



Monday May 19, 2025 | Daily Schedule

Welcome to the SVC's 2025 TechCon!

2025 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, 2025, 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/techcon2025/home). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2025 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

- **TFB: Manufacturing in Space** Nick Franzer (Kurt J. Lesker Company) Ken Savin (Redwire Space Co.) *Cheekwood A*
- **TFB: Protective, Reflective, and Decorative Coatings** Martin Engels (lonbond)/Anas Ghailane (Avaluxe) *Cheekwood B*
- **TFB:** Transparent Conductive Materials (TCM) Clark Bright (Bright Thin Film Solutions, LLC) Patrick Morse (Arizona Thin Film Research LLC) Cheekwood C
- **TFB:** Atmospheric Plasma Technology Hana Baránková (Uppsala University) Ladislav Bardos (Uppsala University) *Cheekwood F*

- **TFB: Post-Processing of Vacuum-Coated Roll-to-Roll Products** Andy Jack (Emerson and Renwick Ltd.) Chris Stoessel (Stoessel Consulting) *Cheekwood G*
- **TFB:** Surface Engineering for the Hydrogen Economy Ralf Bandorf (Fraunhofer IST) Herbert Gabriel (PVT Plasma und Vakuum Technik GmbH) *Cheekwood H*
- **TFB:** Supply Chains, Manufacturing Processes, and Sustainability for Materials Enabling PVD Processes David Sanchez (Materion)/Christos Pernagidis (Avaluxe) *Belmont A*
- **TFB:** Durability Evaluation of Thin Film Coatings: Testing Methods and Practical Implications Brent Boyce (Guardian)/Aneliia Wäckerlin (Glas Trösch) Belmont B

8:30 A.M.	10 Minute Passing Break
8:40 A.M.	Compact Business Meeting (30 minutes) Tennessee C
9:10 A.M.	10 Minute Passing Break
9:20 A.M.	Director of Program Welcome and Conference Introduction
9:30 A.M.	Keynote Materials Science-Based Guidelines to Develop Robust Hard Coating (Paul H. Mayrhofer TU Wien) Tennessee C
10:10 A.M.	20 Minute Refreshment Break

* STUDENT SPONSORED PRESENTATION

Monday May 19, 2025 | Daily Schedule

10.20	Tennessee A	Tennessee B	Tennessee C	Tennessee D/E		
10:30 A.M.	Optical Coatings (OTinv) Optical Coatings and Plasma Processes for	Tribo (TT) The Investigations of the Interfacial Strength and Bonding of DLC Films Deposited on Chalcogenide Glasses *(Simran - McMaster University)	Simulation of Particle Contamination Using the PALADIN Code (Holger Gerdes Fraunhofer IST)	E-Beam (EBinv) Innovative Approach to Low-Temperature Deposition of Ceramic TBC Coatings Using Hollow Cathode Plasma in the EB-PVD Process (Andrzej Nowotnik Rzeszow University of Technology)		
10:50 A.M.	(Ulrike Schulz Fraunhofer IOF)	Tribo (TT) High Durability Dental Drills Due to Wear-Resistant DLC Protective Coatings (<i>Angela Bertuna</i> <i>Protec</i>)	Digital Xformation (DT) Open-Source Simulation of Rarefied Gas and Plasma Flows with PICLas: Step-by-Step Verification and Application Examples (<i>Paul Nizenkov</i> boltz platz)			
11:10 A.M.	Optical Coatings (OT) Titanium Dioxide Thin Films from a Low-Frequency Dual Magnetron Sputtering Process (Philipp Dürrenfeld Advanced Energy Industries)	Tribo (TTinv) CVD-Diamond Coatings for High Performing Tools	Digital Xformation (DT) Al-Powered Analysis: Predicting Process Success with Deep Learning (<i>Visin Boyle</i> <i>Gencoa Ltd</i>)	E-Beam (EB) Novel Thermal Barrier Coating Microstructures Produced via Electron Beam Physical Vapour Deposition (Koldo Almandoz Forcen Cranfield University)		
11:30 A.M.	Optical Coatings (OT) Comparison of ICO Film Properties using Different Doping Compositions (<i>Rajiv Pethe - Vital Chemicals</i>)	and Components (Christian Stein Fraunhofer IST)	Digital Xformation (DT) Practical Use-Cases for Digital Twin Models: Automated Recipe Design, Troubleshooting Production Challenges (Adam Obrusnik PlasmaSolve s.r.o.)	E-Beam (EB) Rare Earth Zirconates for Thermal Barrier Coatings: Improving Manufacturability and Assessing Performance (Luis Isem Cranfield University)		
11:50 A.M.	Optical Coatings (OT) Back to the Future - with Transparent Conductive Metals <i>Clark Bright + 5 min Ron Willey Tribute</i>	Tribo (TT) Diamond Coatings for CFRP Machining for the Aircraft Industry (Jeffrey Barlow CemeCon AG)	Digital Xformation (DTinv) Physics-Informed Data-Driven Approaches to Plasma	E-Beam (EB) Shaping the Future: Advanced EB-PVD Technology for a Diverse Range of Applications (Stefan Saager Fraunhofer FEP)		
12:10 P.M.	Optical Coatings (OT) Practical Designs for the Next Generation of Eyeglass Coatings (Ronald Willey Willey Optical Consultants)	Tribo (TT) Decorative PVD Coatings - Market Trends (<i>Martin Engels</i> <i>lonbond Netherlands B.V.</i>)	Processing Technologies (Satoshi Hamaguchi Osaka University)	E-Beam (EB) Electron Beam Technology: Thin Film Coatings, High Heat Flux Testing, Additive Manufacturing, and Micromachining (Christopher DeSalle Penn State Applied Research Laboratory)		
12:30 P.M.	Optical Coatings (OT) Calibrating Reflectance Measurements (Ronald Willey Willey Optical Consultants)	Tribo (TT) Surface Engineering of Cast Iron for Stamping Dies: a Plasma Surface Alloying and Nitriding Approach with Computational Insights (Taind Pigosso Federal University of Santa Catarina)	Digital Xformation (DT) Coping with Limited Data Amounts When Applying Artificial Intelligence in Industrial Process Control (Thomas Schütte PLASUS GmbH)	E-Beam (EB) Supporting the Decarbonising of Energy Production, Industry and Transport through the Application		
12:50 P.M.	Optical Coatings (OT) An Alternative to Rugate Coatings (Ronald Willey Willey Optical Consultants)	Program Pause	Digital Xformation (DT) Geometry-Dependent Thin Film Uniformity in Large Area Sputtering with Rotary Cathodes: A COMSOL Multiphysics Modeling Study (<i>Patrick Morse</i> <i>Arizona Thin Film Research</i>)	(Chris Punshon Cambridge Vacuum Engineering)		
1:10 P.M.		10 Minu	te Break			
1:20 P.M.		Don Mattox Tuto	orial Tennessee C			
2:00 P.M.		Crystais denerated in a microgravity 10 Minu	te Rreak			
2:10 P.M.			Energy (EN)			
2:30 P.M.	Optical Coatings (OTinv) Effect of Copper Doping on the Optical and Electrical Properties of Aluminum-Chlorophthalocyanine		Scaling the Deposition Rate of Boron Carbide Coatings via Magnetron Sputtering (James Merlo Lawrence Livermore National Laboratory) Energy (EN)			
2.50 D.H	(AICIPC) I hin Films for Photovoltaic Applications (Bassel Abdel Samad Université de Moncton)	Tribo Colloquium "A Large Success Factor of Vacuum Coating: The Right Cleaning!"	Broad Beam Plasma Source Enhanced Thin-Film Growth at Low Temperatures (Qi Fan Michigan State University)	WebTeck (WT)		
2:50 P.M.	Optical Coatings (OT) Influence of Different Impurities on Ion-Beam Sputtered UV-Coatings (Binyamin Rubin Veeco)		Tribo Colloquium Large Success Factor of Vacuum Coating: The Right Cleaning!" Kaining Ding Forschungszentrum Jülich GmbH)	Weblech (WT) Relations of System Parameters for an Optimized Setting of the Deposition Rate, Use Case for an Anti-Reflective Flex R2R Multilayer Application (Michael Muecke Bühler Alzenau GmbH)		
3:10 P.M.	Optical Coatings (OT) Precision Sputtering System OPTA X (Waldemar Schönberger VON ARDENNE GmbH)			WebTech (WT) Deposition of Magnetic Materials as Thin Films in an R2R Vacuum Coater (Robert Malay Intellivation LLC)		
3:30 P.M.	Thin Film Sensors (SEinv) Development of Highly Sensitive Short-Wavelength		Energy (EN) Effect of Different Composition Ratio of Quaternary Alloy Targets Prepared by DC Magnetron Sputtering for CIGS Solar Cells (Sheng-Kuei Chiu National University of Tainan)			
3:50 P.M.	Infrared Avalanche Photodiodes (Seunghyun Lee University of Texas at Arlington)		Energy (EN) One-Step DcMS and HiPIMS Sputtered CIGS Films from a Quatemary Target *(Rachid Oubaki UM6P)			
4:10 P.M.		20 Minute Refr	eshment Break Fnerav (FN)			
4:30 P.M.		Tribo (TTinv) PVD Coatings for Cutting Tools: Trends and Visions	Construction of a Linear PVD Evaporator for the Deposition of C ₀ /SnO ₂ Electron Contact Layers in a SALD Hybrid System (Volker Sittinger Fraunhofer IST) Encore VEN			
4:50 P.M.		(Christoph Schiffers CemeCon AG)	Chemical Synthesis and Magnetron Sputtering of Nickel Nanoparticles Embedded in Graphitic Carbon Nitride As HER Electrocatalyst for Water Splitting Systems *(Gustavo Defino Sao Carlos School of Engineering)			
5:10 P.M.		Tribo (TT) Mega Leap for Commercially Viable PVD Functional Coatings for Automotive and Industrial Components (Chinmay Trivedi IHI Hauzer Techno Coating BV)	Energy (EN) HiPIMS-Deposited TiO, on a Cobalt-Free LiNiO ₂ Cathode for Improved Electrochemical Stability and Suppressed Ni Dissolution (Mohammed Makha UM6P)			
5:30 P.M.		Tribo (TT) Influence of Carbon Incorporation on the Microstructure, Morphology, Mechanical Properties, Tribological Behavior and Corrosion Resistance of TIAICN Coatings Deposited Via Reactive HiPIMS *(Mohamed Lahouij UM6P)	Energy (EN) Design of Vacuum Evaporation Coating Process for Composite Copper Current Collectors and the Performance Study in LIBs (Kun Liu Northeastern University)			
5:50 P.M.	2 hour Dinner Break					
8:00 P.M.	8:00 – 10:00 P.M. Casino Night Fundraiser Magnolia Ballroom					



Tuesday May 20, 2025 | Daily Schedule

Welcome to the SVC's 2025 TechCon!

2025 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, 2025, 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/techcon2025/home). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2025 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

- **TFB:** Industrial Challenges: Uptime, Yield, & Consistency Nick Franzer (Kurt J. Lesker Company)/Jimmy Haight (Semicore) *Cheekwood A*
- **TFB:** Coatings and Surface Engineering for Medical Applications Jeff Hettinger (Rowan University) Greg Taylor (Lawrence Livermore National Laboratory) *Cheekwood B*
- **TFB: Magnetron Sputtering** Wilmert De Bosscher (Soleras Adsvanced Coatings) Patrick Morse (Arizona Thin Film Research LLC) *Cheekwood C*
- **TFB: Leak Detection Issues and Practices** Mike Ridenour (Leybold USA) Jean-Pierre Deluca (BDL Redwood) *Cheekwood D*
- **TFB:** Energy Conversion and Storage Volker Sittinger (Fraunhofer IST) Christian Stein (Fraunhofer IST) *Cheekwood F*

- **TFB Electron Beam Processes** Mark Pellman (Pellman Technology, Inc.) Stefan Saager (Fraunhofer FEP) *Cheekwood G*
- **TFB:** Process Monitoring & Control Martynas Audronis (Nova Fabrica, Ltd.) Gun Hwan Lee (Korea Institute of Materials Science) *Cheekwood H*
- **TFB: High Power Impulse Magnetron Sputtering (HIPIMS)** Arutiun P. Ehiasarian (Sheffield Hallam University) Ralf Bandorf (Fraunhofer IST) *Belmont A*
- **TFB: Tribological and Diamond-Like Coatings** George Savva (IHI Ionbond, Inc.) Lars Haubold (Fraunhofer USA) *Belmont B*

EXHIBIT HALL OPEN 11:00 A.M. - 6:00 P.M.

Exhibitor Meeting (Exhibitors Only) 10:00 A.M. - 11:00 A.M.

 8:30 A.M.
 10 Minute Passing Break

 8:40 A.M.
 Awards Ceremony
Tennessee C

 9:20 A.M.
 10 Minute Passing Break

* STUDENT SPONSORED PRESENTATION

Tuesday May 20, 2025 | Daily Schedule

0.20 / 14	lennessee A	lennessee B	Iennessee C	Iennessee D/E	
9:30 A.M.	Tribo (TT) Protective Surfaces and Coatings against Heavy Oil Fouling <i>(Pedro Avila Polytechnique Montreal)</i>	Tribo (TT) tive Surfaces and Coatings against Heavy Oil Fouling (Pedro Avila Polytechnique Montreal) Elash Lamo Annealing _ A New Annrach to Surface (Kun Liu Northeastern University)		Exhibitor Innovator Showcase (EIS) Solvent Cleaning in High-Tech-Coating Processes (Karl Trautz HEMO GmbH)	
9:50 A.M.	Tribo (TT) New Thermal Barrier Coating Architectures for Maximum Reflectivity and Resistance to CMAS Infiltration *(Mathieu Bruzzese Polytechnique Montreal)	(Jörg Neidhardt Fraunhofer FEP)	Process Monitoring, Control (PCinv)	Exhibitor Innovator Showcase (EIS) PlasmaSolve's Latest Developments: MatSight Suite Upgrades, Process Mining and Digital Twins in Thin Film Production (<i>Adam Obrusnik</i> <i>PlasmaSolve s.r.o.</i>)	
10:10 A.M.	Tribo (TT) Influence of Nitride Formation Enthalpy and Atomic Size on the Structure and Properties of Cr-Mn-Mo-Si-Y-(N) Magnetron Sputtered High-Entropy Nitride Coatings *(Lukáš Vrána - Masaryk University)	Emerging (ET) RF and HIPIMS Technologies for Advanced PCB Manufacturing: A Focus on High-Performance Cu Etching and Deposition (Yilei Shen TRUMPF Hüttinger GmbH + Co. KG)	PLD System for Fast Thin Film Material Fabrication (Sumner Harris Oak Ridge National Laboratory)	Exhibitor Innovator Showcase (EIS) Cutting-Edge Plasma Monitoring Techniques for Process Development, Production Control and Machine Learning (Thomas Schütte PLASUS GmbH)	
10:30 A.M.		20 Minute Refr	eshment Break		
10:50 A.M.	Tribo (TT) Studies of Diamond-Like-Carbon (DLC) PVD Coatings (Zhonghuai Wang Tanury Industries)	Emerging (ET) Sustainability and PVD: What Can We Do? (<i>Lara Maroto-Diaz</i> <i>Gencoa Ltd</i>)	Process Monitoring, Control (PC) Argon - Zero Helium: Vacuum Leak Detection with SPOES (Martynas Audronis Nova Fabrica Ltd.)	Exhibitor Innovator Showcase (EIS) DHF Technical Products-Your First Choice for Total Life-Cycle Management of Precious Metal Sputtering Targets (Ed Wegener DHF Technical Products)	
11:10 A.M.	Selective Atomic Scale Processes (SAinv) Area Selective Atomic Layer Deposition for Future	Emerging (ET) Amorphous Carbon Interlayers: Surface Engineering toward Stable Next Generation Lithium Batteries (Nina Baule Fraunhofer USA, Inc.)	Process Monitoring, Control (PC) Improving Real-Time Etch Process Efficiencies and Chamber Condition Monitoring with a Novel High Pressure, Long Lifetime In-Situ Quadrupole Mass Spectrometer (Michie Imanishi HORIBA Instruments Inc.)	Exhibitor Innovator Showcase (EIS) Compact R2R System for Process and Product Development (Wolfgang Decker Kurt J. Lesker Company)	
11:30 A.M.	Microelectronics (Stacey Bent Stanford University)	Emerging (ET) Leveraging "External Innovation" to Diversify the Innovation Pipeline in Functional Coatings and Surface Engineering (Chris Stoessel Stoessel Consulting)	Process Monitoring, Control (PC) Advancing Critical Gas Chemistry Control with a Differential Pressure-Based Sensor Technology (Brittney Graff Brooks Instrument)	Exhibitor Innovator Showcase (EIS) Contract R&D and Production Services with a Vertical Inline Coater (Frank Papa GP Plasma)	
11:50 A.M.		Emerging (ET) Methods and Considerations for Magnetron Sputtered Boron Carbide for ICF and IFE Applications (Gregory Taylor Lawrence Livermore National Laboratory)	Process Monitoring, Control (PC) Near-Process Sensor Integration for Characterization of In-Vacuo Deposited Thin Films by Eddy Current Sensor Metrology (Marcus Klein SURAGUS GmbH)	Exhibitor Innovator Showcase (EIS) Upgrading Industrial Thin Film Coaters Powered by Crystal™ with Advanced Energy's (AE) Integrated New Technology Solutions (Sarah Williams Advanced Energy)	
12:10 P.M.	2D Materials & Heterostructures (2D) Accelerated Thin Film Optimization via Laser Oxidation and Crystallization (<i>Chris Muratore</i> <i>University of Dayton</i>)	Emerging (ET) Advances in the Mathematical and Algorithmic Treatment of Surface Characterization Data with a Focus on X-ray Photoelectron Spectroscopy (XPS) (Matthew Linford Bringham Young University)	Process Monitoring, Control (PC) Pyrometry Solutions for Vacuum Chamber Temperature Monitoring (Tim Dubbs - Advanced Energy Industries)	Exhibitor Innovator Showcase (EIS) Under 598K Precision Layers Metrology Spectrometers: Surface Mappable Composition Depth Profiling Quantified (Ben Johns MSI)	
12:30 P.M.	2D Materials & Heterostructures (2Dinv)	Emerging (ET) The Reason Behind! (<i>Ralf Bandorf \ Freelance Consulting</i>)	Process Monitoring, Control (PC) Deposition Control Technology for Arc Ion-Plating Process (Gun Hwan Lee Korea Institute of Materials Science)	Exhibitor Innovator Showcase (EIS) The New N4E HiPIMS Competence Center – an Innovation- Driven Platform for Validation Current-Edge Industrial HiPIMS Processes and High-Performance Coatings (Ivan Fernandez Nano4Energy SL)	
12:50 P.M.	(Deep Jariwala University of Pennsylvania)	10 A.M. Exhibitor B2B Coffee Hour	Process Monitoring, Control (PC) Transforming Leak Detection in Vacuum Coating Systems with Remote Plasma Optical Emission Spectroscopy (Marcus Law Gencoa Ltd)	Exhibitor Innovator Showcase (EIS) Innovative Surface Treatments and Coatings for High-End Mold and Die Applications (Marcus Lartz Tronic Concept)	
1:10 P.M. 2:30 P.M.	11 A.M. Exhibit Hall Opens Ryman Hall B1-B3		Process Monitoring, Control (PC) Utilizing OES Active Feedback Control to Improve Batch- to-Batch Stability in Industrial HiPIMS Coating Processes (Tzu-Hou Chan Dah Young Vacuum Equipment Co., Ltd.)		
		ON Evhibit Hall			
		(P1) Diama Anadization for the Draduction of AIE Lawer (C	'eatt Walton 11 C. Naval Decoards Laboratory)		
	POSTERS	(P2) Thin, Free-Standing Metal Films for Accelerator-Base (John Greene Argonne National Laboratory)	d Physics Experiments		
	POSTERS	(P3) Enhancing Ultrathin Layer Quality: Copper-Doped Silv	ver via Thermal Evaporation PVD (Kenneth Jarefors 3M Svens	ka AB)	
	POSTERS	(P4) Sinusoidal and Bipolar Pulsed Power Delivery for Dua	I Magnetron Sputtering Processes (Gayatri Rane Advanced E	nergy Industries)	
	POSTERS	(P5) The Fabrication of Cu-Added Co Thin Films Using a Ma Reliability for Interconnect Metallization (Giin-Shan C	ignetron Cosputtering Process Giving an Enhanced Conductiv <i>hen Feng Chia University)</i>	vity and Electromigration	
	POSTERS	(P6) Anodic Arc Evaporation of Graphite for Deposition of t (Stefan Saager Fraunhofer FEP)	ta-C Diamond-Like Films		
	POSTERS	(P7) FT-Guided Design and Sputtering Deposition of BiVO ₄ (Mohammed Makha University Mohammed VI Polyter	\mathbf{N}_{4} Thin Films: Optimizing Photocatalytic Activity for Solar Water Splitting echnic)		
	POSTERS	(P8) Optical Properties of Reactively Sputtered Antimony I (Khalid Choglay Manchester Metropolitan University)	Reactively Sputtered Antimony Doped Tin Oxide Thin Films nchester Metropolitan University)		
	POSTERS	(P9) Spectroscopic Characterization and Defect Identificati (Praveena Manimunda Horiba)	ion in Wide Bandgap Semiconducting Materials		
	POSTERS (P10) A Bipolar HiPIMS Strategy for High-Adhesion Carl (Rajesh Ganesan The University of Sydney and Ave		on Thin Films uxe Coating Technologies)		
	POSTERS (P11) Metallic Lustrous HiPIMS Indium-Tin Coating on TPU (<i>Ying Hung Chen - Feng Chia University</i>)				
5:00 P.M.	5:00 P.M. – 6:00 P.M. WELCOME RECEPTION (Ryman Hall B1-B3)				
6:00 P.M.		Exhibit Hall Clo	ses at 6:00 P.M.		



Wednesday May 21, 2025 | Daily Schedule

Welcome to the SVC's 2025 TechCon!

2025 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, 2025, 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/techcon2025/home). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2025 information is at your fingertips. Be safe, enjoy your stay with us, and remember: *You are the SVC!*

Technical Program

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

(1) Digital Transformation through Artificial Intelligence, Machine Learning, Simulation and Data Science in the Thin Film Industry, and (2) Process Monitoring, Control, and Automation | Cheekwood A

Atomic Layer Processing (ALP) | Cheekwood B

 (1) High Power Impulse Magnetron Sputtering and
 (2) Thin Film Contributions for the Hydrogen Economy Cheekwood C

Coatings and Processes for Biomedical Applications *Cheekwood D*

Optical Coatings | Cheekwood E

Coatings for Energy Conversion and Related Processes *Cheekwood F* **Protective, Tribological and Decorative Coatings** *Cheekwood G*

Large Area Coatings | Cheekwood H

(1) Quantum Computing and (2) Organic and Perovskite Electronics | *Belmont A*

Plasma Processing and Diagnostics | Belmont B

(1) Thin Film Sensors, (2) Emerging and Translational Technologies and Applications, and (3) WebTech Roll-to-Roll Technologies and Innovation | *Belle Meade C/D*

(1) Electron Beam Processes, (2) Two-Dimensional (2D) Materials and Heterostructures - Applications, Large-Scale Growth and Advanced Characterization, and (3) Selective Atomic Scale Processes | *Magnolia Boardroom B*

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

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

0.30 A.M.	10 Minute Passing Break			
8:40 A.M. Keynote Equili	Keynote Equilibrium versus Non-Equilibrium Heating to Control the Microstructure of Coatings and Thin Films			
	(André Anders Leibniz Institute of Surface Engineering (IOM))			
	Tennessee C			
9:20 A.M.	10 Minute Passing Break			

Wednesday May 21, 2025 | Daily Schedule

	Tennessee A	Tennessee B	Tennessee C	Tennessee D/E		
9:30 A.M. 9:50 A.M.	Organic and Perovskite Electronics (OEinv) Vacuum Coating of Metal Halide Perovskite Thin Films for Photovoltaic Applications: Challenges and Opportunities (Zhaoning Song University of Toledo)	Hydrogen Economy (HY) Comparison of Two Techniques for Coating Metallic Bipolar Plates: Sputtering and Arc Evaporation (Teja Roch Fraunhofer (WS) Hydrogen Economy (HY) Cost-Competitive Coatings by PVD HiPMS Processes	Process Monitoring, Control (PCinv) Critical Subsystem Suppliers: Enabling Technologies for the Next Generation of Advanced Vacuum Processing Equipment	Exhibitor Innovator Showcase (EIS) Vacuum Process Monitoring, Control and Automation Using Remote Plasma Optical Emission Spectroscopy (<i>loe Brindley</i> [<i>Gencoa Ltd</i>] Exhibitor Innovator Showcase (EIS) DOMINO-Efficient Solutions For Thin Film Fauinment		
		for the Hydrogen Economy (Herbert Gabriel PVT Plasma und Vakuum Technik GmbH)	(Stefan Chitoraga Yole Group)	(Reto Roschi Oerlikon Balzers)		
10:10 A.M.	Organic and Perovskite Electronics (OE) Thermally Evaporated Metal-Halide Perovskite Semiconductors for Triple-Junction Photovoltaics (Jay Patel Kings College London)	Process Monitoring, Control (PC) Inteleg® 0ES: Advancing from 2B-PEM to SP0ES RGA, EIES, Plasma Diagnostics, and Enabling Digital Transformation (Martynas Audronis Nova Fabrika Ltd.)		Exhibitor Innovator Showcase (EIS) INFICON Zevision® IMC300: Precision Control for Maxi- mum Repeatability and Unmatched Crystal Efficiency (Sheldon Wayman INFICON)		
10:30 A.M.	20 Minute Refreshment Break					
10:50 A.M.	Organic and Perovskite Electronics (OE) Organic Photovoltaics What's Next? (Moritz Riede University of Oxford)		Quantum Computing (QCinv)	Exhibitor Innovator Showcase (EIS) Reactive Magnetron Sputtering Feedback Control, 'Flexibility for Success' (Dermot Monaghan Gencoa Ltd)		
11:10 A.M.	Organic and Perovskite Electronics (OEinv) Engineering Organic and Metal-Halide Perovskite		Magnetically-Contaminated Sputter System (Maciej Olszewski Cornell University)	Exhibitor Innovator Showcase (EIS) Unlocking Innovation: Solving Complex Challenges Through Collaborative Engineering (Jimmy Haight Semicore Equipment, Inc.)		
11:30 A.M.	Thin Films and Devices Via Vapor Processing (Russell Holmes University of Minnesota)		Quantum Computing (QCinv) Understanding and Surpassing Materials Challenges Surgersonduction Quantum Durices	Exhibitor Innovator Showcase (EIS) Accelerating Material Breakthroughs with Atomic Layer Deposition (ALD) and Physical Vapor Deposition (PVD) Combined Processes (Carlos Guerra Swiss Cluster)		
11:50 A.M.	Organic and Perovskite Electronics (OE) Heliatek: Vacuum Deposited OPVs from Lab to R2R Fab (Paul Sullivan Kurt J. Lesker Company)		(Adam Schwartzberg Lawrence Berkeley National Laboratory)	Exhibitor Innovator Showcase (EIS) Plasma Engineering LLC: Consulting and Education in Plasmas and Plasma Applications (André Anders Plasma Engineering LLC)		
12:10 P.M.	9 A. M. Exhibitor Meeting Exhibitor Innovator Showcase (EIS) Benefits of Telemark's Low Pressure Ion Sources (Wayne Sainty Telemark)					
12:30 P.M.	Exhibitor Innovator Showcase (EIS) Introducing an Internal Mount Flat Induction Coupled Plasma Source for Chamber and Substrate Processing (Steve Simons Manitou Systems Inc.)					
12:50 P.M.						
2:00 P.M.	2:00 P.M. Beer Blast					
	(Ryman Hall B1-B3)					
3:00 P.M.						
		3:00 P.M. Annound	e: Best Poster Award			
	(Ryman Hall B1-B3)					
4:00 P.M.						
	Exhibit Hall Closes at 4:00 P.M.					
5:30 P.M.						
		5-20 - 7-20 DM Dearer	am Committee Meeting			
	Citennessee Lobby/Tennessee ()					
7:30 P.M.						



Thursday May 22, 2025 | Daily Schedule

Welcome to the SVC's 2025 TechCon!

2025 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, 2025, 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/techcon2025/home). Abstracts for each presentation are also located there. We recommend that you bookmark the site on your mobile phone so that all TechCon 2025 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				
TFB:	Digital Transformation of Industrial Deposition Processes Holger Gerdes (Fraunhofer IST) Thomas Schütte (Plasus GmbH) <i>Cheekwood A</i>	TFB:	Coatings for Thin Film Photovoltaics Volker Sittinger (Fraunhofer IST) Stefan Saager (Fraunhofer FEP) <i>Cheekwood G</i>		
TFB:	Aligning Deposition Process Requirements with Vacuum System Layout and Design Wolfgang Decker (Kurt J. Lesker Company) Jimmy Haight (Semicore)	TFB:	CVD and ALD Processing Matt Weimer (ForgeNano) Jacob Bertrand (Maxima Sciences) <i>Cheekwood H</i>		
TFB:	Cheekwood B Optical Thin Film Design and Fabrication Ulrike Schulz (Fraunhofer IOF)/Rajiv Pethe (Vital) Cheekwood C	TFB:	Thin Film Sensors Jason Hrebik (Kurt J. Lesker Company) Binbin Weng (University of Oklahoma) <i>Belmont A</i>		
TFB:	Advanced Deposition Coating Hardware Frank Papa (GP Plasma, LLC)/Ralf Bandorf (Fraunhofer IST) Cheekwood F	TFB:	Ultra-Thin Flexible Glass - The Next Big Thing? Chris Stoessel (Stoessel Consulting Jörg Neidhardt (Fraunhofer FEP) <i>Belmont B</i>		

8:30 A.M.	10 Minute Passing Break		
8:40 A.M.	.M. Keynote Machine Learning for Atomic Layer Deposition: Accelerating Optimization and Predicting Scale Up of Thin Film (Angel Yanguas-Gil Argonne National Laboratory)		
9:20 A.M.	10 Minute Passing Break		

Thursday May 22, 2025 | Daily Schedule

		,		
	Tennessee A	Tennessee B	Tennessee C	Tennessee D/E
9:30 A.M.	Large Area (LAInv) Trends in Large Area Glass Coating	HIPIMS (HP) Enhancing Uniformity and Stability through OES-Based Feedback Control in an Industrial Roll-to-Roll HiPIMS Coater (<i>Uu-Liang He</i> <i>Feng Chia University</i>)	Plasma Processing (PPinv) Plasma Nitriding and PACVD Coating as Complementary Technology for PVD for Big Industrial Applications (Stefan Haas Rübig GmbH & Co KG)	Bio (BT) Sputtered Coatings on Paper – First Results of a Feasibility Study (Christina Lehmann Technical University Braunschweig) Bic (BT)
9:50 A.M.	(Paul Morgensen Saint Gobain Glass France)	HIPIMS (HP) Novel Reactive Process Control in Industrial HiPIMS (Rafael Sanchez Reategui Ionautics)		BIO (BI) Identification of New Alloys for Biomedical Applications using Combinatorial Approaches (Jeffrey Hettinger Rowan University)
10:10 A.M.	Large Area (LA) In-Line Coating System With Hollow Cathode Inverted Cylindrical Magnetron For Thin Film Applications On Long Tubes And Continuous Fibers (Ivan Shchelkanov Starfire Industries LLC)	HIPINS (HP) Influence of Pulse Duration on Plasma Chemistry and Thin Film Growth of Plasmonic Titanium Nitride Deposited by Constant Current Regulated HIPINS *(Ethan Muir Sheffield Hallam University)	Plasma Processing (PP) Simulating the Impact of Loading Density onto Coating Uniformity in Batch Coaters (Krystof Mrozek PlasmaSolve s.r.o.)	Bio (BT) Use of Elevated Temperature X-Ray Diffraction for Investigating Biomedical Coatings (Theodore Scabarozi Rowan University)
10:30 A.M.	Large Area (LA) Ion Source Pretreatment of Large Area Glass Substrates (Marcus Frank Bühler Alzenau GmbH)	HIPIMS (HP) HiPIMS TiB2 Coating onto Slitter Cutters to Enhance Aluminum Capacitor Foil Cutting Quality (Jui-Chang Tsui Feng Chia University)	Plasma Processing (PP) Hollow Cathode Processes (Ralf Bandorf Fraunhofer IST)	Bio (BT) Electrochemical and Microstructural Evolution of Neural Stimulation Electrodes Coated with Antibacterial Metal Oxide Thin Films (<i>Kriti Panchal</i> <i>Drexel University</i>)
10:50 A.M.	Large Area (LA) Impact of AC Waveform on Plasma Dynamics and Film Growth – Sine Wave vs Square Wave (Adam Obrusnik PlasmaSolve s.r.o.)	HIPIMS (HP) Experiments and Modelling of High Power Impulse Magnetron Sputtering Discharges with Metallic Target (Jon Tomas Gudmundsson University of Iceland)	Plasma Processing (PP) Fast Kinetic Modeling of the Plasma Evolution, Etch Rate and Deposition Profile in Direct Current Magnetron Sputtering (Daniel Main Tech-X Corporation)	Bio (BTinv) Hierarchical Surface Restructuring: The Technology of the Future for Sustainable, High Performing
11:10 A.M.	Large Area (LA) High Rate - High Quality Thin Films Made Possible with a Game Changing Plasma Source (<i>David Stevenson</i> <i>Ampres, Inc.</i>)	HIPIMS (HP) Black Metal Film Prepared by Gas Flow Sputtering for Capacitor Electrode Purpose (<i>Ping-Yen Hsieh</i> <i>Feng Chia University</i>)	Plasma Processing (PPinv) Data-Integrated Modeling for Memristive	and Multifunctional Neural Interfacing Electrode and Microelectrode Arrays (Shahram Armini Pulse Technologies Inc.)
11:30 A.M.	Large Area (LA) Large-Area Coating Innovations by HCVAC for Energy Applications <i>(Zhiming Luo HCVAC)</i>	HIPIMS (HPinv) Reactive Sputtering of High Entropy Alloy Nitride,	Device Processing (Jan Trieschmann Kiel University)	
11:50 A.M.	Large Area (LA) Bringing Novel Applications to Large Area with Advanced Sputtering Solutions (Kenny Vernieuwe Soleras Advanced Coatings)	Carbide, and Uxide finn Hims by HiPIMS: Effect of Reactive Gas Flow Rates (Jyh-Wei Lee Ming Chi University of Technology)	Plasma Processing (PP) An Understanding of the QMS and Relevance to the ITER-DRGA Mission (Chris Marcus U.T Battelle for ORNL)	
12:10 P.M.		Lunch Break		
12:40 P.M.	Large Area (LA) The Advantages of Bidirectional Pulsing Technique for Magnetron Sputtering (Yilei Shen TRUMPF Hüttinger GmbH + Co. KG)		Atomic Layer Processing (AL) Thermal Atomic Layer Deposition of Low Resistivity Metallic Films for High Aspect-Ratio Via Seed (Dane Lindblad Forge Nano)	
1:00 P.M.	Large Area (LA) Simulation of Rotary Magnetron Discharges Excited by Different Frequencies (Ken Nauman Sputtering Components Inc.)	HIPIMS Colloquium	Atomic Layer Processing (ALinv) Spatial Atomic Layer Deposition: A New Revolution in Ultra-Fast Production of Conformal and High-Quality Thin-Film Coatings	
1:20 P.M.		of HIPIMS"	(Philipp Maydannik Beneq)	
1:40 P.M.		12:20 P.M 3:00 P.M.	Atomic Layer Processing (AL) Challenges and Advances in ALD for High Aspect Ratio Structures *(Josh Pinder Brigham Young University)	
2:00 P.M.				
2:40 P.M.		HIPIMS (HP) Robust Plasmonically-Active Nanoscale Multilayer TiN/NbN Coatings (Arutiun P. Ehiasarian Sheffield Hallam University)		
3:00 P.M.		HIPIMS (HP) Impact of the Pulse Length in HiPIMS on the Deposition Rate, Ion Metal Flux Fraction and Argon Ion Flux *(Martin Ondryds Masaryk University)		
3:20 P.M.		20 Minute Refreshment Break		
3:40 P.M.		HIPIMS (HP) Optimizing HIPIMS Processes in Real-Time byPulse-Resolved Spectroscopic and Electrical Plasma Process Control (Jan-Peter Urbach PLASUS GmbH)		
4:00 P.M.		HIPIMS (HP) HiPIMS Deposited Constantan Alloy Film for Stretchable Thin-Film Strain Gauge (Yu-Wen Chen Feng Chia University)		
4:20 P.M.		HIPIMS (HPinv) HIPIMS Technology in Industrial Applications (Konrad Fadenberger Oerlikon Surface Solutions)		
5:00 P.M.		HIPIMS (HP) HiPIMS-TiO ₂ As Electron Transport Layer for Flexible Perovskite Solar Cells Application (<i>Pei-En Fang</i> <i>Feng Chia University</i>)		
5:20P.M.		HIPIMS (HP) Plasma-Crafted Colours: Hybrid HiPIMS Coatings with Engineered Aesthetics and Adhesion (Anas Ghailane Avaluxe Coating Technologies)		
5:40 P.M.		HIPIMS (HP) Exploring the HIPIMS Process from an Application Perspective (Daniel Loch Trumpf Hüttinger GmbH & Co. KG)		
6:00 P.M.		6:00 – 7:30 P.M. YOUNG MEMBERS/FAR	EWELL PARTY (Water's Edge)	