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

Monday Morning, April 20, 2026

	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:** **Sabine Faulhaber**, University of California, San Diego **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),*** 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	**CM1-1-TuM-7** High Spatial Resolution Electrical Characterization of Crystal Defects in Metals and Alloys, ***Hanna Bishara,*** Tel Aviv University, Israel	
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

Tuesday Afternoon, April 21, 2026

	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	**MA2-2-WeM-3** Solubility Limit of Al in Cubic Transition-Metal Nitrides: Case Study of (Al,Cr)N, ***Fedor F. Klimashin***, Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland; *M. Učík,* PLATIT a.s., Czechia; *D. Casari,* Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland; *S. Lellig,* RWTH Aachen, Germany; *T.J.E. Edwards,* NIMS, Japan; *H. Bolvardi, A. Lümkemann,* PLATIT AG, Switzerland; *J.M. Schneider,* RWTH Aachen, Germany; *J. Michler,* Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland
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		

	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: Hanna Bishara**, Tel Aviv University, Israel, **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, **Fan-Yi Ouyang**, 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	**TS2-2-ThM-3** Low-Cost, High-Performance Flexible Supercapacitors Based on Vanadium Oxynitride Reactively Sputtered on Porous Polymeric Substrate for Sustainable Energy Storage Applications, ***Habeebur Rahman (Student)****, Davinder Kaur,* Indian Institute of Technology Roorkee, India	
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

	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-17 Effect of UHTC Nanoparticle-Reinforced Micro Arc Oxidation Composite Coatings on the Surface Performance of Al 2024 Alloy, *Suleyman Sukuroglu,* ***Ebru Emine Sukuroglu,*** Gumushane University, Turkey

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-3 Applicability of Mos2-Asic Heterostructure for Durable Supercapacitance and No2 Gas Sensing in Harsh Environment, ***Habeebur Rahman (Student),*** *Davinder Kaur,* Indian Institute of Technology Roorkee, India

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** Surface Property Enhancement of Al 7075 Alloy via MAO-Based Boron-Reinforced Composite Coatings, *Erhan Karaca,* Turkish State Railways, Turkey; ***Suleyman Sukuroglu (Student)***, Gümüşhane University, Turkey
10:40am		**IA1-FrM-9** Advanced HiPIMS Coating Equipment for High-Performance Cutting Tools Amid Tungsten Price Increase, ***Yafen Chen***, *Wei Zhou,* Guangdong Huasheng Nanotechnology, China
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		

Author Index

Bold page numbers indicate presenter

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index