE,* Université de Technologie de Troyes, France; *Yoann PINOT,* École Supérieure Nationale d'Arts et Métiers de Cluny, France; *Frederic SANCHETTE, Mohamed EL GARAH,* Université de Technologie de Troyes, France; *Corinne NOUVEAU,* École Supérieure Nationale d'Arts et Métiers de Cluny, France	**MA2-2-WeM-6** Multi-Scale Investigation of Superior Mechanical Properties in Nitride Ceramics with Negative Stacking Fault Energy, *Yong Huang*, *Zhuo Chen*, ***Zaoli Zhang***, Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria
10:00am	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
10:20am		
10:40am		
11:00am	**PP2-1-WeM-10** Nanopatterned Nanolayer TiN/NbN Coatings as Plasmonic and Wear Resistant Antimicrobial Materials, ***Arutiun P. EHIASARIAN***, *Arunprabhu Arunachalam Sugumaran,* Sheffield Hallam University, UK; *Ryan Bower, Ming Fu,* Imperial College London, UK; *David Owen, Ethan Muir, Yashodhan Purandare, Papken Ehiasar Hovsepian,* Sheffield Hallam University, UK; *Peter K. Petrov, Rupert Oulton,* Imperial College London, UK; *Thomas Smith,* Sheffield Hallam University, UK	**MA2-2-WeM-10** TiNbN / AlTiNbSiN / CrN Multilayer Coatings Irradiated by 300 keV Ar^+ Ions: The Role of Nitrogen, ***Kuan-Che Lan***, *Chun-Hung Hsiao,* National Tsing Hua University, Taiwan; *Yin-Yu Chang,* National Formosa University, Taiwan
11:20am		**MA2-2-WeM-11** Extremely Versatile Coating Design Through Adjustable Magnetic Field Settings for Arc Sources Using the Advanced Arc Technology from Oerlikon Balzers, ***Alexandre Michau***, *Denis Kurapov,* Oerlikon Surface Solution AG, Liechtenstein
11:40am		
12:00pm		

Wednesday Morning, April 22, 2026

	Protective and High-temperature Coatings **Room Palm 3-4 - Session MA3-3-WeM** **High Entropy and Other Multi-principal-element Materials III** **Moderators:** **Frederic Sanchette**, Université de Technologie de Troyes, France, **Pavel Soucek**, Masaryk University, Czechia	**Surface Engineering - Applied Research and Industrial Applications** **Room Palm 1-2 - Session IA2-1-WeM** **Surface Modification of Components in Automotive, Aerospace and Manufacturing Applications I** **Moderators: Satish Dixit**, Plasma Technology Inc., **Tanifuji Shinichi**, Kobe Steel Ltd., Japan
8:00am		**INVITED: IA2-1-WeM-1** Micro-Impact Testing to Develop Multilayer Coating Systems with Enhanced Durability Under Cyclic High-Stress Contact, ***Ben Beake,*** Micro Materials Ltd, UK*; Tomasz Liskiewicz,* Manchester Metropolitan University, UK*; Sam McMaster,* Anglia Ruskin University, UK*; Daniel Tobola,* Lukasiewicz, Poland*; Luis Isern, John Nicholls,* Cranfield University, UK*; Hannah Zhang, Mark Gee,* National Physical Laboratory, UK
8:20am		
8:40am		**INVITED: IA2-1-WeM-3** From Lab to Industry: Scaling Atmospheric Plasma Coatings for Metal Protection Against Corrosion*,* ***Daphne Pappas****,* Plasmatreat USA
9:00am	**MA3-3-WeM-4** CrMoNbTaV Refractory High-Entropy Alloy: From Bulk Material to Films via a Synergistic Theoretical–Experimental Approach*, Rafael Mendoza-Pérez, Ricardo González-Campuzano,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México*; David E. Martínez-Lara,* 2Escuela Nacional Preparatoria No.7 "Ezequiel A. Chávez", Universidad Nacional Autónoma de México*; Roxana M. Calderón-Olvera, Josué E. Romero-Ibarra, Ignacio A. Figueroa-Vargas,* ***Sandra E. Rodil-Posada,*** Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México	
9:20am	**MA3-3-WeM-5** Effects of HiPIMS Plasma Ionization and Deposition Parameters on the Microstructure and Mechanical Properties of TiZrNbTaMo High Entropy Alloy Films*,* ***Chia-Lin Li,*** Center for Plasma and Thin Film Technologies, Ming Chi University of Technology, Taiwan*; Bih-Show Lou,* Chemistry Division, Center for General Education, Chang Gung University, Taiwan*; Jyh-Wei Lee,* Department of Materials Engineering, Ming Chi University of Technology, Taiwan	**IA2-1-WeM-5** Directed Energy Deposition of Bronze Coatings on Aluminium Substrates: Microstructure, Phase Evolution, and Process Optimization*,* ***Christoph Witte****, Claus-Henning Solterbeck,* University of Applied Science Kiel, Germany*; Hannes Freiße,* Kugler Bimetal SA, Switzerland*; Johannes Wiesheier, Thomas Rubenbauer,* Schlenk Metallic Pigments GmbH, Germany*; Andreas Ebert, Jürgen Barz,* Schmelzmetall Deutschland GmbH, Germany*; Jana Schloesser,* University of Applied Science Kiel, Germany
9:40am	**MA3-3-WeM-6** Phase Formation, Microstructure and Selected Properties of Magnetron Sputtered Cr-Ta, Cr-Nb and Cr-v-Ta Thin Films*, Jan-Ove Soehngen, Vincent Ott, Sven Ulrich,* ***Michael Stueber,*** KIT, Germany	**IA2-1-WeM-6** Plasma Electrolytic Oxidation Coatings on Mg Alloy AE44 Prepared from Mixed Aluminate-silicate Electrolytes*,* ***Tianyi Zhang (Student)****, Ran Cai, Xueyuan Nie, Henry Hu,* Department of Mechanical, Automotive and Materials Engineering, University of Windsor, Canada
10:00am	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**	**COMPLIMENTARY REFRESHMENTS IN EXHIBIT HALL**
10:20am		
10:40am		
11:00am	**MA3-3-WeM-10** Overcoming Strength-Plasticity Trade-Off in Complex Concentrated Alloy Thin Films by Engineering Their Atomic and Microstructure*, Davide Vacirca, Arjun Curam,* Laboratoire des Sciences des Procédés et des Matériaux (LSPM) – CNRS, France*; Gregory Abadias,* Institut Pprime - CNRS - ENSMA - Université de Poitiers, France*; Andrea Li Bassi,* Nanolab, Departement of Energy, Politecnico di Milano, Italy*; Christian Ricolleau,* University of Paris, Laboratory of Matériaux et Phénomènes Quantiques, France*; Gerhard Dehm,* Max Planck institute for Sustainable Materials, Germany*;* ***Matteo Ghidelli,*** Laboratoire des Sciences des Procédés et des Matériaux (LSPM) – CNRS, France	**INVITED: IA2-1-WeM-10** Low-Adhesion Carbon Coatings for the Sustainable Utilization of Geothermal Power Plants*,* ***Yuya Nakashima****,* Fuji Electric Co., Ltd., Japan*; Noritsugu Umehara,* Nagoya University, Japan*; Hiroyuki Kousaka,* Gifu University, Japan*; Takayuki Tokoroyama,* Nagoya University, Japan*; Motoyuki Murashima,* Tohoku University, Japan
11:20am	**MA3-3-WeM-11** Exploring the Microstructure and Mechanical Properties of CoCrFeNiMn Thin Films*,* ***Thomas Astecker (Student),*** TU Wien, Austria*; Peter Polcik,* Plansee SE, Austria*; Alexander Kirnbauer, Paul Heinz Mayrhofer,* TU Wien, Austria	
11:40am	**MA3-3-WeM-12** Reactive Sputtering of CrMoNbWTiAgCx Carbide Films by High Power Impulse Magnetron Sputtering System: Effect of Ag and C Contents*,* ***BengYan Lu (Student)****, Yung-Chin Yang,* National Taipei University of Technology, Taiwan*; Chia-Lin Li,* Ming Chi University of Technology, Taiwan*; Bih-Show Lou,* Chang Gung University, Taiwan*; Jyh-Wei Lee,* Ming Chi University of Technology, Taiwan	**INVITED: IA2-1-WeM-12** Application-Driven Research in Surface Engineering for Advanced Cutting Tool and Component Applications - 25 years of cooperation between Plansee and Oerlikon *-,* ***Peter Polcik****, Szilard Kolozsvari,* Plansee Composite Materials GmbH, Germany*; Denis Kurapov,* Oerlikon Surface Solutions AG, Liechtenstein*; Helmut Riedl, Paul Heinz Mayrhofer,* Institute of Materials Science and Technology, TU Wien, Austria
12:00pm		

Keynote Lectures
Room Town & Country A - Session KYL2-WeKYL
Keynote Lecture II
Moderator:
Sandra E. Rodil, Universidad Nacional Autónoma de México

1:00pm **INVITED: KYL2-WeKYL-1** Nanoengineered Materials and Coatings for Medicine and Beyond*,*
Krasimir Vasilev*,* Flinders University, Australia

1:20pm

Wednesday Afternoon, April 22, 2026

	Functional Thin Films and Surfaces **Room Palm 1-2 - Session MB1-WeA** **Optical Materials and Thin Films** **Moderators:** **Jiri Houska**, University of West Bohemia, Czechia, **Juan Antonio Zapien**, City University of Hong Kong	**Plasma and Vapor Deposition Processes** **Room Town & Country B - Session PP2-2-WeA** **HiPIMS, Pulsed Plasmas, and Energetic Deposition II** **Moderators:** **Arutiun P. Ehiasarian**, Sheffield Hallam University, UK, **Tetsushide Shimizu**, Tokyo Metropolitan University, Japan
2:00pm	**INVITED: MB1-WeA-1** Ultrafast Phenomena in Optical Materials with fs–ns Time-Resolved Spectroscopic Ellipsometry, ***Shirly Espinoza,*** ELI Beamlines. ELI ERIC, Czechia	**INVITED: PP2-2-WeA-1** Understanding the Hyper-Power Impulse Magnetron Discharge and related Arc Transition, ***Tiberiu Minea****, Erwan Morel, Zakaria Belkaid, Adrien Revel,* University of Paris-Saclay, France
2:20pm		
2:40pm	**MB1-WeA-3** The Role of Contaminants in the Microstructural Evolution of Defects in Low-Emissivity Glazing at High Temperatures, ***Phillip Rumsby (Student)****, Bill Baloukas, Oleg Zabeida, Ludvik Martinu,* Polytechnique Montréal, Canada	**PP2-2-WeA-3** Plasma Characteristics, Microstructure, and Mechanical Properties of Tetrahedral Amorphous Carbon Thin Films Deposited by Time-Resolved High-Power Impulse Magnetron Sputtering with Synchronized Bias Control, ***Fu-Sen Yang (Student)****, Yu-Lin Kuo,* National Taiwan University of Science and Technology, Taiwan*; Chi-Lung Chang,* Ming Chi University of Technology, Taiwan, Republic of China
3:00pm	**INVITED: MB1-WeA-4** Thermochromic VO_2-Based Coating for Energy-Saving Smart Windows: Design and Scalable Synthesis, ***Jaroslav Vlcek****,* University of West Bohemia, Czechia	**PP2-2-WeA-4** Carbon Discharge Dynamics by Pulse Sequencing: Pulse Parameter Control in Multipulse Hipims*, Ryo Sakamoto,* ***Tetsuhide Shimizu****,* Tokyo Metropolitan University, Japan
3:20pm		**INVITED: PP2-2-WeA-5** Understanding the Impact of Kinetic and Potential Ion Energies on Thin Film Structure Toward Low-Temperature Deposition*, Dmitry Kalanov, Andre Anders,* ***Yeliz Unutulmazsoy****,* Leibniz Inst. of Surface Eng. (IOM), Germany
3:40pm	**INVITED: MB1-WeA-6** Designing Light-Active Thin Film Heterojunctions: Band Alignment and Layer Engineering for Efficient Photocatalysis, ***Monserrat Bizarro****,* UNAM, Mexico	

Wednesday Afternoon, April 22, 2026

	Topical Symposium on Sustainable Surface Engineering **Room Palm 5-6 - Session TS2-1-WeA** **Coatings and Surfaces for Renewable Energy Technology I** **Moderators:** **Arnaud Le Febvrier**, Uppsala University, Sweden, **Marcus Hans**, RWTH Aachen University, Germany	**Tribology and Mechanics of Coatings and Surfaces** **Room Town & Country C - Session MC3-2-WeA** **Tribology of Coatings and Surfaces for Industrial Applications II** **Moderators: Osman Eryilmaz**, Argonne National Laboratory
2:00pm		**INVITED: MC3-2-WeA-1** Tailoring and Designing High-Performance Carbon Coatings - Insides in Recent Developments and New Approaches for Tribological Applications, ***Dominic Stangier,*** Oerlikon Balzers Coating Germany GmbH, Germany
2:20pm	**TS2-1-WeA-2** Strain Engineering of ScN Thin Film by HiPIMS and Its Effect on Optical, Electrical and Thermoelectric Properties, ***Arnaud le Febvrier,*** *Sanath Kumar Honnali,* Uppsala University, Angstrom Laboratory, Sweden*; Charlotte Poterie,* Universite de Poitiers-CNRS, France*; Tiago V. Fernandes, Robert Frost,* Uppsala University, Angstrom Laboratory, Sweden*; Vladyslav Rogoz,* Linköping University, Sweden*; Martin Magnuson,* Linkoping University, Sweden*; Fabien Giovannelli,* Université de Tours, France*; Joaquim P. Leitão,* Universidade de Aveiro, Portugal*; Jean Francois Barbot,* Universite de Poitiers-CNRS, France*; Per Eklund,* Uppsala University, Angstrom Laboratory, Sweden	
2:40pm	**INVITED: TS2-1-WeA-3** 1D & 2D Material-Based Electronic Devices for Energy Harvesting and Sustainable Technology, ***Elisabetta Dimaggio,*** University of Pisa, Italy	**MC3-2-WeA-3** Advanced Coating and Surface Techniques in Modern Automotive Tribology, *Sung Chul Cha,* Hyundai Motor Group- Hyundai Kefico, Republic of Korea*; Kyoung Il Moon, Hae Won Yoon,* **Gi-Hoon Kwon**, KITECH, Republic of Korea*; Jongkuk Kim,* KIMS, Republic of Korea
3:00pm		**MC3-2-WeA-4** Development and Evaluation of TiAlVSiCN Coatings for Automotive Applications, ***Jianliang Lin,*** Southwest Research Institute, San Antonio Texas, USA
3:20pm	**TS2-1-WeA-5** Harnessing the mechanical and magnetic energy with PMN-PT/Ni-Mn-In-based flexible piezoelectric nanogenerator, ***Satyam Shankhdhar (Student),*** Indian Institute of Technology Roorkee (IIT R), India	**MC3-2-WeA-5** New Carbon High Productivity / Low Temperature Coater with New Temperature Measurement and New Colour Coating, ***Markus Esselbach,*** Oerlikon, Liechtenstein
3:40pm	**TS2-1-WeA-6** High Power Impulse Magnetron Sputtering of CoCrFeNiV High Entropy Alloy Thin Films for Enhanced Supercapacitor Applications, ***Krishnakant Tiwari,*** Ming Chi University of Technology, Taiwan*; Bih Show Lou,* Chang Gung University, Taoyuan, Taiwan*; Jyh Wei Lee,* Ming Chi University of Technology, Taiwan	**MC3-2-WeA-6** Evaluation of Boriding as a Post-Treatment to Improve the Thermal Stability and Tribological Performance of Weld-Repaired Tool Steels, ***Cesar Resendiz Calderon,*** *Leonardo Farfan Cabrera,* Tecnologico de Monterrey, Mexico*; Enrique Campos Silva,* Instituto Politecnico Nacional, Mexico*; Edgar Ravelo Santos, Mateo Roux Reyna, Sebastian Garcia Barragan,* Tecnologico de Monterrey, Mexico

	Awards Ceremony and Honorary Lecture **Room Town & Country A - Session HL-WeHL** **Bunshah Award Honorary Lecture**
5:45pm	**INVITED: HL-WeHL-1 RF Bunshah Awardee Honorary Lecture:** "Chameleon" Adaptive Tribological Coatings: Lessons Learned and Future Outlook, ***Andrey A. Voevodin***[1]*,* University of North Texas, USA
6:05pm	

[1] **R.F. Bunshah Awardee Honorary Lecture**

Thursday Morning, April 23, 2026

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Town & Country C - Session CM2-1-ThM** **Advanced Mechanical-Physical Testing of Surfaces, Thin Films, Coatings and Small Volumes I** **Moderators:** **Matteo Ghidelli**, Laboratoire des Sciences des Procédés et des Matériaux (LSPM) – CNRS, France	**Functional Thin Films and Surfaces** **Room Palm 3-4 - Session MB2-3-ThM** **Thin Films for Emerging Electronic and Quantum Photonic Devices III** **Moderators:** **Jiri Capek**, University of West Bohemia, Czechia, **Spyros Kassavetis**, Aristotle University of Thessaloniki, Greece
8:00am		
8:20am		
8:40am	**CM2-1-ThM-3** Ultra–High Vacuum Tribology: Industrial Relevance, Mechanisms, and Research Gaps, ***Esteban Broitman****, Sven Kelling, Rickmer Kose,* Sentys Inc., USA	**MB2-3-ThM-3** From Passive to Active Structurally Controlled Optical Coatings for Energy, Eyewear and Sensor Applications, *Bill Baloukas, Martin Crouan, Brandon Faceira, Aleksandra Pajak,* ***Philip Rumsby (Student),*** *Oleg Zabeida, Jolanta Klemberg-Sapieha, Ludvik Martinu,* Polytechnique Montréal,
9:00am	**CM2-1-ThM-4** Atomic-Scale Revealing the Mechanical Response of Defect-Mediated Nitride Ceramics, ***Zhang Zaoli,*** Erich Schmid Institute, Austria*; Chen Zhuo, Yong Huang,* Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria	**MB2-3-ThM-4** Glancing Angle Deposition of WOx and Cu-doped TiO2 Thin Films for Improved Conductometric Gas Sensing, ***Akash Kumar (Student)***, University of West Bohemia, NTIS, India*; Stanislav Haviar,* University of West Bohemia, NTIS, Czechia*; Nirmal Kumar,* University of West Bohemia, NTIS, India
9:20am	**INVITED: CM2-1-ThM-5** Probing nanoscale deformation mechanisms in metastable metallic thin films using 4D-STEM, ***Lukas Schretter (Student)****, Jürgen Eckert, Christoph Gammer,* Austrian Academy of Sciences, Austria	**MB2-3-ThM-5** Sputter Coating of High-Quality Vo2 Metal-Insulator Transition Films for Flexible Electronics, ***Juan Andres Hofer****,* University of California San Diego, USA*; Ali C. Basaran,* General Atomics, USA*; Tianxing Damir Wang, Ivan K. Schuller,* University of California San Diego, USA
9:40am		
10:00am	**BREAK**	**BREAK**
10:20am	**INVITED: CM2-1-ThM-8** High-Speed Nanoindentation Mapping and Machine Learning as Enabling Technologies for Combinatorial Thin-Film Libraries, ***Edoardo Bemporad****,* Roma tre university, Italy*; Rostislav Daniel,* Montanuniversität Leoben, Leoben, Austria*; Edoardo Rossi,* Roma Tre University, Italy*; Michal Zitek,* Montanuniversität Leoben, Leoben, Austria*; Marco Sebastiani,* Roma Tre University, Italy	**MB2-3-ThM-8** - In Situ Electron-Beam-Induced Selective-Area Growth of Tellurium Films by Molecular Beam Epitaxy, ***Ossie Douglas (Student)****,* University of South Florida, USA*; Peter Snapp,* NASA Goddard Space Flight Center, USA*; Ali Ashraf,* University of South Florida, USA
10:40am		**MB2-3-ThM-9** High Tunability in Crystallographic Design of Thin Films Enabled by Atomic Imprint Crystallization, ***Koichi Tanaka****,* Argonne National Laboratory, USA*; Xella Doi, Connor Horn, Chloe Tsang, Supratik Guha,* University of Chicago, USA
11:00am	**INVITED: CM2-1-ThM-10** Deformation Twins, Kink Bands and Stacking Faults: Highlighting the Diversity and Complementarity of Deformation Mechanisms in the MAX Phase Cr_2AlC Through Micromechanical Testing, ***Christophe TROMAS****, Mohamed AKOU,* Institut Pprime - CNRS - ENSMA - Université de Poitiers, France*; Salomé PARENT,* institut pprime - CNRS - ENSMA - Université de Poitiers, France*; Anne JOULAIN,* Institut Pprime - CNRS - ENSMA - Université de Poitiers, France	**MB2-3-ThM-10** Thin Film Processing Strategies for High-Throughput Autonomous Materials Discovery and Development, ***Christopher Muratore****,* University of Dayton, USA*; Brian Everhart, Drake Austin, Nicholas Glavin,* US Air Force Research Laboratory, USA
11:20am		**INVITED: MB2-3-ThM-11** Designing Porosity for Function: Polymer-Templated Metal Oxides for Catalysis and Broadband, Wide-Angle Optics, ***Elena V. Shevchenko****,* University of Chicago, Argonne National Laboratory, USA*; Diana Berman,* University of North Texas, USA
11:40am	**CM2-1-ThM-12** Analysis of the Mechanical Properties of APS Coatings Deposited on Agricultural Plough Components, *Boris Nazar,* Technical University of Moldova*; Fabian Cezar Lupu, Corneliu Munteanu, Viorel Goanta,* ***Bogdan Istrate****,* "Gheorghe Asachi" Technical University of Iasi, Romania*; Grigore Marian,* Technical University of Moldova*; Marcelin Benchea,* "Gheorghe Asachi" Technical University of Iasi, Romania	
12:00pm	**CM2-1-ThM-13** Thin Film Characterization by Ultrasonically Induced Nanofatigue During Nanoindentation, ***Antanas Daugela****,* Nanometronix LLC, USA	

Thursday Morning, April 23, 2026

	Surface Engineering - Applied Research and Industrial Applications **Room Palm 1-2 - Session IA3-ThM** **Innovative Surface Engineering for Advanced Cutting and Forming Tool Applications** **Moderators:** **Markus Esselbach**, Oerlikon Balzer, Liechtenstein, **Kuan Che Lan**, National Tsing Hua University, Taiwan	**Surface Engineering of Biomaterials, Devices & Regener-ative Materials: Health, Food, & Agriculture Applications** **Room Town & Country B - Session MD2-2-ThM** **Coatings and Sensors for Health, Food and Agriculture: Antibacterial, Bioactive, and Flexible Interfaces II** **Moderators: Valentim A.R. Barão**, University of Campinas (UNICAMP), Brazil, **Jean Geringer**, Ecole Nationale Superieure des Mines, France
8:00am	**IA3-ThM-1** Tool–Embedded Piezoresistive Thin–Film Sensors for Guide–Pad Normal Force Measurement in Deep Hole Drilling, ***Martin Rekowski (Student)***, Fraunhofer IST, Germany; *Lucas Brause, Sebastian Michel,* TU Dortmund University ISF, Germany; *Anna Schott, Christoph Herrmann,* Fraunhofer IST, Germany; *Dirk Biermann,* TU Dortmund University ISF, Germany	**MD2-2-ThM-1** Surface Modification of AZ31B by Oxygen-Plasma Immersion Ion Implantation to Promote Schwann Cell Interaction for Peripheral Nerve Regeneration, ***Luciana Malvestiti (Student)***, *Carlo Paternoster, Francesco Copes,* LBB, CHU de Quebec research center, Laval University, Canada; *Paolo Mengucci, Giani Barucca,* Department SIMAU, Università Politecnica delle Marche, Ancona, Italy; *Silvia Ceré,* INTEMA-CONICET, Mar del Plata National University, Argentina; *Andranik Sarkissian,* Plasmionique Inc., Varennes, QC, Canada; *Diego Mantovani,* LBB, CHU de Quebec research center, Laval University, Canada
8:20am		**MD2-2-ThM-2** Multifunctional PEO–PPy/Zn Coatings Combined with Electrical Stimulation for Enhanced Antimicrobial and Osteogenic Titanium Surfaces, ***Valentim A. R. Barão***, *Maria Helena R. Borges, Samuel Santana Malheiros, Julia M. Teodoro,* Univ. of Campinas (UNICAMP), Brazil; *João Gabriel S. Souza,* Guarulhos Univ. (UNG), Brazil; *Elidiane C. Rangel,* Sao Paulo State Univ. (UNESP), Brazil; *Ana Paula Souza, Bruna Egumi Nagay,* Univ. of Campinas, Brazil
8:40am	**INVITED: IA3-ThM-3** Development of in-Situ Cleaning Processes and Customized Coatings on Numismatic Coinage Dies for Minting Industry, *João Coroa, Alexander Gorupp, Parnia Navabpour, Giuseppe Sanzone,* ***Hailin Sun***, Teer Coatings, UK	**MD2-2-ThM-3** Effect of Zirconium Addition on Zn- and Mg-Based Thin Film Properties Deposited by Magnetron Sputtering for Intravascular Biodegradable Materials, ***Fatiha Challali***, *Cristiano Poltronieri,* Lab des Sciences des Procédés et des Matériaux (LSPM) – CNRS, France; *Vinicius De Oliveira F. Sales, Carlos Henrique Michelin Beraldo, Carlo Paternoster,* Université Laval, Canada; *Frédéric Chaubet,* Univ Sorbonne Paris Nord, France; *Philippe Djemia,* Lab des Sciences des Procédés et des Matériaux (LSPM) – CNRS, France; *Diego Mantovani,* Univ Laval, Canada
9:00am		**MD2-2-ThM-4** Swelling Effect on Uhmwpe Cup: Long Term Consequences on Malfunctioning the Junction Head-Cup-Metal Back, ***Jean Geringer***, *Albert Boyer,* Mines Saint-Etienne, France; *Bertrand Boyer,* Hopital Edouard Herriot - Hospices Civils de Lyon, France; *Frederic Farizon,* CHU Saint-Etienne, France
9:20am	**IA3-ThM-5** Machining of Hardened Steels under Dry Conditions: Wear Mechanisms of AlTiSiN and AlTiXN-TiSiZN (X, Z= nonmetal elements) Coatings, ***Rong Zhao***, *Simon Evertz, Alexander Fehr, Markus Schenkel,* voestalpine eifeler Vacotec GmbH, Germany	**MD2-2-ThM-5** Effect of Thermal Evaporation Deposited Silver Nanoparticles on the Antibacterial Behavior of Plasma Electrolytic Oxidation Coated AZ31B Magnesium Alloy, ***Ming-Hsuan Chang (Student)***, *Chuan=Ming Tseng,* Ming Chi University of Technology, Taiwan
9:40am	**IA3-ThM-6** Improving Injection Molding Process Performance of Recycled Plastics, ***Yavor Sofronov***, *Georgi Todorov, Milko Angelov, Boyan Dochev, Antonio Nikolov, Valentin Mishev, Krum Petrov, Rayna Dimitrova, Milko Yordanov,* Technical University of Sofia, Bulgaria; *Krassimir Marchev,* Technical University of Sofia, USA	
10:00am	**BREAK**	**BREAK**
10:20am		**INVITED: MD2-2-ThM-8** Dislocation-Mediated Plasticity and Strain Localization in Transition Metal Nitrides: Insights from Micropillar Compression, ***Rainer Hahn***, CDL-SEC, TU Wien, Austria; *Peter Polcik, Szilard Kolozsvari,* Plansee Composite Materials GmbH, Germany; *Klaus Boebel,* Oerlikon Surface Solutions AG, Liechtenstein; *Helmut Riedl,* CDL-SEC, TU Wien, Austria
11:00am	**IA3-ThM-10** Over 30 Years of PVD Aluminium-Oxide Based Hard Coatings in Demanding Industrial Applications, ***Philipp Immich***, *Louis Tegelaers, Julia Janowitz, Daniel Barnholt,* IHI Hauzer Techno Coating B.V., Netherlands; *Rolf Schäfer, Tobias Radny,* Robeko GmbH & Co. KG, Germany; *Thomas Schütte,* PLASUS GmbH, Germany	**MD2-2-ThM-10** Biofunctional Zinc Phosphate-Loaded Membranes as a Potential Anti-Biofilm and Remineralizing Approach for Caries Management, ***Gina Prado-Prone***, *Lorena Reyes-Carmona, Lizeth A. González-Vargas,* Universidad Nacional Autónoma de México; *Phaedra S. Silva-Bermudez,* Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico; *Sandra E. Rodil,* Universidad Nacional Autónoma de México; *Nicola Cioffi,* Università degli Studi di Bari Aldo Moro, Italy; *Camila A. Zamperini Zamperini,* University of Illinois Chicago; *Argelia Almaguer-Flores*, Universidad Nacional Autónoma de México
11:20am	**IA3-ThM-11** Sputtered CrN-based coating concepts for plastic injection molding, ***Alexander Fehr***, Voestalpine eifeler Vacotec, Germany	**MD2-2-ThM-11** Growth Mechanism and Cellular Response to Film Thickness Variations of Nanoporous Alkaline Titanate-Converted, Magnetron Sputtered Ti Thin Films, ***Matthew Wadge***, Manchester Metropolitan University, UK; *Kozim Midkhatov,* Univ. of Manchester, UK; *Jonathan Wilson, Louise Briggs, Timothy Cooper, Zakhar Kudrynskyi,* Univ. of Nottingham, UK; *Reda Felfel,* University of Strathclyde, UK; *Ifty Ahmed, Colin Scotchford, David Grant,* Univ. of Nottingham, UK; *Justyna Kulczyk-Malecka,* Manchester Metropolitan University, UK; *Mahetab Amer,* Univ. of Manchester, UK; *Peter Kelly,* Manchester Metropolitan Univ., UK
11:40am	**IA3-ThM-12** Study on Multilayer Thick ta-C Coating Process on Cutting Tools for CFRP Machining Using Filtered Cathodic Vacuum Arc Deposition, ***Jongkuk Kim***, *Jae-Il Kim, Young-Jun Jang,* Korea Institute of Materials Science, Republic of Korea	**MD2-2-ThM-12** Antibacterial Performance of Electrodeposited Copper Coatings on Titanium Alloy Surfaces for Biomedical Applications, ***Bryan Angel Zárate Verduzco (Student)***, Universidad Michoacana de San Nicolás de Hidalgo, Mexico; *Victor Manuel Solorio García, Miguel Ivan Dávila Perez,* Tecnologico Nacional de México/ Instituto Tecnológico de Morelia, Mexico; *Roberto Guerra González, Sandra Edith Lopez Castañeda, Alfonso Lemus Solorio, Maria Guadalupe Carreon Garcidueñas,* Universidad Michoacana de San Nicolás de Hidalgo, Mexico
12:00pm	**IA3-ThM-13** Enhanced Fe and Ni bonded NbC Laser Surface Engineered Hardmetals: Alternative Cutter Materials for Electric Vehicle Applications, *Rodney Genga*, University of the Witwatersrand, South Africa; *Suzan Conze, Lutz-Michael Berger, Johanes Pötschke,* IKTS Fraunhofer Institute, Germany; ***Julien Witte,*** *Dirk Schroepfer,* BAM Berlin, Germany; *Adam Čermák, Pavel Zeman,* Czech Technical Univ. in Prague, Czech Republic; *Sinoyolo Ngongo, Arno Janse van Vuuren,* Nelson Mandela Univ., South Africa	**MD2-2-ThM-13** Low-Pressure Plasma Processes for the Deposition of Adherent Diamond-Like Carbon Coatings on Titanium Alloys for Biomedical Applications, *Chloé Audet,* ***Pascale Chevallier***, Laval University, Canada; *Sandra Rubio,* University of Namur, Belgium; *Andranik Sarkissian,* Plasmionique Inc, Canada; University of Namur, Belgium; *Diego Mantovani,* Laval University, Canada

Topical Symposium on Sustainable Surface Engineering
Room Town & Country D - Session TS2-2-ThM
Coatings and Surfaces for Renewable Energy Tech II
Moderators:
Arnaud le Febvrier, Uppsala University, Sweden,
Marcus Hans, RWTH Aachen University, Germany

8:00am	**INVITED: TS2-2-ThM-1** Energy-Efficient Hydrogen Production via Urea-Assisted Electrolysis Enabled by Linker-Engineered NiCo MOFs, ***Thi Xuyen Nguyen****, Hui-Chuan Chen, Jyh-Ming Ting,* National Cheng Kung University, Taiwan	
8:20am		
8:40am		
9:00am	**TS2-2-ThM-4** Optimization of Tunable Interfacial Engineering in WOx/α-Fe_2O_3 Heterostructures via Dc Magnetron Sputtering for Enhanced PEC Activity and Carrier Transport Efficiency, ***Carlos Gomes (Student)****, Mariane Murase Murase, Matheus Torres, Douglas Leite, Rodrigo Pessoa, Argemiro Sobrinho, André Pereira,* Instituto Tecnológico de Aeronáutica, Brazil	
9:20am	**TS2-2-ThM-5** Thermal Treatment Effects on the Structural and Optoelectronic Properties of Nb2O5 Thin Films Deposited by DC Magnetron Sputtering, *Rodrigo Prado Medeiros Leite da Silva, Natali da Silva Barbosa, Bianca Sartori,* Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, Brazil*; Lucas Diniz Araujo,* Aeronautics Institute of Technology (ITA), Brazil*; Carlos Eduardo Gomes,* Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, Brazil*; Filipe Caldatto Dalan, André Luis de Jesus Pereira,* ***Argemiro Soares da SIlva Sobrinho****,* Aeronautics Institute of Technology (ITA), Brazil	
9:40am		
10:00am	**BREAK**	
10:20am	**TS2-2-ThM-8** Interface-Driven Evolution and Electrochemical Behavior of CuO/WO_X Heterostructures Deposited by Magnetron Sputtering, *Rafael Leal, Giovana Fazenda, Helen Barros, David Graves, Filipe Dalan, Mariane Murase, Marcilene Gomes,* Aeronautics Institute of Technology (ITA), Brazil*; Douglas Leite,* Aeronautics Institute of Technology, Brazil*; Argemiro Silva-Sobrinho,* ***André Pereira****,* Aeronautics Institute of Technology (ITA), Brazil	
10:40am	**TS2-2-ThM-9** Unlocking the Potential of Medium-Entropy Prussian Blue for Superior Electro-Fenton Oxidation, ***Sheng-Wei Lin (Student)****, Jyh-Ming Ting,* National Cheng Kung University (NCKU), Taiwan	
11:00am	**TS2-2-ThM-10** Non-Precious Metal Phosphide/Sulfide Heterostructure Electrocatalyst for SOR, ***Jian-An Wu (Student)****, Jyh-Ming Ting,* National Cheng Kung University (NCKU), Taiwan	
11:20am	**TS2-2-ThM-11** Defect-Engineered Copper-Based Materials for Electrocatalytic Nitrate Reduction, ***Ting- Chun Hung (Student)****, Jyh-Ming Ting,* National Cheng Kung University (NCKU), Taiwan	
11:40am		
12:00pm		

Keynote Lectures
Room Town & Country B - Session KYL3-ThKYL
Keynote Lecture III
Moderator:
Sandra E. Rodil, Universidad Nacional Autónoma de México

12:40pm **INVITED: KYL3-ThKYL-1** Compressive Stress as Creative Force: Engineering Ultrahard Hydrogen-Free Carbon for a Diamond-Like Properties,
David R. McKenzie, University of Sydney, Australia

1:00pm

Thursday Afternoon, April 23, 2026

	Advanced Characterization, Modelling and Data Science for Coatings and Thin Films **Room Town & Country C - Session CM3-3-ThA** **Data-Driven Thin Film Design: High-Throughput Experimentation, Simulation, and Machine Learning III** **Moderators:** **Kevin Kaufmann**, Oerlikon, USA, **Sebastian Siol**, Empa, Switzerland	**Plasma and Vapor Deposition Processes** **Room Town & Country B - Session PP3-ThA** **CVD, ALD, and Laser-based Deposition & Microfabrication Technologies** **Moderators:** **Carles Corbella**, National Institute of Standards and Technology (NIST)/ University of Maryland, College Park, **Frederic Mercier**, CNRS, Grenoble-INP, University Grenoble Alpes, SIMaP laboratory, France
1:20pm	**INVITED: CM3-3-ThA-1** Transforming Thin-Film Research Through Autonomous Experimentation: From Synthesis to Long-Term Device Performance*,* ***Davi Febba****, Brooks Tellekamp, William Callahan, Andriy Zakutayev,* National Renewable Energy Laboratory, USA	
1:40pm		
2:00pm	**CM3-3-ThA-3** HiPIMS Process-Optimization in an Autonomous Sputter Chamber via Active Learning*, Alexander Wieczorek, Nathan Rodkey,* ***Sebastian Siol****,* Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland	**INVITED: PP3-ThA-3** Unveiling the Potential of Transparent Conductive Materials by Atomic/Molecular Layer Deposition: From Process Synthesis to Functionalization*,* ***Abderrahime Sekkat****,* Univ. Toulouse, CNRS, Toulouse INP, LGC, Toulouse, France., France
2:20pm	**INVITED: CM3-3-ThA-4** Accelerating Experiments with AI and Automation: Powder Materials and their Compositional Characterization*,* ***Andrea Giunto****, Yuxing Fei, Bernardus Rendy,* Lawrence Berkeley Lab, University of California, Berkeley, USA*; Pragnay Nevatia,* University of California at Berkeley, USA*; Nathan Szymanski, Gerbrand Ceder,* Lawrence Berkeley Lab, University of California, Berkeley, USA	
2:40pm		**INVITED: PP3-ThA-5** In-Plasma XPS: a New Metrology Tool for Semiconductor Process Development and Control*,* ***Andrei Kolmakov****,* NIST-Gaithersburg, USA
3:00pm	**INVITED: CM3-3-ThA-6** Autonomous Experimentation with Quality Control and Cross-Facility Coordination*,* ***Yongtao Liu****,* Oak Ridge National Laboratory, USA	
3:20pm		**PP3-ThA-7** Ultrathin SiN_x Membrane Stability Under Energy Fluxes from Non-Thermal Plasma Discharges Monitored via Nanocalorimetry*,* ***Carles Corbella****,* National Institute of Standards and Technology (NIST)/ University of Maryland, College Park, USA*; Feng Yi, Andrei Kolmakov,* National Institute of Standards and Technology (NIST), USA
3:40pm	**BREAK**	**BREAK**
4:00pm	**INVITED: CM3-3-ThA-9** Self-Navigating Thin Film Laboratory: Real-Time AI-Driven Optimization of Functional Thin Films*,* ***Ichiro Takeuchi****,* University of Maryland, USA	
4:20pm		
4:40pm	**CM3-3-ThA-11** Advances in the Rapid Characterization of Sputter-Deposited, Binary Metal Thin Films Made by Combinatorial Techniques*,* ***David Adams****, Finley Haines, Sadhvikas Addamane, Kyle Dorman, Remi Dingreville, Saaketh Desai, Brad Boyce, Mark Rodriguez,* Sandia National Laboratories, USA	

Thursday Afternoon, April 23, 2026

	Plasma and Vapor Deposition Processes **Room Palm 1-2 - Session PP4-ThA** **Greybox Models for Wear Prediction** **Moderators:** **Philipp Immich**, IHI Hauzer Techno Coating B.V., Netherlands	**Surface Engineering - Applied Research and Industrial Applications** **Room Town & Country D - Session IA2-2-ThA** **Surface Modification of Components in Automotive, Aerospace and Manufacturing Applications II** **Moderators: Miha Cekada**, Jozef Stefan Institute, Slovenia, **Satish Dixit**, Plasma Technology Inc., USA
1:20pm		
1:40pm	**PP4-ThA-2** Integrating Tribological Descriptors and Physics-Informed Modelling for Tool Wear Prediction in PVD Coated Milling Tools, ***Amod Kashyap,*** Institute for Applied Materials (IAM-ZM), Micro-Tribology Centre (µTC), Karlsruhe Institute of Technology, Germany*; Amirmohammad Jamali,* Institute of Production Science (wbk), Karlsruhe Institute of Technology, Germany*; Finn Rümenapf, Nelson Filipe Lopes Dias, Wolfgang Tillmann,* Institute of Materials Engineering (LWT), TU Dortmund University, Germany*; Johannes Schneider,* Institute for Applied Materials (IAM-ZM), Micro-Tribology Centre (µTC), Karlsruhe Institute of Technology, Germany*; Michael Stueber,* Institute for Applied Materials (IAM-AWP), Karlsruhe Institute of Technology, Germany*; Volker Schulze,* Institute of Production Science (wbk), Karlsruhe Institute of Technology, Germany	**INVITED: IA2-2-ThA-2** From Development to Series Production in Automotive – The Role of Coating Characterization, ***Nazlim Bagcivan,*** Schaeffler Technologies GmbH & Co. KG, Germany
2:00pm	**INVITED: PP4-ThA-3** Discovering Hard, Conductive Films via Combinatorial High-Throughput Multimodal Characterization and Machine Learning, ***Brad Boyce,*** Sandia National Laboratories, USA	
2:20pm		**IA2-2-ThA-4** Investigation of Salt Solution Drying Behavior to Improve Coating Performance for Marine Turbomachinery, ***Sadikshya Pandey (Student)****, David Poerschke,* University of Minnesota, USA
2:40pm	**PP4-ThA-5** Influence of Temperature- Dependent Mechanical Properties on Tool Load in Cutting, ***Christian Kalscheuer,*** *Kirsten Bobzin, Xiaoyang Liu,* Surface Engineering Institute - RWTH Aachen University, Germany*; Benjamin Bergmann, Berend Denkena, Nico Junge,* Institute of Production Engineering and Machine Tools, Hannover, Germany	**INVITED: IA2-2-ThA-5** Enhancing Mechanisms for the Increased Performance of Nuclear Energy and Aerospace Coating- and Solid-RHEA Components, ***Sal Rodriguez,*** 11251 Pino Ave. NE, USA*; Satish Dixit,* Plasma Technology Inc., USA*; Nima Fathi,* Texas A&M University, USA
3:00pm		
3:20pm		**IA2-2-ThA-7** Element-Resolved Investigation of Zr-Based Conversion Coatings on Aluminum and Zinc Alloy Substrates by AESEC and GD-OES, ***Suyeon Lee****, Alice Stankova, Patrick Chapon,* HORIBA Europe Research Center, France*; Kayvon Savadkouei,* HORIBA, USA*; Junsoo Han,* Sorbonne University, France*; Dominique Thierry, Dan Persson,* Research Institutes of Sweden*; Kevin Ogle, Borhan Sultan,* Chimie Paris Tech, France
3:40pm	**BREAK**	**BREAK**
4:00pm		**IA2-2-ThA-9** DLC Coatings for Space Applications , ***Konrad Fadenberger****,* Oerlikon Balzers Coating Germany GmbH, Germany*; Roland Holzbauer,* Aerospace & Advanced Composites GmbH, Austria*; Giulio Feliziani,* Oerlikon Balzers Coating Italy S.p.A., Italy*; Sebastien Guimond, Martin Drabik, Andreas Stadlberger, Julien Keraudy,* Oerlikon Surface Solutions AG Pfäffikon, Liechtenstein*; Igor Larranaga,* Oerlikon Balzers Coating Spain S.A.U, Spain
4:20pm		**IA2-2-ThA-10** Solid Particle Erosion Mechanisms of Organic Matrix Composites With and Without Protective Coatings, *Veronika Simova*, ***Etienne Bousser,*** Polytechnique Montréal, Canada*; Marjorie Cavarroc,* Safran Tech, France*; Juan Manuel Mendez,* MDS Coating Technologies, Canada*; Ludvik Martinu, Jolanta Ewa Klemberg-Sapieha,* Polytechnique Montréal, Canada
4:40pm		

Tribology and Mechanics of Coatings and Surfaces
Room Palm 3-4 - Session MC1-1-ThA
Friction, Wear, Lubrication Effects, & Modeling I
Moderators:
Klaus Boebel, Oerlikon Balzers, Liechtenstein

1:20pm	**MC1-1-ThA-1** Tribological Behavior of New and Green Surface Treatments of Anodized Aluminum Alloys, *Marc Schmittbuhl*, Ecole Centrale de Lyon - LTDS, France; *Gilles Auregan, Jacoboni Alex,* Safran Landing Systems, France; *Joffrey Tardelli,* IRT-M2P, France; ***Marjorie Cavarroc-Weimer,*** Safran Tech, France; *Vincent Fridrici,* Ecole Centrale de Lyon - LTDS, France	
1:40pm	**INVITED: MC1-1-ThA-2** Mapping Property Spaces of Combinatorially Deposited Nanocrystalline Alloy Coatings, *John Curry, Frank DelRio,* ***Tomas Babuska,*** *Justin Hall, Kyle Dorman, David Adams, Nathan Brown, David Montes de Oca Zapiain, Scotty Bobbitt, Michael Chandross,* Sandia National Laboratories, USA; *Filippo Mangolini, Camille Edwards,* University of Texas at Austin, USA	
2:00pm		
2:20pm	**MC1-1-ThA-4** From Green Lubricant to Liquid Precursor for Hard, Multi-Functional Coatings, ***Mohammad Eskandari (Student),*** *Diana Berman, Ali Zayaan Macknojia,* University of North Texas, USA	
2:40pm	**INVITED: MC1-1-ThA-5** Promise and Pitfalls of Tribological Coatings in Electric Vehicle Applications, ***Ali Erdemir,*** *Gugyeong Sung, Seungjoo Lee, Merve Komurlu, Henry Papesh, Cagatay Yelkarasi,* Texas A&M University, USA; *Leonardo Farfan,* Tecnologico de Monterrey, Mexico	
3:00pm		
3:20pm	**MC1-1-ThA-7** Behavior of Nb-Doped Molybdenum Disulfide Coatings Under Electrified Tribological Tests, *Miguel Rubira Danelon),* University of São Paulo, Brazil; *Newton Kiyoshi Fukumasu,* Institute of Technological Research, Brazil; ***Roberto Martins de Souza,*** *André Paulo Tschiptschin,* University of São Paulo, Brazil	
3:40pm	**BREAK**	
4:00pm	**MC1-1-ThA-9** Calibrated Friction Measurements Using a New Interferometric Atomic Force Microscope, ***Joel Lefever,*** *Aleksander Labuda, Roger Proksch,* Oxford Instruments, USA	
4:20pm	**INVITED: MC1-1-ThA-10** Effects of Mo–N–Cu Doping on Microstructural, Mechanical, and Tribological Properties of Thick Ta-C Coatings for Cryogenic Applications, ***Young-Jun Jang,*** *Jae-Il Kim, Ji-Woong Jang, Jongkuk Kim,* Korea Institute of Materials Science (KIMS), Republic of Korea	
4:40pm		

Advanced Characterization, Modelling and Data Science for Coatings and Thin Films
Room Town & Country A - Session CM-ThP
Advanced Characterization, Modelling and Data Science for Coatings and Thin Films Poster Session
5:00 – 7:00pm

CM-ThP-1 Artificial Intelligence for Predictive Design of Semiconducting Thin Films: Bandgap, Conductivity, and Activation Energy in Se–Sb–In Alloys, ***Maninder Kamboj,*** *Farah Mohammadi,* Toronto Metropolitan University, Canada

CM-ThP-3 Active-Learning M3GNet-Accelerated Multiscale Pipeline for ALD/ALE Thin-Film Descriptors, ***Fedor Goumans,*** *Nestor Aguirre, Nicolas Onofrio,* Software for Chemistry & Materials, Netherlands

CM-ThP-4 Elastic Anisotropy and Stiffness Tensor Determination in TiN Thin Films, ***Rainer Hahn,*** CDL-SEC, TU Wien, Austria*; Rebecca Janknecht,* Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland*; Nikola Koutna,* TU Wien, Institute of Materials Science and Technology, Austria*; Anna Hirle,* CDL-SEC, TU Wien, Austria*; Anton Davydok,* Helmholtz-Zentrum Hereon, Germany*; Klaus Boebel,* Oerlikon Surface Solutions AG, Liechtenstein*; Szilard Kolozsvari, Peter Polcik,* Plansee Composite Materials GmbH, Germany*; Christina Krywka,* Helmholtz-Zentrum Hereon, Germany*; Paul H. Mayrhofer,* TU Wien, Institute of Materials Science and Technology, Austria*; Helmut Riedl,* CDL-SEC, TU Wien, Austria

CM-ThP-5 Hypulse XPSFemtoSecond Laser Ablation XPS Depth Profiling, ***James Lallo,*** Thermo Fisher Scientific, USA*; Tim Nunney, Robin Simposn,* Thermo Fisher Scientific, UK*; Mark Baker, Charlie Chandler,* University of Surrey, UK

CM-ThP-6 Conditions for the Atom-by-Atom Growth of Maximum-Quality Thin Films, with a Focus on Ti-Al-N, ***Jiri Houska,*** *Hassan Ataalite,* University of West Bohemia, Czechia

CM-ThP-7 AI-Optimized Afterglow Functional Coatings for Enhanced Plant-Based Carbon Capture, *Yu-An Chen, Amit Kumar Sharma,* National Cheng Kung University, Taiwan*; Fei Pan,* ETH Zürich, Switzerland*; **Yen-Hsun Su,*** National Cheng Kung University, Taiwan

CM-ThP-8 Development of an Electrical Waste Plastic Sorting System Using Laser-Induced Breakdown Spectroscopy and Convolutional Neural Networks, ***Guan Wen Chen (Student),*** *Tsung-Yu Huang,* Department of Materials Engineering, Ming Chi University of Technology, Taiwan

CM-ThP-9 Corrosion Resistance of Titanium Boride (TiB_X) Layers Formed on the Biomedical Ti6Al4V Alloy in Simulated Body Fluid, ***Tania Cabrera-Yacuta (Student),*** Instituto Politécnico Nacional, Mexico*; J. Pérez-Alvárez, C. D. Rivera-Tello,* Universidad de Guadalajara, Mexico*; G. A. Rodríguez-Castro,* Instituto Politécnico Nacional, Mexico*; J.G. Quiñones-Galván,* Universidad de Guadalajara, Mexico*; A. Meneses-Amador, H. Martínez-Gutiérrez,* Instituto Politécnico Nacional, Mexico

CM-ThP-10 Rapid Thickness Quantification of Coating Layers Using PLSR and Parallel Rietveld Analysis of XRD Data, ***Thomas Degen,*** *Mustapha Sadki, Nicholas Norberg,* Malvern Panalytical, Netherlands*; Namsoo Shin,* Deep Solution Inc.,, Korea (Democratic People's Republic of)

CM-ThP-11 Investigation of Epitaxial Silicon Growth Mechanisms from Chlorosilane–H2 Systems on Si(100) Substrates, ***Seokmin Oh (Student),*** *Dongmin Yoon, Seonwoong Jung, Hyerin Shin, Jungwoo Kim, Dae-Hong Ko,* Yonsei University, Republic of Korea

CM-ThP-12 Machine-Learning Based Prediction of Carbon Quantum Dot Fluorescent Properties Using Molecular Representations, ***Yehyeon Shin (Student),*** *Jong-souk Yeo, Chae-won Lee, Jong-Seok Lee,* Yonsei University, Korea

CM-ThP-13 Structural and Morphological Assessment of a Si/SiO_2/Cr/Au Thin-Film Electrode Stack via Correlative AFM with SEM & EDX, ***Satyam Ladva,*** Quantum Design, USA

Functional Thin Films and Surfaces
Room Town & Country A - Session MB-ThP
Functional Thin Films and Surfaces Poster Session
5:00 – 7:00pm

MB-ThP-2 Scalable Surface Engineering of PDMS for Uniform Inkjet-Printed Silver Patterns, ***Hsuan-Ling Kao,*** Chang Gung University, Taiwan*; Li-Chun Chang,* Ming Chi University of Technology, Taiwan*; Min-Hsuan Lu,* Chang Gung University, Taiwan

MB-ThP-4 Spatially Resolved Molecular Arrangement on the Surface of PEDOT:PSS Film via Laser Scanning, *Chanwoo Kim,* ***Habeom Lee,*** Pusan National University, Republic of Korea

MB-ThP-5 Influence of the Si Alloying on the Growth Stability and Electrical Properties of AlN Thin Films, ***Norma Salvadores Farran (Student),*** *Tomasz Wojcik,* TU Wien, Austria*; Astrid Gies, Jürgen Ramm, Klaus Böbel,* Oerlikon Balzers, Liechtenstein*; Szilard Kolozsvári, Peter Polcik,* Plansee Composite Materials, Austria*; Tobias Huber, Jürgen Fleig, Helmut Riedl,* TU Wien, Austria

MB-ThP-8 Different Morphologies of Gallium Oxide Thin Films Fabricated by Liquid-Target Reactive DC-Pulsed Magnetron Sputtering, ***Jan Koloros (Student),*** *Petr Novák, Sayed Alireza Ataie, Jiří Rezek, Radomír Čerstvý, Pavel Baroch,* University of West Bohemia in Pilsen, Czechia

MB-ThP-10 3-Layer Polymer Film Composites Based on PE Recyclates, ***Marcin Bilewicz,*** *Tomasz Tanski,* SILESIAN UNIVERSITY OF TECHNOLOGY, Poland*; Tomasz Glinski,* Sinoma, Poland

MB-ThP-11 Plasma-Polymer Fluorocarbon Based High Sensitivity Surface Enhanced Raman Spectroscopy Application, ***Jimin Han,*** *Sang-Jin Lee,* Chungbuk National University, Republic of Korea

MB-ThP-12 Radio Frequency Magnetron Sputtered CdS-Plasma Polymerized Fluorocarbon Nanocomposite Thin Films : Structural Properties and Electrochemical Performance for Lithium-Ion Battery Anodes, ***Joowon Lee (Student),*** *Sang-Jin Lee,* Chungbuk National University School of Semiconductor Engineering, Republic of Korea

MB-ThP-13 Synthesis of Bismuth Molybdate Photocatalytic Films by Reactive Magnetron Sputtering for the Photo-Discoloration of Carmine Indigo Dye, *Ricardo González-Campuzano,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México*; David E. Martínez-Lara,* Escuela Nacional Preparatoria No.7 "Ezequiel A. Chávez", Universidad Nacional Autónoma de México*; Agileo Hernández-Gordillo,* ***Monserrat Bizarro-Sordo,*** *Sandra E. Rodil-Posada,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México

MB-ThP-14 Microstructure and Electrochemical Behavior of Aps Coatings Deposited on Agricultural Plows, *Corneliu Munteanu,* ***Bogdan Istrate,*** "Gheorghe Asachi" Technical University of Iasi, Romania*; Boris Nazar,* Technical University of Moldova*; Fabian Cezar Lupu, Ramona Cimpoesu, Gelu Ianus,* "Gheorghe Asachi" Technical University of Iasi, Romania*; Teodor Marian,* Technical University of Moldova

MB-ThP-15 Influence of Microstructure on Dealloying Kinetics of Nanoporous Thin Films, *Ezgi Hatipoğlu,* Max Planck Institute for Sustainable Materials, Germany*; Ayman El-Zoka,* Imperial College London, UK, Germany*; Yujun Zhao,* Max Planck Institute for Sustainable Materials, Germany*; Stanislav Mraz, Jochen Schneider,* RWTH Aachen University, Germany*; Baptiste Gault,* ***Aparna Saksena,*** Max Planck Institute for Sustainable Materials, Germany

MB-ThP-18 Ion-Beam Assisted Deposition of Oxide Semiconductor Thin Films for Optical Devices, ***Pin Yao Hsiang (Student),*** Chang Gung University, Taiwan*; Tsung Yu Huang,* Ming Chi University of Technology, Taiwan, Republic of China

MB-ThP-19 Insulation Coatings for Temperature Sensors in Molding Tools, ***Martin Welters,*** *Rainer Cremer,* KCS Europe GmbH, Germany

MB-ThP-20 Corrosion-Inhibiting, Antibacterial Coatings for Soft Tissue Anchors, ***Simon Cremer,*** *Rainer Cremer,* KCS Europe GmbH, Germany

MB-ThP-21 Partial Laser Ablation in PVD Multilayers for Multicolored and Nanostructured Surfaces, *Raphael André,* Berner Fach Hochschule, Switzerland*; Christian Petitot,* Université Marie et Louis Pasteur, UTBM, CNRS, Institut FEMTO-ST (UMR 6174), France*; Rainer Kling, Sylvain Le coultre,* Berner Fach Hochschule (BFH), Switzerland*;* ***Pascal briois,*** Université Marie et Louis Pasteur, UTBM, CNRS, Institut FEMTO-ST (UMR 6174), France

MB-ThP-23 Numerical Modelling for Optimized Experimental Design in Vernier Ellipsometry Sensing, *Kawshik Shikder, Zhang Yun, Md Rashedul Huqe, Yishu Foo, May Thawda Phoo, Yee Man Kwong,* ***Juan Antonio Zapien,*** City University of Hong Kong

MB-ThP-24 Selective Etching of Boron Doped Si1-XGeX Epitaxial Layers for Vertically Stacked Memory Device, ***Joosung Kang (Student),*** *Dongmin Yoon, Seonwoong Jung, Dae-hong Ko,* Yonsei University, Republic of Korea

Plasma and Vapor Deposition Processes
Room Town & Country A - Session PP-ThP
Plasma and Vapor Deposition Processes Poster Session
5:00 – 7:00pm

PP-ThP-3 Predictive Modelling of Magnetron Sputtering: Bridging Computational and Experimental Approaches for Metallic Glass Thin Films, *Jaroslav Zenisek, Tereza Schmidtova,* Masaryk University, Czechia*; Antonin Kubicek, Vjaceslav Sochora,* SHM, Czechia*;* ***Pavel Soucek,*** Masaryk University, Czechia

PP-ThP-4 How to Predict the Deposition Rate During Reactive Sputtering Using an One-Volume Reference Resource?, ***Diederik Depla***, Ghent University, Belgium

PP-ThP-5 Properties and Behavior of Infrared Materials : Towards High Efficiency and High Durability Antireflection Coating, ***Manon Dewynter (Student)***, *Fabien Paumier, Éric Le-Bourhis, Cyril Dupeyrat,* Institut Pprime - CNRS - ENSMA - Université de Poitiers, France

PP-ThP-6 Plasma Research Reactor to Validate Nanocalorimetry as a Prospective Plasma Diagnostics Technique, ***Carles Corbella***, National Institute of Standards and Technology (NIST)/ University of Maryland, College Park, USA; *Feng Yi, Andrei Kolmakov,* National Institute of Standards and Technology (NIST), USA

PP-ThP-8 Ion Acceleration on Insulating Substrates: Synchronized Floating Potential HiPIMS for AlN and AlScN Thin Film Growth, ***Oleksandr Pshyk***, *Jyotish Patidar, Kerstin Thorwarth, Lars Sommerhäuser, Sebastain Siol,* Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland

PP-ThP-9 Effect of Si and B Incorporation in TiCN-based Thin Film on Physical Properties by Direct Current Plasma Chemical Vapor Deposition, ***Rizu Kurogi (Student)***, *Takeyasu Saito, Noki Okamoto, Mika Kawamoto,* Osaka Metropolitan University, Japan

PP-ThP-11 Magnetron Discharge Modelling using SAPIC, a 2D PIC-MCC AMR Code, *Adrien REVEL,* ***Tiberiu MINEA***, University of Paris-Saclay, LPGP, France

PP-ThP-12 Calorimetric and Electrostatic Probe Diagnostics of a Gas Aggregation Source Plasma, ***Caroline Adam (Student)***, *Viktor Schneider, Jessica Niemann,* Kiel University, Germany; *Daniil Nikitin, Jan Hanuš, Ronaldo Katuta, Iqra Whid, Veronika Červenková, Andrey Shukurov, Hynek Biederman,* Charles University, Czech Republic; *Holger Kersten,* Kiel University, Germany

PP-ThP-13 Comparative Study of High-Order Silanes for Low-Temperature SiGe Epitaxy in Ultra-High Vacuum Chemical Vapor Deposition, ***Dongmin Yoon***, 50, Yonsei-ro, Seodaemun-gu, Republic of Korea; *Hyerin Shin, Seokmin Oh, Seonwoong Jung, Dae-Hong Ko,* Yonsei University, Korea

PP-ThP-14 Reaction Characteristics of Germanium Tetrabromide on Si1-XGeX(:B) and Si(:P) Films Using Ultra-High Vacuum Chemical Vapor Deposition System, ***Hyerin Shin (Student)***, *Dongmin Yoon, Seokmin Oh, Dae-hong Ko,* Yonsei University, Korea

PP-ThP-15 Thickness-Dependent Electrical Properties of MoN Films Grown by Thermal ALD Using MoO_2Cl_2, ***So Young Kim (Student)***, Yonsei University, Republic of Korea; *Tai-su Park,* Justem Corporation Ltd., Republic of Korea; *Dae-Hong Ko,* Yonsei University, Republic of Korea

PP-ThP-16 Plasma-enhanced Atomic Layer Deposition of Smooth Layers of Tungsten Nitride and Boron Nitride for Optical Application, ***Alan Uy***, University of Maryland College Park, USA; *Maxim Markevitch,* NASA, USA

PP2-3-FrM-4 Electrocatalytic Performance of AlCrCoNiFeX (X = C, O)HighEntropy Alloy Films for Oxygen and Hydrogen Evolution Reactions, *Amna Waheed,* Ming Chi University of Technology, Taiwan; *Bih-Show Lou,* Chang Gung University, Taiwan; *Jyh-Wei Lee,* ***Krishnan Tiwari,*** Ming Chi University of Technology, Taiwan

Protective and High-temperature Coatings
Room Town & Country A - Session MA-ThP
Protective and High-temperature Coatings Poster Session
5:00 – 7:00pm

MA-ThP-1 Multienvironment Tribological Assessment of TiB_2:h-BN:a-C Coatings Deposited on 316L Stainless Steel, ***Ihsan Efeoglu***, *Gokhan Gulten, Banu Yaylali, Mustafa Yesilyurt, Ali Emre, Yasar Totik,* Atatürk University, Turkey; *Justyna Kulczyk-Malecka, Peter Kelly,* Manchester Metropolitan University, UK

MA-ThP-2 Understanding Solid Particle Erosion in Multicomponent $Ti_{1-x}Al_xN$ Based Coatings Using Synchrotron Nanodiffraction, ***Anna Hirle (Student)***, *Rainer Hahn, Philip Kutrowatz, Tomasz Wojcik,* Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Vienna, Austria; *Anton Davydok,* Helmholtz-Zentrum Hereon, Institute of Materials Physics, Hamburg, Germany; *Szilard Kolozsvári, Peter Polcik,* Plansee Composite Materials GmbH, Lechbruck am See, Germany; *Anders.O Eriksson, Carmen Jerg, Klaus Boebel,* Oerlikon Balzers, Oerlikon Surface Solutions AG, Balzers, Liechtenstein; *Helmut Riedl,* Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Vienna, Austria; Institute of Materials Science and Technology, TU Wien, Vienna, Austria

MA-ThP-4 Comparative Analysis of the Mechanical Properties of Layers Obtained in Three Different Steels by Atomic Diffusion of Boron., *Enrique Hernández Sánchez,* ***Luz Alejandra Linares Duarte (Student)***, *Diego Hernández Domínguez, Yesenia Sánchez Fuentes,* Instituto Politécnico Nacional, Mexico; *Raúl Tadeo Rosas,* Universidad Autónoma de Coahuila, Mexico; *José Guadalupe Miranda Hernández,* Centro Universitario UAEM Valle de México; *Rafael Carrera Espinoza, Melvyn Alvarez Vera,* Universidad de las Américas Puebla, Mexico; *Jonathan Jorge Ruíz Domínguez,* Instituto Méxicano de la Propiedad Industrial, Mexico

MA-ThP-5 Reactively Sputtered High-Entropy Metal-Sublattice Carbide Thin Films Based on Al-Cr-Nb-Ta-Ti, ***Thomas Astecker (Student)***, TU Wien, Austria; *Peter Polcik,* Plansee SE, Austria; *Alexander Kirnbauer, Paul Heinz Mayrhofer,* TU Wien, Austria

MA-ThP-7 Synergistic Alloying Effects of Si and Y in Cr-Mn-Mo-N Thin Films: A Combined Experimental and DFT Study, ***Christian Gutschka (Student)***, TU Wien, Austria; *Lukáš Vrána, Matej Fekete,* Masaryk University, Czechia; *Zsolt Czigány,* Hungarian Academy of Sciences, Hungary; *Tatiana Pitoňáková,* Masaryk University, Czechia; *Katalin Balázsi,* Hungarian Academy of Sciences, Hungary; *Pavel Souček,* Masaryk University, Czechia; *Helmut Riedl-Tragenreif,* TU Wien, Austria

MA-ThP-9 Thermal Stability and Mechanical Performance of Si-Modified High-Entropy (Al,Mo,Ta,V,W)C Coatings, *Muhammad Awais Altaf,* ***Balint Istvan Hajas (Student)***, TU Wien, Institute of Materials Science and Technology, Austria; *Szilard Kolozsvari,* Plansee Composite Materials GmbH, Germany; *Tomasz Wojcik, Alexander Kirnbauer, Paul Heinz Mayrhofer,* TU Wien, Institute of Materials Science and Technology, Austria

MA-ThP-10 Influence of the Ti/Al Ratio on the Performance of Ti-Al-N Coated Tools in the Machining of Stainless Steel 304, ***Felipe Batista dos Anjos (Student)***, *Carlos Bernardo Gouvêa Pereira, Carlos Augusto Henning Laurindo, Fred Lacerda Amorim, Michelle Sostag Meruvia, Paulo Cesar Soares Junior, Ricardo Diego Torres,* Pontificia Universidade Católica do Paraná, Brazil

MA-ThP-13 Nitrogen-Dependent Structural and Mechanical Properties Evolution of $AlCrNbSiTiN_x$ High Entropy Alloy Nitride Coatings Deposited by HiPIMS, *Sheng-Jui Tseng,* National Taipei University of Technology, Taiwan; ***Jyh-Wei Lee***, Ming Chi University of Science and Technology, Taiwan; *Yung-Chin Yung,* National Taipei University of Technology, Taiwan; *Bih-Show Lou,* Chang Gung University, Taiwan; *Chia-Lin Li,* Ming Chi University of Science and Technology, Taiwan

Surface Engineering - Applied Research and Industrial Applications
Room Town & Country A - Session IA-ThP
Surface Engineering – Applied Research and Industrial Applications Poster Session
5:00 – 7:00pm

IA-ThP-2 Interface-Engineered Grain Boundary Diffusion for Enhanced Coercivity, Corrosion Resistance, and Thermal Stability in Thick NdFeB Magnets with Efficient Rare-Earth Utilization, ***Ching-Chien Huang***, National Kaohsiung University of Science and Technology, Taiwan

IA-ThP-3 Advanced Coating Solutions for High-Pressure Injectors under Bioethanol Fuel Conditions, *Sung Chul Cha,* Hyundai Motor Group- Hyundai Kefico, Republic of Korea; *Jongkuk Kim,* KIMS, Republic of Korea; *Kyoung Il Moon, Hae Won Yoon,* ***Gi-Hoon Kwon,*** KITECH, Republic of Korea; *Chang Ha Park, Dong Sik Kim,* ATF, Republic of Korea

IA-ThP-4 The Influence of Long-Term Aging in Air Atmosphere on the Precipitation Process of Inconel 740H Alloy, ***Adam Zielinski***, *Hanna Purzynska, Radoslaw Swadzba,* SIEC BADAWCZA LUKASIEWICZ - GORNOSLASKI INSTYTUT TECHNOLOGICZNY, Poland

IA-ThP-5 Nanolayers Based on Ti/TiN, Zr/ZrN, and Cr/CrN in Multilayer PVD Systems: Tribological and Micro-impact Response, ***Daniel Toboła***, Łukasiewicz Research Network – Krakow Institute of Technology, Poland; *Ben D. Beake,* Micro Materials Ltd., UK; *Łukasz Maj,* Institute of Metallurgy and Materials Science of Polish Academy of Sciences, Poland; *Tomasz Liskiewicz,* Manchester Metropolitan University, UK; *Cezary Drenda,* AGH University of Krakow, Poland

IA-ThP-6 Cathodic-Driven Alkalization and Interfacial Reaction Competition in Cathodic-Excess MAO of AZ31B Magnesium Alloy, ***Shih-Yen Huang (Student)***, *Yueh-Lien Lee,* National Taiwan University, Taiwan

IA-ThP-7 In-Situ Diffusion-Induced Micro-Carburization of SAE 4140 Steel: Tailoring Surface Integrity and Torsional Resistance via Controlled-Atmosphere Heat Treatment, ***Te-Kang Tsao***, Dep. of Mechanical Engineering, National Kaohsiung University of Science and Technology, Taiwan; *Wen-Hao Chiu,* Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Taiwan

IA-ThP-8 Influence of the Parameters of Producing Oxide Coatings on Aluminum Tapes on Their Structure and Insulating Properties, ***Aleksander Iwaniak,*** *Andrzej Posmyk, Łukasz Bąk, Adrian Krysiak,* Silesian University of Technology, Poland

Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health, Food, and Agriculture Applications

Room Town & Country A - Session MD-ThP

Surface Engineering of Biomaterials, Devices and Regenerative Materials: Health Food, and Agriculture Applications Poster Session

5:00 – 7:00pm

MD-ThP-1 Eco-Friendly Synthesis of Graphene Intercalation Material for Highly Sensitive Maldi-Ms Bioanalysis, *Yao-Tsung Hsu,* Graduate Institute of Medical Sciences, College of Medicine, Taipei Medical University, Taiwan*; Shih-Min Wang,* National Atomic Research Institute, Taiwan*;* ***Fu-Der Mai,*** Department of Biochemistry and Molecular Cell Biology, School of Medicine, College of Medicine, Taipei Medical University, Taiwan

MD-ThP-2 Study of the Antimicrobial and Osteoinductive Properties of Polymeric Nanocomposite Membranes, ***Lucia Sofia Flores-Hidalgo (Student),*** Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México*; Phaedra S. Silva-Bermúdez,* Unidad de Ingeniería de Tejidos, Terapia Celular y Medicina Regenerativa; Instituto Nacional de Rehabilitación Luis Guillermo Ibarra Ibarra, Mexico*; Gina Prado-Prone,* Laboratorio de Biointerfases, DEPeI, Facultad de Odontología, Universidad Nacional Autonoma de Mexico, Mexico*; Monserrat Ramirez-Arellano,* Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico*; Sandra. E Rodil,* Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México

MD-ThP-3 Understanding the Influence of Sn and Nb on Morphology, Sustainable Synthesis of Calcium Phosphate 1d Nanostructures via Electrospinning for Advanced Functional Applications, *Yao Mawuena Tsekpo, Weronika Smok,* Faculty of Mechanical Engineering, Silesian University of Technology, Poland*; Adrian Adrian Radon,* Łukasiewicz Research Network – Institute of Non-Ferrous Metals, Poland*; Pawel Jarka,* ***Tomasz Tanski,*** Faculty of Mechanical Engineering, Silesian University of Technology, Poland

MD-ThP-4 Advancing Surface Engineering of Additively Manufactured Dental Implants by HiPIMS β-Ti Coatings, ***Juan Carlos Sanchez-Lopez,*** Instituto de Ciencia de Materiales de Sevilla (CSIC-US), Spain*; Amanda Robau-Porrua,* Universidad de Concepción-Chile*; Marleny Rodríguez-Albelo,* Universidad de Sevilla, Spain*; Celia Garcia-Hernandez, Cristina Garcia-Cabezon,* Universidad de Valladolid, Spain*; Jesús Eduardo Gonzalez-Ruiz,* Universidad de la Habana, Cuba*; Yadir Torres,* Universidad de Sevilla, Spain

MD-ThP-5 Electrochemical Characterization of Copper-Coated Commercial Ti6Al4V Alloy for Advanced Biomedical Applications, ***Bryan Angel Zárate Verduzco (Student),*** Universidad Michoacana de San Nicolás de Hidalgo, Mexico*; Victor Manuel Solorio García, Miguel Ivan Dávila Perez,* Tecnologico Nacional de México/ Instituto Tecnológico de Morelia, Mexico*; Roberto Guerra González,* Universidad Michoacana de San Nicolás de Hidalgo, Mexico*; Héctor Javier Vergara Hernández,* Tecnológico Nacional de México/ Instituto Tecnológico de Morelia, Mexico*; Julio César Villalobos Brito,* Tecnologico Nacional de México/ Instituto Tecnológico de Morelia, Mexico

MD-ThP-6 TiO_x Nanocoating as Antimicrobial for Personal Protective Equipment, ***Lorena Reyes-Carmona (Student),*** *Sandra Rodil,* UNAM, Mexico*; Omar Sepúlveda-Robles,* IMSS, Mexico*; Gina Prado-Prone, Argelia Almaguer-Flores,* UNAM, Mexico

MD-ThP-10 Investigating the Corrosion Behavior of Sol Gel and PEO Coatings on Magnesium for Biomedical Applications, *Vinod Prabhakar,* ***Avirup Sinha (Student),*** *Sujoy Ghosh,* University of Illinois at Chicago, USA*; Hamdy Ibrahim,* Kennesaw State University, USA*; Mathew T. Mathew,* University of Illinois College of Medicine at Rockford and Rush University Medical Center, USA

MD-ThP-11 Antimicrobial Potential of Silver-Copper Nanocoatings Deposited on Medical and Dental Polymeric Materials, ***Argelia Almaguer-Flores,*** *Lorena Reyes-Carmona, David E. Martínez-Lara, Gina Prado-Prone, Sandra E. Rodil,* UNAM, Mexico

MD-ThP-12 Effects of the Temperature and Target Power on Microstructure and Electrochemical Properties of Fe-Mn-C-Zn Coatings via Magnetron Sputtering Co-Deposition, *Xinna Zhu,* Department of Engineering "Enzo Ferrari" University of Modena and Reggio Emilia, Modena, Italy*; Carlo Paternoster,* Laboratory for Biomaterials and Bioengineering, (CRC-Tier I), Dept Min-Met-Materials Eng., & Regenerative Medicine, CHU de Quebec, Laval University, Québec, QC, Canada*; Andrea Gatto,* Department of Engineering "Enzo Ferrari" University of Modena and Reggio Emilia, Modena, Italy*; Carlos Henrique Michelin Beraldo,* Laboratory for Biomaterials and Bioengineering, (CRC-Tier I), Dept Min-Met-Materials Eng., & Regenerative Medicine, CHU de Quebec, Laval University, Québec, QC, Canada*; Silvio Defanti,* Department of Engineering "Enzo Ferrari" University of Modena and Reggio Emilia, Modena, Italy*; Paolo Mengucci, Gianni Barucca,* Department SIMAU, Università Politecnica delle Marche, Ancona, Italy*; Helton José Wigger,* Laboratory for Biomaterials and Bioengineering (LBB-BPK), Associação de Ensino, Pesquisa e Extensão BIOPARK, Toledo, Brazil*; Andranik Sarkissian,* Plasmionique Inc., Varennes, QC, Canada*;* ***Diego Mantovani,*** Laboratory for Biomaterials and Bioengineering, (CRC-Tier I), Dept Min-Met-Materials Eng., & Regenerative Medicine, CHU de Quebec, Laval University, Québec, QC, Canada

MD-ThP-17 On the Adhesion of a-C:H Coatings Deposited by PECVD on PDMS for Biomedical Applications, *Lidi Astrid Yáñez-Hernández, Linda Victoria Bonilla-Gameros,* ***Pascale Chevallier,*** Université Laval, Canada*; Laurent Houssiau,* University of Namur, Belgium*; Andranik Sarkissian,* Plasmionique Inc., Canada*; Diego Mantovani,* Université Laval, Canada

MD-ThP-18 An Asymmetric Capillary-Driven Microtiter Platform Enabling Centrifuge-Free Point-of-Care Diagnostics, ***KangKug Lee,*** *Yasmine Jones, Anastesia Smith,* Wilberforce University, USA

MD-ThP-20 Effect of Current Density Variation on Cu-Incorporated Mao Coatings on Ti-30nb-5mo Alloy, *Giovana Collombaro Cardoso,* Universidade Estadual Paulista, UNESP, Bauru, Brazil*; Gustavo da Silva Diniz,* Universitdade Estadual Paulista, UNESP, Bauru, Brazil*;* ***Carlos Roberto Grandini,*** Universidade Estadual Paulista, UNESP, Bauru, Brazil

MD-ThP-21 Influence of Microstructure and Processing Voltage on the Formation and Properties of Coatings Obtained by Micro-Arc Oxidation (MAO) in Ti-25Ta-xNb Alloys, ***Fernanda de Freitas Quadros,*** Sao Paulo State University (UNESP), Brazil*; Katia Barbaro,* Istituto Zooprofilattico Sperimentale del Lazio e della Toscana, Italy*; Diego Rafael Nespeque Corrêa,* Sao Paulo State University (UNESP), Brazil*; Julietta V. Rau,* Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, Italy*; Carlos Roberto Grandini,* Sao Paulo State University (UNESP), Brazil

MD-ThP-22 Using X-Ray Photoelectron Spectroscopy to Probe Lateral and Depth Distribution of Copper Based Photocatalytic Biocidal Film, ***David Surman,*** Kratos Analytical Inc, USA*; Jonathan Counsell,* Kratos Analytical Limited, UK*; Heather Yates,* University of Salford, UK

MD-ThP-23 Surface-Engineered Graphene/PDMS Coatings Reduce Multispecies Uropathogenic Biofilms Under Urine-like Conditions, ***Francisca Sousa-Cardoso (Student),*** *Rita Teixeira-Santos, Luciana C. Gomes, Rita Vieira,* University of Porto, Portugal*; Brian A. Korgel,* University of Texas at Austin, USA*; Olívia S. G. P. Soares, Filipe J. Mergulhão,* University of Porto, Portugal

MD-ThP-24 Flexible Negative Pyramid Microarrays Coated with Ag NanoParticles for Raman Enhancing Detection, ***Ting-Yu Liu,*** Ming Chi University of Technology, Taiwan

Topical Symposium on Sustainable Surface Engineering

Room Town & Country A - Session TS1-ThP

Coatings for Batteries and Hydrogen Applications Poster Session

5:00 – 7:00pm

TS1-ThP-1 Hydrogen Permeation Testing: Electrochemical vs. Pressurized Methods, ***Phillip Rückeshäuser (Student),*** TU Wien, Austria*; Szilard Kolozsvari, Peter Polcik,* Plansee Composite Materials GmbH, Germany*; Timea Stelzig,* Oerlikon AM Europe GmbH, Germany*; Konrad Fadenberger,* Oerlikon Balzers Coating Germany GmbH, Germany*; Klaus Boebel,* Oerlikon Balzers, Liechtenstein*; Tomasz Wojcik, Helmut Riedl,* TU Wien, Austria

TS1-ThP-2 Towards Defect-Free Laser-Induced Graphene Coating on Copper and Aluminum Foils for Anode-Free Li and Na Metal Batteries, ***Aarti Gunjal,*** IISER PUNE, India*; Suparna Saha,* TCG-CREST Kolkata, India*; Swati Jadhav,* IISER PUNE, India*; Satishchandra Ogale,* TCG-CREST Kolkatta, India

TS1-ThP-3 HiPIMS Mo_xN and Cu-Mo_xN Thin Films for the Hydrogen Evolution Reaction, *Hung-I Wu,* Department of Electronic Engineering, National Yunlin University of Science and Technology, Taiwan*; Ying-Hsiang Lin,* Department of Materials Science and Engineering, National United University, Taiwan*; Shih-Hung Lin,* Department of Electronic Engineering, National Yunlin University of Science and Technology, Taiwan*; Fan-Bean Wu, Chi-Yueh Chang,* Department of Materials Science and Engineering, National United University, Taiwan*; Thi Xuyen Nguyen, Ruei-Chi Lin, Jyh-Ming Ting,* Department of Materials Science and Engineering, National Cheng Kung University, Taiwan*;* ***Wan-Yu Wu,*** Department of Materials Science and Engineering, National United University, Taiwan

TS1-ThP-4 Hydrogen Barrier Properties of Thin Oxide Films Prepared by Different Methods: Correlations of Thin Film Properties with Hydrogen Permeation Rates, *Dmitry Kalanov, Juergen W. Gerlach, Patrick C. With,* ***Yeliz Unutulmazsoy,*** *Ulrike Helmstedt,* Leibniz Inst. of Surface Eng. (IOM), Germany

Topical Symposium on Sustainable Surface Engineering
Room Town & Country A - Session TS2-ThP
Coatings and Surfaces for Renewable Energy Technology
Poster Session 5:00 – 7:00pm

TS2-ThP-2 Comparative Electrochemical Performance of α-MnO_2 and δ-MnO_2 Coatings for High-Performance Supercapacitor Electrodes, ***Eduardo Estrada Movilla (Student),*** *Álvaro Ortiz Pérez, Jhonathan Castillo Saenz,* Instituto de Ingeniería, Universidad Autónoma de Baja California, Colombia

Tribology and Mechanics of Coatings and Surfaces
Room Town & Country A - Session MC-ThP
Tribology and Mechanics of Coatings and Surfaces Poster Session 5:00 – 7:00pm

MC-ThP-1 Evaluation of Stress Field in a Borided Inconel 718 Superalloy Under Dry Sliding Wear, *Alan Daniel Contla Pacheco, Iván Campos Silva,* Instituto Politécnico Nacional, Mexico*; Arturo Ocampo Ramírez,* Universidad Veracruzana, Mexico*; Daybelis Fernández Valdés,* Tecnológico Nacional de México*; GERMAN ANIBAL RODRIGUEZ CASTRO,* ***Felipe Nava Leana,*** *ALFONSO MENESES AMADOR,* Instituto Politécnico Nacional, Mexico

MC-ThP-3 Tribological and Corrosion Performance of Alloy 718 coated with WC/Co Applied by HVOF, ***Nathalia Kappaun Vieira (Student),*** PUCPR, Brazil*; Steffen Aicholz,* Oerlikon Balzers, Brazil*; Michelle Sostag Meruvia, Paulo Soares, Ricardo Diego Torres,* PUCPR, Brazil

MC-ThP-4 Influence of Coating Thickness and Bias Voltage on Cracking Behavior of TiAlCrN PVD Coating, *Kirsten Bobzin,* ***Christian Kalscheuer,*** *Wenting Xu,* Surface Engineering Institute - RWTH Aachen University, Germany

MC-ThP-5 Enhancing Corrosion Resistance and Tribological Performance of Inconel 718 through Plasma Nitriding and CrAlN/DLC Coatings for Oilfield Applications, ***Heloísa Scalabrin (Student),*** *Michelle Sostag Meruvia, Paulo Soares, Ricardo Diego Torres,* Pontifícia Universidade Católica do Paraná (PUC-PR), Brazil

MC-ThP-6 High Temperature Stability of Different Diamond-Like Carbon Thin Films, ***Daniel Pölzlberger (Student),*** Institute of Materials Science and Technology, TU Wien, Austria*; Julien Keraudy, Klaus Böbel,* Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein*; Tomasz Wojcik, Philip Kutrowatz,* Christian Doppler Laboratory for Surface Engineering of High-performance Components, TU Wien, Austria*; Carsten Gachot,* Institute of Design Engineering and Product Development, Research Unit Tribology, TU Wien, Austria*; Helmut Riedl,* Institute of Materials Science and Technology, TU Wien, Austria

MC-ThP-7 The Impact of Nitriding Parameters on the Tribological and Corrosion Behavior of Inconel 718, *Gabriel Queiroz Carara, Heloisa Scalabrin, Cesar Neitzke, Michelle Meruvia, Paulo Soares,* ***Ricardo Torres,*** PUCPR, Brazil

MC-ThP-9 Effect of Sodium Tungstate on the Wear and Corrosion Behavior of Micro-Arc Oxidation Coatings on AZ31 Magnesium Alloy, ***Yueh-Lien Lee,*** National Taiwan University, Taiwan

MC-ThP-10 Advantages of Ultra–High Vacuum Tribology, ***Esteban Broitman,*** *Sven Kelling, Rickmer Kose,* Sentys Inc., USA

MC-ThP-11 Influence of Boriding Time on the Wear Behavior and Structural Stability of Ti6Al4V Under Simulated Physiological Conditions, ***J. A. Nieto-Sosa (Student),*** *M. A. Melo-Pérez, I. Arzate-Vázquez, L. A. Moreno-Ruíz,* Instituto Politécnico Nacional, Mexico*; E.E. Vera-Cárdenas,* Tenológico Nacional de México/Instituto Tecnológico de Pachuca, Mexico*; G. A. Rodríguez-Castro, J.A. Andraca-Adame, Josué Escobar-Hernández,* Instituto Politécnico Nacional, Mexico

MC-ThP-12 Vapor Deposition Coatings for Hard Chrome Replacement in Advanced Mechanical Components, ***Giacomo Bernardelli (Student),*** *Luca Lusvarghi, Giovanni Bolelli,* Universita degli Studi di Modena e Reggio Emilia, Italy*; Alessio Bassano,* Leonardo S.p.A., Italy

MC-ThP-14 Temperature–Driven Tribofilm Evolution in Oscillating Sliding Contacts Revealed by Advanced Surface Characterization, *Florian Pape,* Bruker Inc., USA*; Alexander Dulebo, Udo Volz,* ***Ude D. Hangen,*** Bruker Nano GmbH, Germany

Friday Morning, April 24, 2026

	Plasma and Vapor Deposition Processes **Room Palm 1-2 - Session PP2-3-FrM** **HiPIMS, Pulsed Plasmas, and Energetic Deposition III** **Moderators: Arutiun P. Ehiasarian**, Sheffield Hallam University, UK, **Tetsushide Shimizu**, Tokyo Metropolitan University, Japan	**Surface Engineering - Applied Research and Industrial Applications** **Room Town & Country D - Session IA1-FrM** **Advances in Application Driven Research and Hybrid Systems, Processes, and Coatings** **Moderators:** **Hana Barankova**, Uppsala University, Sweden, **Ladislav Bardos**, Uppsala University, Sweden
8:00am	**PP2-3-FrM-1** Experiments and Modelling of High Power Impulse Magnetron Sputtering Discharges with Metallic Target, ***Jon Tomas Gudmundsson***, *Kateryna Barynova,* University of Iceland; *Martin Rudolph,* Leibniz Institute of Surface Engineering (IOM), Germany; *Joel Fischer,* Linkoping University, Sweden; *Tetsuhide Shimizu,* Tokyo Metropolitan University, Japan; *Daniel Lundin,* Linkoping University, Sweden	**IA1-FrM-1** Effect of Alumina Coating and Testing Condition on Tribological Behaviors and the Oxidative Potential of Brake Wear Particles, *Minh Khoi Phan, Ran Cai,* ***Xueyuan Nie***, *Jimi Tjong,* University of Windsor, Canada; *D.T.A. Matthews,* University of Twente, Netherlands
8:20am	**INVITED: PP2-3-FrM-2** Knowing and Controlling the Dynamic Plasma Potential and Sheath Voltage as Key Elements in Plasma-Based Deposition, ***André Anders***, Plasma Engineering LLC, USA	**INVITED: IA1-FrM-2** Memristive Effects in PEO Alumina: Mechanisms and Technological Implications, *Aleksey Rogov, Allan Matthews,* ***Aleksey Yerokhin***, University of Manchester, UK
8:40am		
9:00am		**INVITED: IA1-FrM-4** Advanced Coating Strategies to Combat Friction and Wear in Low-Viscosity Fuel Systems, ***Eun Cairns***, University of North Texas, USA; *Satish Dixit, S. Berkebile,* Plasma Technology Inc., USA; *Diana Berman, Samir M. Aouadi, Andrey A. Voevodin,* University of North Texas, USA
9:20am	**PP2-3-FrM-5** Superposition of HiPIMS with RF on a Single Magnetron: Generation of High Ion Energies, ***Caroline Adam (Student)***, *Luka Hansen, Tobias Hahn, Jessica Niemann, Daniel Zuhayra,* Kiel University, Germany; *Günter Mark, Jonathan Löffler,* MELEC GmbH, Germany; *Jan Benedikt, Holger Kersten,* Kiel University, Germany	
9:40am	**PP2-3-FrM-6** Low-Temperature Synthesis of Ti_2AC (A = Si or Ge) Max-Based Coatings via Highly Ionized Growth Techniques, *Arno Gitschthaler, Philipp Dörflinger, Rainer Hahn,* Christian Doppler Laboratory for Surface Engineering of high-performance Components, TU Wien, Austria; *Jürgen Ramm, Klaus Böbel,* Oerlikon Balzers, Oerlikon Surface Solutions AG, Liechtenstein; *Szilard Kolozsvári, Peter Polcik,* Plansee Composite Materials GmbH, Germany; *Eleni Ntemou, Daniel Primetzhofer,* Department of Physics and Astronomy, Uppsala University, Sweden; *Dominik Fuchs, Andreas Limbeck,* Institute of Chemical Technologies and Analytics, TU Wien, Austria; *Peter Švec,* Institute of Physics, Slovak Academy of Sciences, Slovakia; *Anton Davydok, Christina Krywka,* Institute of Materials Physics, Helmholtz Zentrum Hereon, Germany; ***Helmut Riedl***, Institute of Materials Science and Technology, TU Wien, Austria	**IA1-FrM-6** Cu Grain Engineering and Plating Process Reliability Study for Heterogeneous Integration, ***Shan-Yuan Wu (Student)***, *Ying-Chao Hsu, Po-Chun Chen, Sheng-Ru Hsiao,* National Taipei University of Technology, Taiwan
10:00am	**BREAK**	**BREAK**
10:20am		**IA1-FrM-8** Advanced HiPIMS Coating Equipment for High-Performance Cutting Tools Amid Tungsten Price Increase, ***Yafen Chen***, *Wei Zhou,* Guangdong Huasheng Nanotechnology, China
10:40am		
11:00am		
11:20am		

	Tribology and Mechanics of Coatings and Surfaces Room Palm 3-4 - Session MC1-2-FrM Friction, Wear, Lubrication Effects, & Modeling II **Moderators:** **Klaus Boebel**, Oerlikon Balzers, Liechtenstein	Tribology and Mechanics of Coatings and Surfaces Room Town & Country B - Session MC3-3-FrM Tribology of Coatings and Surfaces for Industrial Applications III **Moderators: Osman Eryilmaz**, Argonne National Laboratory, **Volker Weihnacht**, Fraunhofer IWS, Germany
8:00am		**INVITED: MC3-3-FrM-1** High-performance ta-C-based coatings for tribological applications deposited by laser-arc technique, ***Volker Weihnacht***, *Frank Kaulfuss, Stefan Makowski, Falko Hofmann, Fabian Härtwig, Martin Zawischa,* Fraunhofer IWS, Germany
8:20am	**MC1-2-FrM-2** Active Friction and Wear Control in a-C:Cr Films: Electrical Current and Polarity Effects on Catalytic Graphitization, ***Newton K. Fukumasu***, *Miguel R. Danelon,* University of São Paulo, Brazil; *Abrar Faiyad, Ashlie Martini,* University of California Merced, USA; *Cherlio Scandian,* Federal University of Espirito Santo, Brazil; *Roberto M. Souza,* University of São Paulo, Brazil	
8:40am	**MC1-2-FrM-3** Tribological Performance of Sputter-Deposited MoS_2 Coatings with Varying Process Gases, ***Tomas Babuska***, *Alexander Mings, Steven Larson, John Curry, David Adams,* Sandia National Laboratories, USA	**MC3-3-FrM-3** The Development of Amorphous-Based Multi-Component Alloys for the Nanocomposite Coatings and their Properties, ***Kyoung Il Moon***, *Gi-Hoon Kwon, Hae Won Yoon, Byoungho Choi, Kyong jun An,* Korea Institute of Industrial Technology, Republic of Korea; *Sung Chul Cha,* Hyundai Motor Group-Hyundai Kefico, Republic of Korea
9:00am	**INVITED: MC1-2-FrM-4** Effect of Ta Content in ta-C:Ta Coatings on the Machining Performance of Aluminum Alloy, ***Kosuke Suzuki***, Mitsubishi Materials Corporation, Japan; *Takayuki Tokoroyama, Ruixi Zhang, Noritsugu Umehara,* Nagoya University, Japan; *Shun Sato, Kenji Yumoto,* Mitsubishi Materials Corporation, Japan	**MC3-3-FrM-4** Corrosive Wear Mechanisms and Corrosion Performance of WC-Reinforced Fe–iN625 Coatings Fabricated by Laser Cladding, ***Yiqi Wang (Student)***, Northeastern University, China
9:20am		**MC3-3-FrM-5** Effect of Boriding on the Surface Hardness and Wear Resistance of Low Carbon Steel Fabricated by Wire Arc Additive Manufacturing (WAAM), ***Abraham Molina-Sanchez (Student)***, *Cesar David Resendiz-Calderon, Leonardo Israel Farfan-Cabrera, Christian Ricardo Cuba-Amesquita,* Tecnológico de Monterrey, Mexico
9:40am		
10:00am	**BREAK**	**BREAK**
10:20am	**MC1-2-FrM-8** Effects of Silver Nitrate Additives on the Antibacterial and Corrosion Behaviors of Plasma Electrolytic Oxidized AZ31 Magnesium Alloy, ***Bo-Xuan Zheng (Student)***, *Chuan-Ming Tseng,* Ming Chi University of Technology, Taiwan, Republic of China	**INVITED: MC3-3-FrM-8** Ultralow Wear, Conductive Plasma-Enhanced Atomic Layer Deposited Metal Nitrides, ***Brandon Krick***, Florida State University, USA
10:40am	**MC1-2-FrM-9** Experimental Investigation of Friction, Wear, and Dielectric Behavior of Hybrid Polymer Nanocomposites for Insulated Bearings with Machine Learning Assisted Optimization, ***Unnati Joshi***, *Anand Joshi, Vishal Mehta, Jaivik Pathak, Pranav Rathi,* Parul University, India	
11:00am		
11:20am		
11:40am		

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