

Monday May 6, 2024 | Daily Schedule

Welcome to the SVC's 2024 TechCon!

2024 is a very dense conference with something to do literally every second of the day. We are happy to present a handy reference guide that will help you plan your day. Please note that this schedule is accurate as of April 17, 2024, when this periodical went to press. Changes to the schedule will be posted in real time to our TechCon conference app (<https://svc.swoogo.com/techcon2024/home>). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2024 information is at your fingertips. Be safe, enjoy your stay with us, and remember: *You are the SVC!*

Technical Program

7:00 A.M. | TECHNOLOGY FORUM BREAKFASTS

International Ballroom North

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| <p>TFB: Digitalization in the Coating Industry – Does it (already) Improve Production and Product?!</p> <p>Holger Gerdes (Fraunhofer-IST)
Thomas Schütte (Plasus GmbH)</p> <p>TFB: Aligning Deposition Process Requirements with Vacuum System Layout and Design</p> <p>Wolfgang Decker (Kurt J. Lesker Company)
Jimmy Haight (Semicore)</p> <p>TFB: Optical Coating Design</p> <p>Robert Sargent (Viavi Solutions Inc.)
Ron Willey (Willey Optical Consultants)</p> <p>TFB: Advanced Deposition Coating Hardware</p> <p>Frank Papa (GP Plasma, LLC)
Ralf Bandorf (Fraunhofer-IST)</p> <p>TFB: Coatings for Thin Film Photovoltaics</p> <p>Volker Sittinger (Fraunhofer-IST)
Ric Shimshock (MLD Technologies, LLC)</p> | <p>TFB: CVD and ALD Processing</p> <p>Matt Weimer (ForgeNano)
Lenka Zajickova (Masaryk University)</p> <p>TFB: Thin Film Sensors</p> <p>Jason Hrebik (Kurt J. Lesker Company)
Binbin Weng (University of Oklahoma)</p> <p>TFB: Ultra-thin Flexible Glass - the next big thing?</p> <p>Manuela Junghänel (Fraunhofer-ASSI/IZM)
Jörg Neidhardt (Fraunhofer-FEP)</p> <p>TFB: Supply Chains, Manufacturing Processes, and Sustainability for Materials Enabling PVD Processes</p> <p>Christian Linke, Paul Rudnik (Plansee)
Christos Pernagidis (Avaluxe)
Armin Keller (EvoChem)</p> |
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8:30 A.M. *10 Minute Passing Break*

8:40 A.M. **SVC Annual Business Meeting (30 minutes)**
Continental B Ballroom

9:10 A.M. *10 Minute Passing Break*

9:20 A.M. **10 Minute Conference Introduction (Program Director)**
Continental B Ballroom

9:30 A.M. **Keynote | Sustainability Inspired Design of HIPIMS Deposited Coating Materials**
(Jochen Schneider | RWTH Aachen University, Germany)
Continental B Ballroom

10:10 A.M. *20 Minute Refreshment Break*

Monday May 6, 2024 | Daily Schedule

	Continental A Ballroom	Continental B Ballroom	Continental C Ballroom	Buckingham
10:30 A.M.	HIPIMS Panel Discussion and Workshop (2 hrs) HIPIMS Success Stories	Plasma Processing (PPinV1) Plasma-Enhanced Chemical Film Conversion <i>(R. Mohan Sankaran Univ. of Illinois Urbana-Champaign)</i>	Process Monitoring and Control (PC1) Understanding Convergence and Steady-State Conditions During Feedback Control in Reactive Magnetron Sputtering <i>(Josja Van Bever Ghent University)</i>	Large Area (LT1) Utilizing Large Area Sputtering to Overcome Cost and Yield Barriers for Scratch Resistant Anti-Reflective Coatings <i>(Patrick Morse Intevac Inc.)</i>
10:50 A.M.			Process Monitoring and Control (PC2) Rapid Titanium Nitride Process Development on a Production PVD System Using a Plasma Emission Monitor <i>(Nick Franzer KDF Technologies)</i>	Large Area (LT2) Printable Masking for Large Area Magnetron Sputtering Process <i>(Alexey Arkhipov Bühler Alzenau GmbH)</i>
11:10 A.M.			Process Monitoring and Control (PC3) Diagnostic Solutions to Common Issues in Vacuum Coating and Plasma Processing <i>(Angus McCarter Impedans Ltd.)</i>	Large Area (LTinv1) The Practical Considerations of RF Sputtering in Large Area Manufacturing <i>(Jesus Garcia Advanced Energy Industries, Inc.)</i>
11:30 A.M.			Process Monitoring and Control (PC4) Residual Gas Analysis for Process Monitoring <i>(Edward Ho Pfeiffer Vacuum Inc.)</i>	
11:50 A.M.			Process Monitoring and Control (PCinv1) Equipment Control in 2024 – From Must Haves to Future Dreams <i>(Frank Geissler Kontron AIS)</i>	Large Area (LT3) Arc Handling and Managing Arc Energies During Deposition of Insulating Films: Comparison Between Power Delivery Modes <i>(Gayatri Rane Advanced Energy Industries, Inc.)</i>
12:10 P.M.			Plasma Processing (PP4) Which Processes Really Matter in Industrial HIPIMS? Understanding a PVD Process Through Global Plasma Modelling <i>(Kristina Tomanková PlasmaSolve s.r.o.)</i>	Large Area (LT4) Highly Selective Multilayer Low-E Coatings on Float Glass <i>(Utku Er SISECAM)</i>
12:30 P.M.	HIPIMS (HPinv1) The Use of HIPIMS In an Industrial Setting <i>(Jon Paggett Kyocera Hardcoating Technologies)</i>	Plasma Processing (PP5) Rapid Process Prototyping and Upscaling Using the AGC Mini-Coater Platform <i>(John Chambers AGC Plasma Technology Solutions)</i>	Process Monitoring and Control (PC5) Cutting-Edge Real-Time OES/PEM Innovations for Key Industry Advancements <i>(Martynas Audronis Nova Fabrica Ltd.)</i>	Large Area (LT5) Scalable Manufacturing Technology for Mobile Signal Penetrating Low-E Windows <i>(Guowen Ding Laborinvention Corporation)</i>
12:50 P.M.		Plasma Processing (PP6) Fast Kinetic Modeling of Magnetron Sputtering <i>(Daniel Main Tech-X Corporation)</i>	Process Monitoring and Control (PC6) Advancing Vacuum Arc Evaporation Processes: In-situ Deposition Rate Measurement and Real-time Thickness Estimation for Enhanced Precision and Control <i>(Gun-Hwan Lee KIMS)</i>	Large Area (LT6) Protecting Cork and Rubber from Mechanical Wear and UV Radiation through Coatings Produced by Vacuum Techniques <i>(Belgacem Tiss University of Minho)</i>
1:10 P.M.	10 Minute Break			
1:20 P.M.	Don Mattox Tutorial Continental B Ballroom From Thin Films to Airplanes: Engineering Leadership in the Fulfillment of Serving as Many People as Possible <i>(Marvi Matos Rodriguez Boeing Corporation, Seattle, WA USA)</i>			
2:00 P.M.	10 Minute Break			
2:10 P.M.	HIPIMS (HP1) HIPIMS Coatings for Next Generation Cutting Tools <i>(Christoph Schiffers CemeCon AG)</i>	Atomic Layer Processing (AL1) High-Quality and High Deposition Rate Atomic Layer Deposition of NbN and TiN for Superconducting Quantum Applications <i>(Harm Knoops Oxford Instruments)</i>	Bio (BTinv1) A Hitchhiker's Guide to Antimicrobial Thin Film Coatings <i>(Gregory Caputo Rowan University)</i>	Large Area (LT7) Spatial Plasma Enabled Atomic Layer Deposition for Large Area Substrates <i>(Eric Dickey Lotus Applied Technology)</i>
2:30 P.M.	HIPIMS (HP2) A Comprehensive Study of HIPIMS Coated Tool and Micro-tool Performance: From Edge Preparation to Micro-Machining Tests <i>(Ivan Fernandez NANO4ENERGY SL)</i>	Atomic Layer Processing (AL2) Enhancing Heavy Metal Ion Removal: Thiol-Functionalized Adsorbents via Atomic Layer Deposition and Vapor-Phase Silanization <i>(Vepa Rozyayev ANL)</i>		Large Area (LT8) Reactive Gas Ionizers – For Next Generation Thin Film Coatings <i>(David Stevenson Ampres, Inc.)</i>
2:50 P.M.	HIPIMS (HP3) Optimization and Application of HIPIMS Hafnium Oxynitride (HfO _N) Thin Films in MOS Structures <i>(Robert Mroczynski WUT)</i>	Atomic Layer Processing (ALinv1) Atomic Layer Processing Approaches for Advanced Thin Film Heterojunctions <i>(Virginia Wheeler Naval Research Laboratory)</i>	Bio (BT1) Development of Antibacterial Metal Oxide Thin Films for Neurostimulation Applications using Atomic Layer Deposition <i>(Henna Khosla Villanova University)</i>	Large Area (LT9) Effect of Pulse shape on Reactive Sputtering Process and Film Properties: Comparison Between Sine-Wave, Square-Wave and Dynamic Reverse Pulsing Mode <i>(Gayatri Rane Advanced Energy Industries, Inc.)</i>
3:10 P.M.	HIPIMS (HP4) Influence of Pulse Parameters in Dual Cathode HIPIMS: Study on the Influence of the Off-Time in Asymmetric Pulse Shapes on the Ionization at the Cathode Site <i>(Ralf Bandorf Fraunhofer IST)</i>		Bio (BT2) Sealing of PVD Coating Defects by Ti-O ALD Layers for Orthopedic Implant Applications <i>(Zoran Bobic University of Novi Sad)</i>	Large Area (LT10) Simulating the Effect of Pulse Shape and Anode Placement in Large Area Coaters – Correlating Plasma Dynamics with Film Growth <i>(Adam Obrusnik PlasmaSolve s.r.o.)</i>
3:30 P.M.	HIPIMS (HP5) Heterogrown Graphene on Silicon for Thermal Spreading <i>(Chi-Ya Hsia Feng Chia University)</i>	Atomic Layer Processing (AL3) Novel Fiber-optic Sensors for Advanced ALD & Plasma Systems <i>(Tim Dubbs Advanced Energy Industries, Inc.)</i>	Bio (BT3) Ultrathin TiO ₂ ALD Coatings Enhance Properties of Biomaterials Used in Medicine <i>(Raul Zazpe University of Pardubice)</i>	Large Area (LT11) Predictive Models for Coating Process Variables at Vera C. Rubín Observatory Coating Plant <i>(Franco Colleoni AURA / Vera C. Rubín Observatory)</i>
3:50 P.M.	HIPIMS (HP6) Multilayer Ti/TiN Structures Deposited via HIPIMS on ZK60 Mg Alloy to Control Its Degradation Rate <i>(Adrian Claver Public University of Navarre)</i>	Atomic Layer Processing (AL4) Tailored Atomic Layer Deposition of Transparent Conductive Oxides Using Supercycles <i>(Hagen Bryja FHR Anlagenbau GmbH)</i>	Bio (BT4) Antimicrobial Protection for Touch Surfaces to Reduce Hospital Associated Infections <i>(Lara Maroto-Diaz Gencoa Ltd.)</i>	Large Area (LT12) Vera C. Rubín Observatory Final Coating Results Over the Main Telescope Mirrors <i>(Tomislav Vucina AURA / Vera C. Rubín Observatory)</i>
4:10 P.M.	20 Minute Refreshment Break			
4:30 P.M.	HIPIMS (HP7) A Novel High-Efficiency Plasma Nitriding Process Utilising a HIPIMS Discharge <i>(Arutjun Ehasarian Sheffield Hallam University)</i>	Atomic Layer Processing (AL5) Protection of Electrochemically Active Surfaces by Ultrathin Barrier Layers Using Atomic Layer Deposition <i>(Raul Zazpe University of Pardubice)</i>	Bio (BT5) Synthesis and Characterization of Coatings for Bactericidal Applications <i>(Jeffrey Hettinger Rowan University)</i>	Large Area (LT13) Comparison of ITO and LTC-V2 Film Properties <i>(Rajiv Pethé Vital Chemicals)</i>
4:50 P.M.	HIPIMS (HP8) HIPIMS – A Fascinating Technology: To Make Decorative and Functional Application for Industrial Coating Solution <i>(Chinmay Trivedi JHI Hauzer Techno Coating BV)</i>	Atomic Layer Processing (AL6) Optimizing Precursor Utilization for Spatial ALD in High Surface Area Substrates <i>(Paul Poodt SparkNano B.V.)</i>	Bio (BT6) Ultrathick Boron Carbide Coatings Deposited with Magnetron Sputtering <i>(Gregory Taylor LLNL)</i>	
5:10 P.M.	HIPIMS (HP9) Advanced PVD Coatings for the Decorative Field: New Colours and Improved Film Properties <i>(Francesca Marchetti Pratec Surface Technologies SRL)</i>	Atomic Layer Processing (AL7) Low-Cost, Ultra-Barrier Coating via Spatial, Plasma-Enabled ALD with Simultaneous Precursor Delivery <i>(Bryan Danforth Lotus Applied Technology)</i>	Bio (BT7) Characterization of Reactively Sputtered Platinum Group Metal Oxide Coatings for Biomedical Applications <i>(Jeffrey Hettinger Rowan University)</i>	
5:30 P.M.	HIPIMS (HP10) Tuning Residual Stress for Enhanced Tribological Performance of TiAlN Coatings Prepared by HIPIMS in Cylindrical Magnetron Configuration <i>(Ludvik Martinu Polytechnique Montréal)</i>	Atomic Layer Processing (AL8) Site-Selective Atomic Layer Deposition at TiO ₂ Defects Via Targeted Dehydration <i>(Jessica Jones ANL)</i>	Bio (BT8) PVD and Laser Patterning Processes for Mass-Produced Advanced Bioelectronic Virus Test Kits <i>(Christopher Muratore University of Dayton)</i>	
5:50 P.M.	Dinner break			
8:00 P.M.	8:00 – 10:00 P.M. Casino Night Fundraiser International Ballroom South			
10:00 P.M.				

Tuesday May 7, 2024 | Daily Schedule

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Technical Program

7:00 A.M. | TECHNOLOGY FORUM BREAKFASTS

International Ballroom North

TFB: Industrial Challenges: Uptime, Yield, and Consistency

Nick Franzer (Kurt J. Lesker Company)
Cameron Gottlieb (AGC)

TFB: Leak Detection - Issues and Practices

Mike Ridenour (Leybold USA)
Jean-Pierre Deluca (BDL Redwood)

TFB: Coatings and Surface Engineering for Medical Applications

Jeff Hettinger (Rowan University)
Greg Taylor (Lawrence Livermore National Laboratory)

TFB: Magnetron Sputtering

Wilmert De Bosscher (Soleras Advanced Coatings)
Patrick Morse (Intevac)

TFB: Energy Conversion and Storage

Ric Shimshock (MLD Technologies, LLC)
Volker Sittinger (Fraunhofer-IST)

TFB: High-Powered Electron Beam Technology

Mark Pellman (Pellman Technology, Inc.)
Stefan Saager (Fraunhofer-FEP)

TFB: Process Monitoring and Control

Martynas Audronis (Nova Fabrica, Ltd.)
Edmund Schüngel (Evatech AG)

TFB: High Power Impulse Magnetron Sputtering (HIPIMS)

Arutjun P. Ehasarian (Sheffield Hallam University)
Ralf Bandorf (Fraunhofer-IST)

TFB: Tribological and Diamond-Like Coatings

Jolanta Klemberg-Sapieha (Polytechnique Montréal)
George Savva (IHI Ionbond, Inc.)

EXHIBIT HALL OPEN 1:00 P.M. - 6:00 P.M.

B2B Coffee (Exhibitors Only) 12:00 P.M. - 1:00 P.M.

8:30 A.M.

10 Minute Passing Break

8:40 A.M.

AWARDS CEREMONY
Continental B Ballroom

9:20 A.M.

10 Minute Passing Break

Tuesday May 7, 2024 | Daily Schedule

	Continental A Ballroom	Continental B Ballroom	Continental C Ballroom	Buckingham
9:30 A.M.	HIPIMS (HP11) Temporal Plasma Evolution in the Pulse Peak Current Controlled HIPIMS Discharge (Anna W. Oniszczuk TRUMPF Huettinger Sp. z o.o.)	Plasma Processing (PP7) Indium Free Transparent Conductive Electrodes: Effects of Deposition Temperature and Angle on the Thin Film Characteristics (Tabitha Amollo Michigan State University)	Process Monitoring and Control (PC7) Advanced Energy's Ascent AMS II (Kyle Moore Advanced Energy Industries Inc.)	Exhibitor Innovator Showcase (EIS1) Innovations in Vacuum Web Coating (Liz Josephson INTELLIVATION LLC)
9:50 A.M.	HIPIMS (HP12) Yttrium Oxide Thin Films: Synthesis, Optical, and Photochromic Properties (Martins Zubkins ISSP UL)	Plasma Processing (PP8) Plasma Diagnostics for an AEGD Plasma Cleaning Process (Sebastian Martinez-Garcia CIDESI)	Process Monitoring and Control (PC8) Reducing Coating System OPEX Through Advanced SCR Power Control (Tim Dubbs AEF)	Exhibitor Innovator Showcase (EIS2) Development of High-Value Companies Related to Vacuum in Mexico and Latin America: The Case of Devcoatings (Niels Garcia-Tapia DEVCOATINGS, GRUPO FEDEQRO)
10:10 A.M.	HIPIMS (HP13) Continuous Pulse-Resolved Spectroscopic and Electrical Plasma Process Control in HIPIMS Applications (Thomas Schütte PLASUS GmbH)	Plasma Processing (PP9) Eliminating Signal Bias Caused by Vacuum System Backstreaming in the Diagnostic Residual Gas Analyzer of ITER (Chris Marcus ORNL)	Process Monitoring and Control (PC9) Instrument/Instrument and Supplier/Supplier On-line and Laboratory Reproducibility Considerations (Brian Werner Apex Measurement Systems)	Exhibitor Innovator Showcase (EIS3) Upgrading Industrial Thin Film Coaters Powered by Crystal® with Advanced Energy's Integrated New Technology Solutions (Craig Rappe AEF)
10:30 A.M.	20 Minute Refreshment Break			
10:50 A.M.	HIPIMS (HP14) HIPIMS Prepared Metal Films on Stretchable Substrate for Thin-Film Strain Gauge (Ying Hung Chen Feng Chia University)	Plasma Processing (PP10) Advancements in Plasma Sensor Technology for Enhanced Control in Sputtering Systems (Angus McCarter Impedans Ltd.)	Process Monitoring and Control (PCInv2) 30 Years of Industrial Vacuum Robots: Leveraging Statistical Process Control to Enhance Performance and Reliability (Yehoram Yosubash, Hsiao-Lung Chang Brooks Automation)	Exhibitor Innovator Showcase (EIS4) The EMICON System – Comprehensive Process Control Combining Complementary Diagnostic Techniques in a Single Unit (Thomas Schütte PLASUS GmbH)
11:10 A.M.	HIPIMS (HP15) Gas Flow Sputter System for Yttria-Stabilized Zirconia Deposition (Lu-Liang He Feng Chia University)	Programming Pause		Exhibitor Innovator Showcase (EIS5) Research and Business Opportunities in Mexico for Vacuum Technologies, The Center for Engineering and Industrial Development (CONACYT-CIDESI) (Niels Garcia-Tapia Centro de Ingeniería y Desarrollo Industrial CIDESI)
11:30 A.M.	HIPIMS (HP16) Boron Carbide Coatings Deposited with HIPIMS (Gregory Taylor LLNL)	Hydrogen Economy (HYInv1) Thin Film Considerations for the Hydrogen Economy (Ralf Bandorf Fraunhofer IST)	Process Monitoring and Control (PC10) Optimizing Aluminum Zinc Oxide Magnetron Sputtering Process Control on Organic Substrates with PEM (Andris Voitkans GroGlass, SIA)	Exhibitor Innovator Showcase (EIS6) Innovative Coating Materials and Solutions for Thin Film Applications (Lucca Pernagidis Avalux GmbH)
11:50 A.M.	HIPIMS (HP17) Two Decades of Industrial Scale HIPIMS (Arutiun Ehasarian Sheffield Hallam University)		Process Monitoring and Control (PC11) Predictive Maintenance with Smartline Vacuum Transducers (Linda Suarez Patino Thyracont Vacuum Instruments GmbH)	Exhibitor Innovator Showcase (EIS7) Process Monitoring, Control, and Leak Detection Using Remote Plasma Optical Emission Spectroscopy (Erik Cox Gencoa Ltd.)
12:10 P.M.		Hydrogen Economy (HY1) Ultralow Loading Pt Electrodes for PEM Electrolysis Developed by Magnetron Sputtering (Lucia Mendizabal TEKNIKER)	Process Monitoring and Control (PC12) MatSight Apps by PlasmaSolve – A Modern Simulation Toolkit for Speeding Up Equipment Development and Process Development (Adam Obrusnik PlasmaSolve s.r.o.)	Exhibitor Innovator Showcase (EIS8) The Promise of Vacuum System Technology (VST) (Koby Leist VST Services Ltd.)
12:30 P.M.		Hydrogen Economy (HY2) High Volume Coating of Metallic Plates for Hydrogen Applications by PVD Technology (Geert-Jan Franssen IHI Hauzer Techno Coating B.V.)	Process Monitoring and Control (PC13) Improved Process Control by Using In-Situ Data to Determine Refractive Indices of Thin Films (Jan-Peter Urbach PLASUS GmbH)	Exhibitor Innovator Showcase (EIS9) Molybdenum and Tungsten Sputtering Targets for Microelectronic and Semiconductor Applications: Requirements, Material Properties and Perspectives (Christian Linke Plansee SE)
12:50 P.M.		Hydrogen Economy (HY3) Cost Effective High Performance Coatings for the Hydrogen Economy: Mass Production of Coatings for Fuel Cells and Electrolyzers (Herbert Gabriel PVT Plasma und Vakuum Technik GmbH)	Process Monitoring and Control (PC14) Outgassing in Vacuum Processes: Problems, Sensing and Control (Joe Brindley Gencoa Ltd)	Exhibitor Innovator Showcase (EIS10) Vacuum Chambers—We Keep It Simple (Kenneth Harrison Magnum Steel Works)
1:10 P.M.	Exhibit Hall opens at 1:00 P.M.		Process Monitoring and Control (PC15) Incorporating Automation Skills into a Vacuum Technology Curriculum (Nancy Louwagie Normandale Community College)	
2:30 P.M.	<p>POSTER SESSION Exhibit Hall</p> <p>POSTERS (P01) Surface Properties of Plasma Carburized Austenitic Stainless Steels for Tribological Applications and Metallic Bipolar Plates (Phillip Marvin Reinders TU Braunschweig, Institute for Surface Technology)</p> <p>POSTERS (P02) Investigating Nitrogen-Incorporated Tetrahedral Amorphous Carbon As an Optically Transparent Electrode (David Galstyan Fraunhofer USA, Inc., Center Midwest)</p> <p>POSTERS (P03) Comparison of PA-CVD and MS-PVD Coatings Deposited on Polymer Foils for Food Packaging Applications with Higher Recyclability (Francisco Delfin University of Applied Sciences Upper Austria)</p> <p>POSTERS (P04) Two Dimensional Structured Electrode of Nickel Oxide for Enhanced Capacitive Behaviour (Peeyush Phogat Netaji Subhas University of Technology)</p> <p>POSTERS (P05) Effect of Nitrogen Doping on the Mechanical and Tribological Properties of Hydrogen-Free DLC Coatings Deposited by Arc-PVD at an Industrial Scale (Sebastian Martinez-Garcia Centro de Ingeniería y Desarrollo Industrial CIDESI)</p> <p>POSTERS (P06) Sensor Design and Mass Fabrication Considerations of Micro Anemometer and Its Implementation in a Mechanical Ventilator (Sebastian Martinez-Garcia Centro de Ingeniería y Desarrollo Industrial CIDESI)</p> <p>POSTERS (P07) Ga₂O₃ and ZnGa₂O₄ Thin Films Deposited by Liquid Metal Target Sputtering (Edvard Strods Institute of Solid State Physics, University of Latvia)</p> <p>POSTERS (P08) Comparison of Different Antimicrobial Testing Methods on Magnetron Sputtered Coatings (Viktors Vībornijs Institute of Solid State Physics, University of Latvia)</p> <p>POSTERS (P09) Tribology Coatings on Lightweight Metals by Using Ion Plating Technology (Giyoung Kim Gyeongbuk Technopark)</p> <p>POSTERS (P10) Tomographic View – New Tool to View Inside the Material (Nick Bierwisch SIO)</p> <p>POSTERS (P11) Pioneering Tribological Innovation with Gadolinium-Doped DLC Coatings and Ionic Liquids for Superior Wear Resistance and Corrosion Protection (Takeru Omiya University of Coimbra)</p>			
4:30 P.M.				
5:00 P.M.	5:00 PM - 6:00 PM WELCOME RECEPTION (In Exhibit Hall)			
6:00 P.M.	Exhibit Hall Closes at 6:00 P.M.			

Wednesday May 8, 2024 | Daily Schedule

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5:30 A.M.

SVC Foundation | **5K Fun Run** (*Hilton Lobby meet-up*)

Technical Program

7:00 A.M. – 8:30 A.M. | **TAC BREAKFAST MEETINGS**

International Ballroom North

Optical Coatings
Protective, Tribological, and Decorative Coatings
Large Area Coatings
WebTech Roll-to-Roll Coatings for High-End Applications
Emerging and Translational Technologies and Applications
Plasma Processing
Atomic Layer Processing
HIPIMS

High-Powered Electron Beam Technology
Thin Film Contributions for the Hydrogen Economy
Coatings for Energy Conversion and Related Processes
Coatings and Processes for Biomedical Applications
Thin Film Sensors
Process Monitoring, Control and Automation
Digital Transformation of Industrial Deposition Processes

EXHIBIT HALL OPEN 10:00 A.M. - 4:00 P.M.

Exhibitor Meeting (*Exhibitors Only*) 9:00 A.M. - 10:00 A.M.

8:30 A.M.

10 Minute Passing Break

8:40 A.M.

Keynote | Why Your AI Effort Failed... and How to Engineer Success

(Sean McGregor | Underwriters Laboratories, Rancho Mission Viejo, CA)

Continental B Ballroom

9:20 A.M.

10 Minute Passing Break

Wednesday May 8, 2024 | Daily Schedule

	Continental A Ballroom	Continental B Ballroom	Continental C Ballroom	Buckingham
9:30 A.M.	Optical Coatings (OTinv1) A Collection of Interesting Coating Challenges (and Solutions!) (Leo Baldwin Meta)	Tribo (TT1) Creating a Digital Twin and How It Helps to Speed Up Your Coating Development (Nick Bierwisch SIO)	Emerging (ET1) Miniaturized rTMS Coil Powered by SCR High Current Supply (Han-Ping Hung Feng Chia University)	Closed Door Exhibitor Meeting in Salon C/D
9:50 A.M.		Tribo (TT2) Feedback Control in Reactive Magnetron Sputtering (Anas Ghailane Avaluxe Coating Technologies GmbH & co KG)	Emerging (ET2) Driving Innovation: Leveraging NSF Industry/University Cooperative Research Centers for Successful Start-Up Launches (Ray Lewandowski Power Roll Ltd)	Exhibitor Innovator Showcase (EIS11) New Product Release- FTE (Full Target Encapsulation) Shutters (Jason Hrebik Kurt J. Lesker Company)
10:10 A.M.	Optical Coatings (OT1) Design and Fabrication of Multilayer Metallo-Dielectric Transmission Filters with an Anisotropic Transfer Matrix Method Analysis (Lirong Sun Air Force Research Laboratory)	Tribo (TT3) Can the Solid Particle Erosion Literature Provide Quantitative Predictions of Erosion Performance? A Machine Learning Analysis (Stephen Brown Polytechnique Montréal)	Emerging (ET3) Open Innovation for Thin Film Vacuum Coating in Europe (André Wahl KETMarket GmbH)	Exhibitor Innovator Showcase (EIS12) Intelleg® S EI - Long life-time EIES Deposition Rate Controller (Martyrnas Audronis Nova Fabrica Ltd.)
10:30 A.M.	<i>20 Minute Refreshment Break</i>			
10:50 A.M.	Optical Coatings (OT2) Temperature-Dependent In-Situ Analysis to Enhance the Performance of Optical Coatings in Gravitational Wave Detectors (Michele Magnozzi Università di Genova)	Tribo (TT4) Tribological Behavior of Nb-Doped Oxinitride for High Temperature Applications (Sebastian Martinez-Garcia CIDESI)	Emerging (ETinv1) FlexGlass Pilotlab – An Innovative Platform for Emerging Use Cases (Jörg Neidhardt Fraunhofer FEP)	Exhibitor Innovator Showcase (EIS13) Temperature Compensation for QCMs (Sheldon Wayman INFICON)
11:10 A.M.	Optical Coatings (OT3) Gas Flow Sputtering Prepared SiC Coating for Plasma Etching Resistance (Chia Yin Liou Feng Chia University)	Tribo (TT5) Near-Infrared Optical Properties of Thermal Barrier Coatings: Effect of Microstructure and Degradation (Ludvik Martinu Polytechnique Montréal)		Exhibitor Innovator Showcase (EIS14) Creating New Pathways from R&D to Production in the Vacuum Coating World (Frank Papa GP Plasma)
11:30 A.M.	Optical Coatings (OT4) Innovative Approaches to the Development of Transparent Flexible Electrodes (Aleksandra Pajak Polytechnique Montréal)	Tribo (TTinv1) Application of Various Coatings on Aircraft Jet Engine Parts (Tsunao Tezuka JHI Corporation)	Emerging (ET4) Directional Off Axis Sputtering for Structurally Defined Solar Modules (Alexander Topping Power Roll Ltd)	Exhibitor Innovator Showcase (EIS15) The R-ALD: An Economical ALD Research and Development System (Jacob Bertrand Maxima Sciences LLC)
11:50 A.M.	Optical Coatings (OT5) New Era for Eyeglasses (Ronald Willey Willey Optical, Consultants)		Emerging (ET5) Advanced Thin Film Coatings based on TiN for next Generation Quantum Computing (Manuela Junghaehnel Fraunhofer IZM-ASSID)	Exhibitor Innovator Showcase (EIS16) Accelerating Material Breakthroughs with Atomic Layer Deposition (ALD) and Physical Vapor Deposition (PVD) Combined Processes (Carlos Guerra Swiss Cluster AG)
12:10 P.M.	Optical Coatings (OTinv2) Coatings for Laser Fusion Ignition and Beyond (Christopher Stolz LLNL)	Tribo (TT6) Studies of Porosity in Ceramic Titanium Nitride Oxide PVD Coatings (Zhonghui Wang Tanury Industries)	Emerging (ET6) Circular Economy and PVD: Adding Value to the Future (Lara Maroto-Diaz Gencoa Ltd.)	Exhibitor Innovator Showcase (EIS17) TRUMPF Huettinger's Latest Innovative Power Products (Mark Seeman Trumpf Huettinger, Inc.)
12:30 P.M.			Emerging (ET7) Ultra-Low, Non-Contact Temperature Measurement in Temperature Critical Processes; Challenges, and Best Practices (Rodeo Winchell AEI)	
12:50 P.M.				
2:00 P.M.	2:00 P.M. Beer Blast (Exhibit Hall)			
3:00 P.M.	3:00 P.M. Announce: 5k Walk/Run Winner & Best Poster Award (Exhibit Hall)			
4:00 P.M.	Exhibit Hall Closes at 4:00 P.M. 90 Minute Break			
5:30 P.M.	5:30 - 7:30 P.M. Program Committee Meeting (Lake Huron – 8th floor)			
7:30 P.M.				

Thursday May 9, 2024 | Daily Schedule

Welcome to the SVC's 2024 TechCon!

2024 is a very dense conference with something to do literally every second of the day. We are happy to present a handy reference guide that will help you plan your day. Please note that this schedule is accurate as of April 17, 2024, when this periodical went to press. Changes to the schedule will be posted in real time to our TechCon conference app (<https://svc.swoogo.com/techcon2024/home>). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2024 information is at your fingertips. Be safe, enjoy your stay with us, and remember: *You are the SVC!*

Technical Program

7:00 A.M. | TECHNOLOGY FORUM BREAKFASTS

International Ballroom North

TFB: Manufacturing in Space

Nick Franzer (Kurt J. Lesker Company)
Kevin Savin (Redwire Space Co.)

TFB: Protective, Reflective, and Decorative Coatings

Joshua Soper (Vergason Technology, Inc.)
Robert Stabinsky (Valence Technologies, LLC)

TFB: Fabrication and Performance of Optical Coatings

Ludvik Martinu (Ecole Polytechnique Montreal)
Vivek Gupta (Meta)
Kestutis Juskevicius (ARO Corp)

TFB: Transparent Conductive Materials (TCM)

Clark Bright (Bright Thin Film Solutions, LLC)
Patrick Morse (Intevac)

TFB: Atmospheric Plasma Technology

Hana Baránková (Uppsala University)
Ladislav Bardos (Uppsala University)

TFB: Post-Processing of Vacuum-Coated Roll-to-Roll Products

Andy Jack (Emerson and Renwick Ltd.)
Chris Stoessel (Stoessel Consulting)

TFB: Surface Engineering for the Hydrogen Economy

Ralf Bandorf (Fraunhofer IST)
Herbert Gabriel (PVT Plasma und Vakuum Technik GmbH)

8:30 A.M.

10 Minute Passing Break

9:30 A.M.

Keynote | New Approaches to Controlling Composition and Crystallinity in Sputter-Deposited Thin Films

(Suneel Kodambaka - Virginia Polytechnic Institute and State University, Blacksburg, VA)

Continental B Ballroom

10:10 A.M.

10 Minute Passing Break

Thursday May 9, 2024 | Daily Schedule

	Continental A Ballroom	Continental B Ballroom	Continental C Ballroom	Buckingham
9:30 A.M.	Optical Coatings Panel Discussion and Workshop (1 hour-forty minutes) The Challenge of Managing Defects in Production Optical Coating Processes	Tribo (TT7) Conformal and Superconformal Chemical Vapor Deposition of Silicon Carbide Coatings on Structured Graphite (Jing-Jia Huang Linköping University)	Digital (DTInv1) How Will Our Vacuum Coater and Deposition Processes Look Like Tomorrow? (Wilmert De Bosscher Soleras Advanced Coatings)	
9:50 A.M.		Tribo (TT8) CVD-Diamond Tool Coatings for Wire Drawing Dies with High Aspect Ratios (Christian Stein Fraunhofer IST)		
10:10 A.M.		Tribo (TTinv2) CVD Coatings for Cutting Tools: Evolution and Challenges (Dev Banerjee Kennametal)	Digital (DT1) Automated Design of Coating Recipes Using a Digital Twin Model (Adam Obrusnik PlasmaSolvo s.r.o.)	E-Beam (EB1) Industrial Coating Developments by Electron Beam Physical Vapor Deposition (EB-PVD): Technological Challenges for the Coating of Steel Strips at High Speed (Océane Gillet CRM Group)
10:30 A.M.			Digital (DT2) How to Handle All the Data Within Surface Technology? (Holger Gerdes Fraunhofer IST)	E-Beam (EB2) Plasma-Activated EB-PVD for High-Throughput Continuous Coating of Bipolar Plates (Stefan Saager Fraunhofer FEP)
10:50 A.M.	20 Minute Refreshment Break			
11:10 A.M.	Optical (OT6) Improved Three-Layer Antireflection Coating Design Discovery (Ronald Willey Willey Optical, Consultants)	Tribo (TT9) Characterization of Diamond Like Carbon Coatings for Applications in Infrared Optics and Tribology (Gareth Bellinger McMaster University)	Digital (DT3) Simulize it! From Simulation to Optimization for Coating Processes and Coaters (Dennis Barton Fraunhofer IST)	E-Beam (EBInv1) EB-PVD Thermal Barrier Coatings for the Aerospace Industry. Current Status, Challenges, and Future Outlook (Jason Van Sluytman Honeywell Aerospace)
11:30 A.M.	Optical (OT7) Origins of Stress in Amorphous Optical Thin Films: Mechanisms of Stress Generation and the Role of the Sputtering Parameters (Pedro Avila Polytechnique Montréal)	Tribo (TT10) High Temperature Tribology of Arc Evaporated CrN + Cr ₂ O ₃ and CrWN + (CrW) ₂ O ₃ Coatings (George Sarva IHI Ionbond)	Digital (DT4) Progress in Open-Source Plasma Modelling: Introducing the Simulation Tool PICLas and Harnessing Its Potential with Web-Based Platforms for Thin-Film Technologies (Paul Nizenkov Boltzplatz-numerical plasma dynamics GmbH)	
11:50 A.M.	Optical (OT8) Sputtered Coatings for Space-Based Optical Systems Including Gold Induced-Transmission Filters (John Atkinson Chroma Technology)	Tribo (TT11) Challenges and Approaches in the Development and Application of Decorative PVD Coatings (Martin Engels Ionbond Netherlands B.V.)	Digital (DT5) Leverage Data to Enhance Arc Management and Anomaly Detection Capabilities on Advanced Energy™ (AE) Power Supplies to Reduce Operational Costs (Jing Li AEI)	
12:10 P.M.	30 Minute Lunch Break			
12:40 P.M.	Optical (OTInv3) MOCVD Technology for 2D-TMDC: Equipment, Processes, Material Properties and Future Applications (Michael Heuken AIXTRON SE)	Tribo (TT12) Wear Resistance of Highly Textured TiN Coatings (Xuanyu Sheng Purdue University)	WebTech (WTInv1) Monitoring of Conductive Thin-Films in Challenging Vacuum Environments by Eddy Current Sensors (Marcus Klein SURAGUS GmbH)	Thin Film Sensors (SE1) Phase-Change Thin Films for Electrical, Thermal, Friction and Strain Sensing (Alain Hache Université de Moncton)
1:00 P.M.		Tribo (TT13) Unlocking the Potential: Synergistic Tribological Performance of Gadolinium-Doped DLC Coatings with Phosphorus-Containing Ionic Liquids (Takeo Omiya Univ. of Coimbra)		Thin Film Sensors (SE2) Development and Study of Low-Cost, Scalable Nitrogen-Incorporated Tetrahedral Amorphous Carbon (ta-CN) Electrochemical Sensor (Nina Baule Fraunhofer USA)
1:20 P.M.	Optical (OT9) In-Situ Characterization of Coating Roughness Evolution Using Light Scattering Methods (Nadja Felde Fraunhofer IOF)	Tribo (TT14) Study of Protecting Mechanical Properties of 3D Printed Polymers Exposed to Severe Testing Conditions by Magnetron Sputtering Depositions (Dorina Mihut Mercer University)	WebTech Roll-to-Roll Coatings for High-End Applications Panel Discussion and Workshop (1 hour - twenty minutes) Coating Thousands of Meters of Flexible Substrate in a Vacuum Coater – What Could Possibly Go Wrong?	Thin Film Sensors (SEInv1) Complex Germanates Thin Film Growth by Sub-Oxide Source Molecular Beam Epitaxy (Harjiong Paik University of Oklahoma)
1:40 P.M.	Optical (OT10) Estimating the Average Reflectance of an Antireflection Coating (Ronald Willey Willey Optical, Consultants)	Programming Pause		Thin Film Sensors (SE3) Optical Metasurface Engineering for Enabling the Mid-Wave Infrared Polarization Detection (Hosna Sultana University of Oklahoma)
2:00 P.M.	Optical (OT11) High Mobility TCO for Superior Optical Performance (Clark Bright Bright Thin Film Solutions LLC)	Tribo (TTinv3) Application of Thermal Barrier Coatings on Hotter Parts of Aero-Engines Using EB-PVD Technology (Ravisankar Naraparaju DLR)		Thin Film Sensors (SE4) Study of Ion Charging Effect to Improve Reactive-Ion Etching Profile of PbSe Grating Structures (Srujana Prayakarao University of Oklahoma)
2:20 P.M.	Optical (OT12) Using Different Coating Techniques to Minimize Stress of Hafnia/Silica Stacked Filter Coating (Eyül Demir ASELSAN)			
2:40 P.M.	Optical (OT13) Metallic Thin Films: The Forgotten Transparent Conductive Material (Clark Bright Bright Thin Film Solutions LLC)	Tribo (TT15) Plasma Etching Resistance of Gas Flow Sputter Prepared Yttrium Oxyluoride Coating Against Different Fluorine Plasma (Ping-Yen Hsieh Feng Chia University)	WebTech (WT1) Integration of a Mid IR Tunable Quantum Cascade Laser Based Reflectance Spectrometer in a Roll-to-Roll Sputter Coater (Mike Simmons INTELLIVATION LLC)	Energy (ENInv1) Vertically Aligned Carbon Nanotube Coatings for Dendrite-Free and Stable Lithium-Metal Battery Anodes (Abdul-Rahman Raji - Zeta Energy Corporation)
3:00 P.M.		Programming Pause	WebTech (WT2) A Modular R2R Vacuum Coating Platform Using State-of-the-Art Automation Tools for Productivity in Multi-Layer Application (Michael Muecke Buhler Leybold Optics)	
3:20 P.M.	20 Minute Refreshment Break			
3:40 P.M.	Protective, Tribological and Decorative Coatings Panel Discussion and Workshop (2 hours) CVD Today and Going Forward			Energy (EN1) Electrode Coatings for the Energy Transition (Matija Lavrak Magneto Special Anodes B.V.)
4:00 P.M.				Energy (EN2) Combinatorial Thin Film Catalysts for Oxygen Evolution Reaction (Natalie Page Rowan University)
4:20 P.M.				Energy (EN3) Spatial Atomic Layer Deposition of Iridium Oxide Electrocatalyst Layers for PEM Electrolysis (Paul Poodt Sparklano B.V.)
4:40 P.M.				Energy (EN4) Indium Zinc Oxide TCOs Films Deposited from a Metallic Tube Target for Perovskite-Silicon Tandem Solar Cell Applications (Volker Sittinger Fraunhofer IST)
5:00 P.M.				Energy (EN5) Swift Solar: From Research and Development to the Commercialization of Perovskite Photovoltaics (Tobias Abzieher Swift Solar Inc.)
5:20 P.M.				Energy (EN6) Dry Lithiation Coloration and Electron Density Characterization of Tungsten Trioxide (WO ₃) Thin Films (Pandurang Ashrit Université de Moncton)
6:00 P.M.				6:00 P.M. - 7:30 P.M. Young Members/Farewell Social International Ballroom South
7:30 P.M.				