SVC Personnel, Directors, and Committees

Effective February 2026 (Rev 19.6)

Overview

SVC Mission: *"To promote technical excellence by providing a global forum for networking, educating, and informing the stakeholders, the technical community & the industrial eco-system on all aspects of industrial vacuum coating, surface engineering and related technologies."*

SVC Vision: *"To provide a dynamic global forum for transitioning and commercializing thin film and surface engineering innovation to industry."*

Interested in Getting Involved? Contact a Board Member.
Interested in Joining a Technical Advisory Committee? Contact a Committee Chair.
Interested in Forming a New Technical Advisory Committee? Contact the Program Chair.
Interested in Joining a Standing Committee? Contact a Committee Chair.

For General Information, Contact the SVC Administrative Team:

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Table of Contents

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Technical Advisory Committees (TACs) & Sessions

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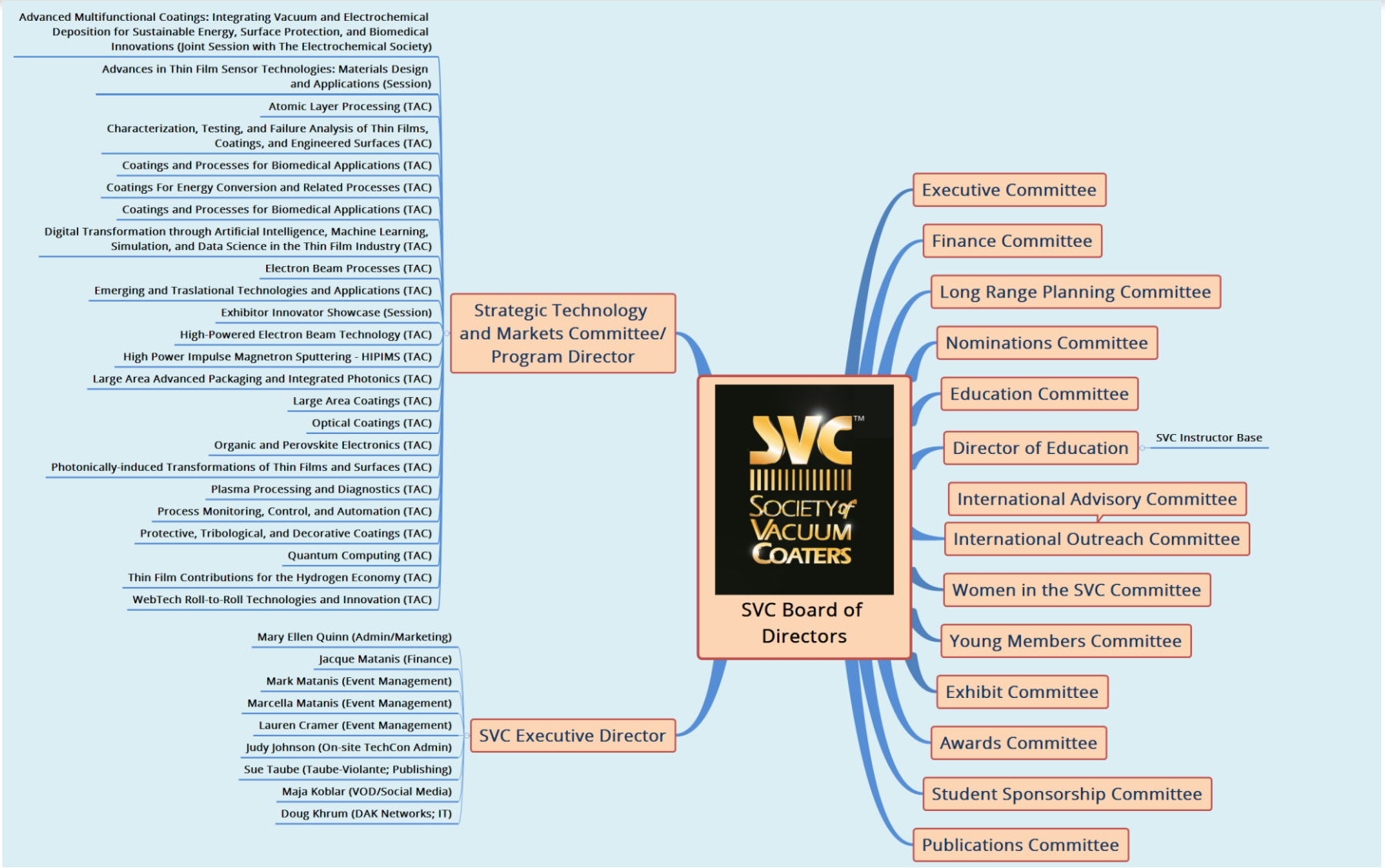
SVC Organization Chart (July 2025)



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Years in brackets ( ) denotes the term of Officers and Directors.

SVC Executive Committee

The SVC Executive Committee comprises the elected officers, the past president, and other board members as deemed appropriate by the President of the Society. The committee exists to address specific financial issues and decisions that are put before the SVC as well as to provide specific direction and action interim to board meetings. The executive committee exists to supplement the activities of the Board of Directors and, as with all activities with the SVC, is accountable to the Board. The Executive Committee and Board of Directors oversee the operation and strategic direction of the SVC in-line with our mission statement.

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Years in brackets ( ) denote the terms of Officers and Directors.

SVC Nominations Committee

The SVC Nominating Committee shall be comprised of the immediate Past President as chair, plus three members of the Society selected by the chair of the nominating committee to represent all constituencies of the Society. The nominating committee shall prepare a slate of candidates for each of the Officer or Board positions being vacated at the end of an elected term of office. The number of candidates for the position of Vice President/President Elect shall be at least two; for Treasurer and Secretary shall be at least one; and for Board Director shall be larger than the number of open positions by at least one. Nominees for Board and Officer positions must be members of the Society in good standing.

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SVC Education Committee

Education is an important aspect of the mission of the Society of Vacuum Coaters and the Education Committee is charged by the Board of Directors with overseeing that function. Developing and overseeing courses obviously are an important activity, but the committee also is concerned with education and training as it pertains to the needs of the diverse SVC stakeholder base.

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SVC Exhibit Committee

The Exhibit Committee works closely with the Executive Director and follows the established guidelines to ensure fairness and equality to all exhibitors and exhibiting companies. Exhibitor's evaluation comments are always taken into consideration when planning for the next year's floor plan and functions designed to draw people to the exhibit area.

MISSION

To provide an effective communications conduit between the SVC Exhibitors and the SVC Board of Directors and management to help drive positive change to the TechCon exhibition.

VISION

The Exhibition Committee of the Society of Vacuum Coaters envisions a vibrant platform where exhibitors, presenters, attendees, and the SVC Board engage in meaningful interactions. Our goal is to facilitate collaboration, knowledge exchange, and innovation, to provide the best possible exhibit experience for both exhibitors and visitors.

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SVC Awards Committee

The Awards Committee is charged with the annual selection of the Nathaniel H. Sugerman Award recipient for distinguished achievement. The committee also selects recipients of the SVC Mentors Award, given to those who have made significant contributions to the Society or the vacuum coating industry.

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SVC Finance Committee

- The SVC Finance Committee oversees the financial stewardship of the Society. Participation of the Treasurer and President participation are mandatory based on their role. Director participation is required but can be filled by any Director(s) per nomination and approval by the Executive Committee. Finance Committee members are authorized signatories on the SVC's Investment and Operational Accounts. Primary roles and responsibilities of the SVC Finance Committee are as follows:

- **Oversight**: The Committee oversees the financial performance of the SVC.
- **Transparency**: The Committee provides a direct link to the BOD to develop controls, policies and reporting standards.
- **Compliance**: The committee ensures compliance with those policies and controls in accordance with relevant statutes and policy making groups such as FASB and advises on policies and structures to mitigate risk.
- **Verification**: The Committee also functions as an audit committee and is the reviewer and signer of Tax returns. The Committee approves the engagement of outside accounting and audit resources.
- **Strategy**: The Committee advises and supports the BOD in the strategic development and financing of the SVC
- **Investments**: The Committee oversees the SVC's investment activity, reporting its findings at least annually to the BOD. The Committee develops investment strategies, aligned with SVC goals, for BOD approval, and employs professional financial firms to execute on the SVC's goals.

Members:

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Vice President/Member
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SVC Student Sponsorship Committee

The Student Sponsorship Committee (SSC) was established in 2001 and it is composed of members from different countries. Every year the SSC selects the most promising students and financially supports their participation at the Technical Conference. This sponsorship is meant to stimulate interest among future young scientists in the subjects and activities of the SVC, helps to involve more personnel from academic institutions (such as the students' professors), and also encourages new contacts that can lead to employment opportunities.

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SVC Long Range Planning Committee (charter)

The Long Range Planning is chartered to focus on long range planning and dynamic shifts for the Society of Vacuum Coaters with a focus on financial health and technical relevance. The Committee should provide guidance on new committees, volunteers, corporate sponsors and work with the ST&M committee regarding new and innovative technical platforms. The Society and stakeholder interests include but are not limited to a strong exhibit, networking and personal interactions, multi-faceted attendee engagement opportunities such as educational tutorials, technical program, exhibition, international attendance, structural flexibility to accommodate opportunities to partner with other organizations, and/ or accommodate continued organic growth should be considered and maintained. Any changes to the current SVC should be made within the framework of income and revenue considerations to the Society.

The Committee will be chaired by the Vice President or President and consist of Society members, outside individuals that may possess exceptional stakeholder relevance and/or perspective, along with a minimum of three members from the Board of Directors. The members should be familiar with and in contact with the operation of organizations similar to the SVC and be associated with entities which are involved with international trade. Reports and recommendations will be issued at bi-annual Board of Directors meetings.

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SVC Young Members Committee

The SVC Young Members Group is open to young people (age 35 and younger) with an interest in vacuum coating and related technologies. Members of the group may be students or young staff in industry; the common feature is that they should meet the age requirement and have a keen interest in any topics which sit under the umbrella of the SVC.

Our Mission: *We are dedicated to nurturing the growth and development of young professionals in the field of vacuum coating. We strive to create a platform that encourages innovation, fosters learning, and promotes collaboration.*

Our Vision: *To create a future where our members are key contributors to the advancements in vacuum coating. We aim to inspire a sense of curiosity and passion for the field, fostering a community that values diversity, innovation, and excellence. Through our efforts, we hope to cultivate leaders who will shape the future of vacuum coating, bridging the gap between industry and academia.*

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Gregory Taylor, Co-Chair
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SVC Publications Committee

The main mission of the Publications Committee is to assure appropriate advancement of the SVC publication activities while keeping in mind advances in the field of coatings and surface engineering, the interests and needs of the contributors and readers, as well as the technical, financial and manpower resources.

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SVC Strategic Technologies and Markets (ST&M) Committee

"Strategic Technologies and Committee" Charter and Background:

1. The Committee coordinates all strategic aspects of the SVC's Technical Program, in particular:
    1. Identification of technologies, applications, and markets – both mature and emerging - relevant to SVC stakeholders,
    2. Periodic review and adjustment of those technologies, applications, and markets to maintain relevance to SVC stakeholders recognizing that the SVC stakeholder base and interests are constantly evolving , and
    3. Developing the means that ensure adequate and effective representation of those technologies, applications, and markets in:
        1. the SVC's Technical Advisory Committee (TAC) structure and
        2. the Technical Program of the TechCon and other SVC activities.
2. The Committee focuses on strategy and develops plans and proposals for tactical / operational implementation. It is envisioned that the ST&M Committee may engage members of existing TAC leadership/membership to not only develop any plans but to identify potential leadership in new areas of focus. The SVC BOD shall review and advise on such plans and proposals, as needed.
3. Tactical and operational aspects of maintaining TAC and TechCon program operations are the purview of the Program Director. Program Director reviews and approves plans and proposals of the Committee that are intended for tactical / operational implementation.

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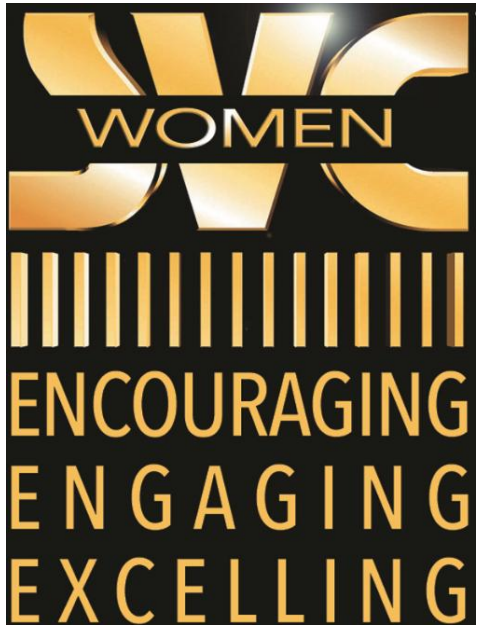
Women in the SVC Committee

<u>Vision</u> - To provide a platform for women in the society to support each other and excel in the industry.

The mission of the Women in SVC Committee is to promote the work, innovation and achievements of women in the SVC Community. We will raise awareness of women in the industry, highlighting women speakers and chairs throughout the conference and encourage, engage and provide mentorship to the female students of the SVC Foundation and the women of the SVC Young Members Group.

Objectives of the Committee:

- Have a designated time at every TechCon where all members of the group can meet, have discussions, provide support and network with each other.
- Raise awareness of the work and achievements of the women of the group.
- Encourage companies within the industry to encourage female staff to attend TechCon, submit papers and participate in the exhibit.
- Provide built in resources for women in the society through the SVC website.
- Offer a scholarship or bursary, directly linked to the Women in SVC Committee, to female students to allow them to attend TechCon and get an insight to the industry.



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51 Members in total!

Advanced Multifunctional Coatings: Integrating Vacuum and Electrochemical Deposition for Sustainable Energy, Surface Protection, and Biomedical Innovations (Joint Session with The Electrochemical Society)

Thin-film coatings are at the heart of materials innovation, playing a transformative role in energy systems, corrosion resistance, surface protection, and biomedical applications. This session will bridge expertise from the Society of Vacuum Coaters (SVC) and the Electrochemical Society (ECS) by exploring the synergy between vacuum-based deposition techniques and electrochemical processes, focusing on their combined potential for enhancing specific applications. Whether by integrating vapor-phase deposition methods with electrochemical techniques or applying vacuum-deposited thin films directly to electrochemical devices such as batteries, fuel cells, and sensors, the session will highlight how these approaches can drive the development of high-performance, multifunctional materials for a range of applications.

Vapor-phase methods such as physical vapor deposition (PVD), chemical vapor deposition (CVD), and atomic layer deposition (ALD) enable the deposition of high-purity, conformal coatings with precise microstructural control. These techniques are becoming crucial for the fabrication of next-generation energy devices, corrosion and wear-resistant surfaces, and bioactive films. This session aims to explore the dynamic intersection of vacuum-based deposited thin films materials and electrochemical technology applications. By bridging surface engineering with electrochemical performance, the session seeks to promote cross-disciplinary dialogue and drive innovation across both fields. Discussions will focus on how advanced thin films, coatings, and nanostructures fabricated through vacuum processes can transform electrochemical devices such as batteries, fuel cells, sensors, and beyond.

The Session welcomes papers in the following areas:

- Innovations in PVD, CVD, and emerging vacuum methods for fabricating high-performance electrochemical components,
- Integration of vacuum deposition (PVD/CVD) with electrochemical methods (electrodeposition, electroless plating) for multifunctional and durable coatings,
- Design and development of thin film electrodes for batteries, supercapacitors, and fuel cells to enhance energy storage and conversion efficiency,
- Surface modification using vacuum-based techniques to improve interfacial stability, conductivity, and overall electrochemical performance,
- Advances in scalable vacuum deposition processes tailored for mass production of electrochemical energy storage and conversion devices,
- Vacuum-deposited coatings for next-generation batteries, fuel cells, supercapacitors, and hydrogen storage systems, and
- Novel vacuum deposition approaches to enhance corrosion resistance and extend the service life of components in aerospace, marine, and harsh environments.

Session Organizers (ECS):
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Session Organizers (SVC):
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Mohammed Makha, *Mohammed VI Polytechnic University*, mohammed.makha@um6p.ma
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Advances in Thin Film Sensor Technologies: Materials Design and Applications: Technical Advisory Committee (TAC)

This technical session highlights cutting-edge developments in thin film sensor technologies, with a focus on the interplay between novel functioning materials, innovative design strategies, and impactful real-world applications. As sensing demands grow across diverse sectors—from healthcare and environmental monitoring to industrial automation and wearable electronics—thin film-based sensors have emerged as a powerful platform for achieving high sensitivity, selectivity, and integration in compact form factors.

Contributions to this session will explore advances in functional thin film materials, including nanostructured, hybrid, and two-dimensional systems; breakthroughs in deposition techniques and micro/nanofabrication; and the engineering of sensor architectures optimized for performance and reliability. Particular emphasis is placed on interdisciplinary approaches that combine materials science, nano-photonics, optoelectronics, electronics, and data-driven techniques to push the limits of sensing performance. Researchers and technologists from academia, industry, and government are encouraged to share innovations, challenges, and future directions in this rapidly evolving field.

The session will welcome contributions on, but not limited to, the following topics:

- Advanced Sensing Materials: Novel nanostructured, hybrid, and 2D thin films,
- Deposition & Fabrication: Innovations in thin film growth and micro/nano-processing,
- Sensor Design & Integration: Compact, robust, and multifunctional architectures,
- Interdisciplinary Approaches: Merging materials, photonics, and electronics,
- Smart Sensing Systems: AI/ML-enhanced data processing and analytics, and
- Application Highlights: Use cases in health, environment, industry, and wearables.

TAC Co-Chairs:
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Atomic Layer Processing (ALP): Technical Advisory Committee (TAC)

Over the last few years, atomic layer processes (ALPs), such as atomic layer deposition (ALD), atomic layer etching (ALE), molecular layer deposition (MLD), and atomic layer epitaxy (ALEp) have increased in importance, enabling many new products and applications. With excellent uniformity, nanoscale precision, and high versatility, ALPs have applications in sensing, optical coatings, energy storage, and microelectronics. Recent advances in low temperature processing make ALP methods attractive to the processing polymers, biomaterials, and other applications with low thermal budgets.

Sequential Infiltration Synthesis (SIS), alternatively called also Vapor Phase Infiltration (VPI) complements the above-mentioned layer-by-layer technologies by its ability to form 3D nanostructures by a bulk diffusion and selective chemical reactions of precursor with functional groups in polymers or block co-polymers (BCP). Highly selective reactions of precursors with e.g., carbonyl groups (C=O) in the polymer bulk allows integration of inorganic materials into the organic matrix, resulting in a hybrid material. A self-organized BCP film after the SIS will form 3D nanostructures.

The common feature of all those methods is the use of self-limiting reactions that can provide atomic-scale resolution in both vertical and horizontal directions: this property can also be complemented by selectivity in etching or deposition. Selectivity in deposition or etching may solve some of the processing challenges in the technology of nano-devices, e.g., alignment of nanometer-sized features. A high degree of control makes the selective atomic scale processes attractive for future nano-fabrication methods.

We are soliciting oral and poster contributions in areas including both established technologies and creative new developments. Advanced technologies which successfully cross over from early-stage feasibility studying to commercially viable industrial solutions are of particular interest.

Session topics will include:

- Innovations in methods for upscaling ALPs towards high-volume industrial applications,
- New business concepts or market perspectives that accelerate transfer of ALPs and selective atomic processes from the lab to commercial viability,
- Current commercial products using ALPs,
- Precursor synthesis,
- Fundamental aspects of ALP,
- Process development,
- Plasma enhanced processes,
- Challenges and applications of ALPs and selective atomic processes,
- Novel concepts for ALP process control, characterization, and monitoring,
- Applications of selective atomic processes, and
- Selective atomic processes in micro- and nanoelectronics.

TAC Co-Chairs:

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Characterization, Testing, and Failure Analysis of Thin Films, Coatings, and Engineered Surfaces: Technical Advisory Committee (TAC)

In support of innovations and continuous R&D, product and process improvements across SVC society stake holders and industries, a new session for the SVC TechCon has been added to this year's program. This new session focuses on thin film, coating, and engineered surface characterization, evaluation and failure analysis. The goal of the session is to provide a forum for attendees to present and exchange technical information related to characterization and evaluation of thin films, coatings and engineered surfaces made through vacuum coating processes. The importance and significance of this session are obvious. First, the various properties of thin films and coatings depend on several factors during preparation. Proper characterization is critical for understanding and further optimization. Second, characterization and testing are essential for intended applications, for meeting product-design specifications, and for ensuring desired interactions with service environments. Third, the lifetime estimates, and failure analysis of thin films and coatings are crucial for avoiding unexpected situations and for identifying root causes of failures.

There are a variety of techniques for analysis, characterization and testing of materials. This session will focus on techniques and applications suitable for thin films, coating and engineered surfaces, with an emphasis on the recent development of the new *in-situ* and *ex-situ* capabilities, multi-technique approaches, automation, and AI assistance.

Presentation submissions in the following areas and topics are encouraged:

- Biological compatibility, toxicity, antimicrobial properties,
- Chemical composition, stability and interactions with environments,
- Lifetime estimation and life cycle assessment,
- Mechanical properties, super-hardness and stress evolution,
- Electric and magnetic properties,
- Microstructure, crystallinity, phase composition and porosity
- Nano/microscale phenomena, organized structures and nanocomposites,
- Optical properties, colors and emissivity,
- Surface and interfacial properties,
- Thermal properties, heat transfer and thermal stability, and
- Tribological properties, wear and adhesion.

This session, through a series of invited talks and contributed presentations, aims to address common questions and challenges faced by researchers, practitioners, and professionals who are in the SVC associated fields. It will provide new insights into the analysis, characterization and testing methods currently available, recently developed and under development for thin films, coatings and engineered surfaces.

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Coatings and Processes for Biomedical Applications: Technical Advisory Committee (TAC)

Coatings and surface treatments are essential to the advancement of both established and emerging biomedical technologies. Recent progress in the understanding of biological systems has accelerated the development of innovative coatings and surface engineering approaches. These technologies aim to improve osseointegration, enable neural interfaces, extend the operational lifespan of implanted devices, enhance biocompatibility, and reduce costs. These advances are not limited to implantable devices; they also support a wide range of applications such as energy harvesting for wearable health-monitoring systems, where flexibility and biocompatibility are essential.

To support continued innovation and address technical challenges in this rapidly evolving field, the *Coatings and Processes for Biomedical Applications Technical Advisory Committee (TAC)* welcomes paper submissions focused on coatings and surface modifications for biomedical applications. Submissions may cover material development, surface engineering techniques, characterization methods, performance evaluation, regulatory pathways, or emerging applications in the biomedical space.

Topics of interest include, but are not limited to:

- Orthopedic coatings and osseointegration,
- Cardiac rhythm management,
- Neurostimulation technologies,
- Cardiovascular interventions,
- Bio-corrosion resistance,
- Flexible and stretchable electronics,
- Biosensors, bioelectronics, and biochips,
- Antimicrobial surface treatments,
- Novel surface modification techniques (e.g., laser processing),
- High-throughput materials development,
- High-throughput and advanced characterization techniques,
- Regulatory approval strategies,
- Navigating evolving funding landscapes, and
- Market analysis and projections.

TAC Co-Chairs:
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Submissions addressing other biomedically relevant topics related to coatings and surface engineering are also encouraged.

Coatings for Energy Conversion and Related Processes: Technical Advisory Committee (TAC)

This session provides a comprehensive forum for experts and researchers to discuss the latest developments and technologies in the field of energy conversion coatings. These talks cover a wide area of applications, however with a core focus on energy conversion, storage, and management. This session brings industry, research, and academics together in order to facilitate the transfer of technology and share new and upcoming ideas and technologies for the improvement of sustainable living. The Coatings for Energy Conversion and Related Processes Technical Advisory Committee (TAC) welcomes papers in the following areas:

Solar and Ambient Light Energy Conversion:

- Thin-film and thin wafer photovoltaics as well as perovskite silicon tandem photovoltaics for space and terrestrial applications,
- Organic flexible photovoltaics (OPV),
- Semi-transparent photovoltaics, and
- Coatings for improved performance.

Energy Harvesting:

- RF harvesting,
- Piezoelectrics, and
- Kinetic harvesting through body movement.

Efficient Functional Coatings:

- Radiative cooling,
- Hydrophobic and hydrophilic coatings,
- Self-cleaning catalytic coatings,
- Coatings for reduction of precious metal, and
- Anticorrosive coatings.

Other Traditional Subjects:

- Smart windows,
- Selective radiators,
- Fuel cells, and
- Large-scale energy conversion and storage.

Energy Storage:

- Thin flexible batteries,
- Flow batteries,
- Powder surface treatment (PVD, CVD, ALD) for Li-ion batteries, Na-batteries, or solid-state batteries (or other types),
- Super capacitors,
- Coatings for improved stability, graphene and carbon nanotubes, thin flexible batteries, and
- Protective coatings for the prevention of e. g., hydrogen embrittlement.

TAC Co-Chairs:
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Digital Transformation through Artificial Intelligence, Machine Learning, Simulation, and Data Science in the Thin Film Industry: Technical Advisory Committee (TAC)

This session explores the transformative role of digital technologies in the domain of industrial thin film deposition, particularly within vacuum-based coating technologies. The focus is on leveraging physics-informed simulation, artificial intelligence, and data-driven methods to enhance process understanding, optimization, and control.

The session will include, but is not limited to, the following topics:

- **Physics and Chemistry Simulations**: Use of high-fidelity, multi-physics models to predict key process parameters like erosion and deposition profiles, film composition, ion bombardment, gas and plasma distributions, and substrate heating.
- **Digital Twin Models**: Real-time capable simulations that integrate equipment layout and operating parameters to forecast coating performance and variability.
- **Machine Learning and Hybrid Approaches**: Applications of AI for predictive maintenance, parameter tuning, and anomaly detection. Emphasis on combining limited experimental data with physical modeling for higher generalizability (greybox models).
- **Data Infrastructure and Process Mining**: Tools and methods for systematic data acquisition, storage, accessibility, and intelligent analysis across the coating process chain.

This session is intended for all stakeholders involved in the digital transformation: OEMs and system integrators in the vacuum coating sector, coating service providers and production engineers, developers of coater components and diagnostic tools, as well as providers of simulation software and digital services, and data mining platform providers.

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Electron Beam Processes: Technical Advisory Committee (TAC)

The Electron Beam Processes Technical Advisory Committee (TAC) is a spin-off from the International Conference on High-Powered Electron Beam Technology, originally founded by Dr. Robert Bakish in 1983. Today, high-power electron beam technology is well established for coating, melting, and welding. The EB TAC focus is the development of new coatings and coating processes using electron beam technology as well as new ebeam components, such as power supplies and beam control systems to enhance material properties. Of particular interest are improvements to equipment that enable new applications such as additive manufacturing of turbine engine components and medical implants.

The TAC supports the technical and technological exchange of knowledge to promote electron beam technology especially for industrial applications and is looking for papers on the topics listed below:

- Advances in high-rate PVD by electron beam evaporation (EB-PVD), such as for thermal barrier coatings,
- Electron beam processes for the production of novel materials,
- Additive manufacturing with electron beam,
- Thermal processes (welding, hardening, refining, drilling),
- Non-thermal processes (curing, sterilization, crosslinking, gas conversion),
- New applications for PVD by electron beam evaporation for photovoltaics, concentrated solar, energy production (fuel cells), energy storage (batteries), and high efficiency lighting,
- Modelling of electron beam sources, processes, and systems,
- New components in electron beam technology (guns, power supplies, vacuum systems, plasma assist),
- Emerging technologies (electron generation, beam guidance, etc.), and
- Related and new applications of electron beam processes.

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Emerging and Translational Technologies and Applications: Technical Advisory Committee (TAC)

This session welcomes presentations related to deposition and surface engineering technologies and applications that do not readily align with the classic session topics of the SVC TechCon program. Modern market needs and application requirements continuously trigger innovation in the production and development of thin films and coatings. There are two trajectories that historically advance the field: (a) adjacent markets and applications expand by taking advantage of innovation in traditional technologies, and on the other side, and (b) established markets and applications that benefit from technical innovation in fields that previously were restricted to exterior “heritage” domains.

This session seeks to highlight new applications and markets that are enabled by advances in thin film and coating deposition, interface engineering, and surface processing. Contributed presentations may emphasize applications and markets, describe the role of enabling or cross-over technologies, as well as business topics such as market opportunity overviews, or new business and engineering concepts. Market- and business-focused talks should generally relate to technology innovation within the SVC domain, and technology-focused talks should relate to a new market or application arena that SVC stakeholders should pay attention to.

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Exhibitor Innovator Showcase: Session

This unique session allows our exhibitors to introduce their company's newest products and services to the SVC community. This is an ideal way to share your company's message, new products and encourage booth traffic at the TechCon.

Session Organizers:
Jason Hrebik, *Kurt J. Lesker Company,* jasonh@lesker.com
Frank Zimone, *Society of Vacuum Coaters,* frank.zimone@svc.org

High Power Impulse Magnetron Sputtering – HIPIMS: Technical Advisory Committee (TAC)

High power impulse magnetron sputtering (HIPIMS) has moved from lab scale to industry. Today, a significant number of industrial scale HIPIMS processes exist as well as some commercial processes and products. Both fundamental understanding and application-oriented development are essential for exploiting the full potential of this technology. The latest results from fundamental research, new and advanced approaches for simulation and modeling, and the combination of applied research from lab scale to industrial size cathodes and machines are the focus of this TAC. The session aims to provide a forum linking scientists, technologists, and industrialists to discuss all aspects of the HIPIMS technology.

Papers are solicited from, but not limited to, the following areas:

- Fundamental research on plasma, discharge, and coatings,
- Simulation and modeling of HIPIMS,
- New plasma sources and process modifications,
- Recent development in pulse generation and process and plasma diagnostics,
- Application oriented results: tribological, optical, medical, etc., and
- New coatings and products.

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Large Area Advanced Packaging and Integrated Photonics: Technical Advisory Committee (TAC)

The growing demand for high-performance computing, artificial intelligence, augmented/virtual reality, and advanced communication systems is driving unprecedented innovation in both large-area advanced packaging and integrated photonics. As the limits in transistor size and speed approach, the logical next steps to increase performance involve advancements in parallel computation and optimized communication between integrated components. To increase throughput, yields, thermal performance, and reduce cost, substantial focus and development effort have been put into large-area advanced packaging. As a foundational technology for these advancements, thin film deposition, a core area of expertise within the SVC community, plays a critical role in enabling the next generation of devices.

This session will explore the cutting-edge intersection of large-area manufacturing techniques for advanced packaging and integrated photonics. We encourage submissions that address challenges, present novel solutions, and showcase recent advancements in manufacturing equipment, processes, materials, and architectures. We encourage submissions from academic and industrial researchers, engineers, and scientists working on all aspects of large-area advanced packaging and integrated photonics, especially those with a focus on the underlying thin film and deposition processes. Join us to discuss the latest breakthroughs and future directions in this rapidly evolving field. Topics of Interest Include, but are not limited to:

Large Area Advanced Packaging:

- New process, equipment, performance, and yield requirements for advanced packaging,
- Large area packaging challenges and solutions,
- Wafer-level and panel-level packaging for integrated photonics,
- Advanced interconnects (e.g., through-silicon vias (TSVs) and through-glass vias (TGVs)), and
- Substrate technologies and interposer solutions for large-area integration.

Thin Film Deposition for Photonic Integration:

- Challenges and opportunities in scaling up integrated photonics manufacturing,
- Silicon photonics and other material platforms for integrated optics,
- Advanced dielectric and optical coatings for waveguides, filters, and resonators,
- Deposition of active photonic materials,
- The role of atomic layer deposition (ALD) and precise film control, and
- Large area physical vapor deposition (PVD) techniques for metallization and optical layers.

Manufacturing and Process Control:

- High-throughput manufacturing methods,
- Process control and in-situ monitoring for thin film deposition, and
- Yield enhancement and cost reduction strategies for large area integration.

We encourage submissions from academic and industrial researchers, engineers, and scientists working on all aspects of large area advanced packaging and integrated photonics, especially those with a focus on the underlying thin film and deposition processes. Join us to discuss the latest breakthroughs and future directions in this rapidly evolving field.

TAC Chair:

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Large Area Coatings: Technical Advisory Committee (TAC)

Scaling up to high volume manufacturing (HVM) has enabled tremendous cost reduction in the production of architectural and automotive glass, flat panel displays, solar cells, and roll-to-roll. Scalability comes with unique challenges. To operate a plant at HVM scales, the selected deposition method and related processes must be stable and reproducible over long operation time. Chemical and physical layer properties at the nanoscale must be precisely controlled across the meter scale. The obtained layers serve later as optical interference stacks, diffusion barriers, hard or lubricating coating for scratch resistance, transparent conductors, decorative coatings, solid electrodes or electrolytes.

The Large Area Coating Session gives you an opportunity to meet with and to learn from leading industry and academic experts in the field, present and discuss cutting edge developments in the broad field of coating applications, highlight the newest materials, methods, processes, review required equipment and software, and also discuss market trends. Session topics will cover:

- Understanding and controlling process at nanoscale with homogeneity up to meter-scale: physics and chemistry of thin films and their interfaces, analytical equipment in-/ex-situ, in-/off-line,
- Human-assisting technologies: predicting and correcting materials and processes by physical simulations and machine learning,
- 2D and 3D coatings, processes, equipment, market trends and regulations for architectural, automotive, aerospace, and display applications,
- Manufacturing methods including surface preparation, etching, sputtering (magnetron, ion beam assisted), high power impulse sputtering (HiPIMS), evaporation, chemical vapor deposition (CVD), plasma enhanced CVD (PECVD), atomic layer deposition (ALD), plasma enhanced ALD (PEALD/PAALD), pulsed layer deposition (PLD), and
- Best practices: process engineering and transfer, quality control, upgrade of equipment, predictive maintenance, metrology, sustainability, testing and introducing new technologies, scale-up.

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Optical Coatings: Technical Advisory Committee (TAC)

Exciting developments in optical coatings are stimulated by the latest trends in optics, optoelectronics, photonics, optical data processing, mobile devices, displays, biomedical, sensors, energy and photovoltaics, architectural, aerospace, astronomical, and other technologies. The optical coatings session will bring together these different aspects for technical interchange in the field of optical interference coatings. To build a well-rounded Optical Coatings session, abstracts are solicited to cover topics including coating design, development of practical manufacturing techniques, characterization methods, and a wide range of applications.

Specific areas may include:

- Novel optical coating materials, including metamaterials and metasurfaces,
- New fabrication processes for optical coatings,
- Novel optical interference design software and design techniques,
- Production issues common to the industry – including lessons learned or serendipitous discoveries that came from problems or disasters,
- Metrology of optical films (new instrumentation and software developments,
- inline or in-situ approaches, etc.),
- Real-time process monitoring and control with optical coating processes,
- Industrial scale-up,
- Preconditioning and cleaning issues; refurbishment approaches for optical coatings,
- Coatings on sapphire, polymers or other special substrate materials, Coatings for complex 3-D optical devices,
- Applications in non-traditional wavelengths, from EUV to IR (e.g., IR thermal imaging),
- Optical Coatings for mobile electronics (e.g., fingerprint sensors, cameras, displays, touchscreens, etc.),
- Optical coatings for wearable technology, including AR/VR,
- Coatings for LIDAR/driverless vehicles,
- Optical coatings for biomedical applications,
- Optical coatings for energy control and solar power,
- Optical coatings for laser applications, including femto-second lasers,
- Optical coatings for display and integrated photonic device applications,
- Optical coatings for astronomy and aerospace, and
- Optical coatings for quantum optics.

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Organic and Perovskite Electronics: Technical Advisory Committee (TAC)

Organic and organometal-halide perovskite materials have emerged in recent years as important alternatives to traditional inorganic materials for optoelectronic devices. These novel materials provide huge potential benefits such as reduced-cost processing, compatibility with nonconforming and flexible substrates, and tunable color properties, allowing for a range of interesting applications. Organic light-emitting diodes (OLEDs) have become widespread commercially in displays, with improvements in brightness and contrast ratios, as well as interesting form factors such as thin and flexible devices. Perovskite-based photovoltaic devices are attracting considerable interest as a potentially disruptive energy technology, with power conversion efficiencies similar or in excess of those seen in current panels but with simpler processing requirements.
Like any interesting and fast-growing field of technology, the achievements, and benefits in the field of organic/organometallic electronics and optoelectronics don't come without their own challenges. The inherent properties of these materials make them challenging to deposit using a vapor-phase technology:

- The materials are typically prone to decomposition at relatively lower temperatures which has led to development and use of evaporation sources with complex set of features and temperature control mechanisms.
- Additionally, some of the active films in the device architecture require precise rate control algorithms to achieve the required host-dopant compositions, which in turn also require critical hardware considerations.
- Materials are mostly sensitive to moisture and oxygen, so the protection from these elements during and post-fabrication is critical.

These factors require a deep understanding of material properties, study and treatment of substrates and interfacial properties of layers, considerations of the bottlenecks towards device fabrication, encapsulation techniques and thin-film deposition system solutions, and combined they result in an exciting process in this field of study.

This session welcomes papers addressing materials and processing challenges related to these technologies involving vacuum and vapor-based techniques such as evaporation, sputtering and ALD. We encourage submissions on practical approach towards fabrication of organic devices and emphasizing key parameters to consider during the design and building steps. Discussion on challenges and opportunities in scaling up processes for industrial production will be integral to the session.

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The session will include discussions on research on the following device types:

- Organic and perovskite light-emitting diodes (OLEDs & PLEDs),
- Organic and perovskite photovoltaics (OPV & perovskite PV),
- Hybrid inorganic/perovskite tandem photovoltaics,
- Organic thin film transistors (OTFTs & OFETs),
- Organic memory devices and spintronics,
- Organic sensors,
- Flexible and wearable electronics, and
- Building-integrated photovoltaics (BIPV).

Photonically-Induced Transformations of Thin Films and Surfaces: Technical Advisory Committee (TAC)

Lasers, flash lamps, and other highly energetic illumination sources enable rapid thermal processing of surfaces and thin films for scaled, low-cost materials and technologies in areas of high economic, societal and environmental impact. Realization of surface-selective rapid thermal annealing coupled with high-throughput are especially attractive features of photonic materials engineering.

This session provides a forum to discuss pioneering technological applications bound by the common thread of photonically-based methods for surface and thin film annealing, materials synthesis and surface patterning.

We welcome submissions addressing the following key areas:

- Surface selective annealing of bulk materials and thin films with light typically in the <100 ms range,
- Wafer based and large area in-line applications,
- Laser and flash-lamp-based conversion and synthesis of high quality, crystalline materials (transparent and conductive layers, energy harvesting, sensor material, low-power computing, multifunctional 'More than Moore' electronic device technology, large area photocatalysts and smart materials for window applications),
- Rapid patterning of microelectronic devices without photolithography (sensors, medical implants, and hardware for experiments and IoT devices),
- Control of nano-micro scale surface morphology (cell adhesion, directed fluid flow),
- Photonically-induced chemical activation of surfaces for antipathogenic, anti-smudge, (de)wetting properties, and
- Novel photonic illumination processes and devices.

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Plasma Processing and Diagnostics: Technical Advisory Committee (TAC)

This session welcomes contributions focused on the development, understanding, and application of plasma-based techniques for thin film coatings and surface modification. The scope includes both established and emerging approaches for plasma-enhanced deposition and treatment, emphasizing the underlying physical and chemical processes, diagnostics, and modeling strategies that enable performance optimization and scalability in industrial environments. Topics of interest include:

- Physical vapor deposition (PVD) including magnetron sputter-deposition in conventional and non-conventional arrangements,
- Plasma-enhanced chemical vapor deposition (PECVD) both on process and application side,
- Plasma-based etching in the semiconductor industry and other applications,
- Development of novel plasma sources for materials processing (e.g., mid-pressure, atmospheric pressure, nanosecond-pulsing, micro plasmas, etc.),
- Hybrid systems and hybrid processes integrating different plasma technologies,
- Atmospheric-pressure plasma processing, including dielectric-barrier discharges and plasma jets,
- Plasma diagnostics for understanding plasma dynamics and plasma-material interaction,
- Modelling and simulation of plasma and plasma-surface interactions, and
- Novel plasma processing methods such as treatment of nanoparticles, nanomaterials, and liquids, as well as plasma catalysis.

This session is particularly relevant for industry practitioners, researchers, and scientists:

- Working on the design, scale-up, and implementation of advanced plasma sources and coating technologies,
- Developing novel plasma-based processes or deposition techniques, and
- Engaged in the experimental diagnostics of laboratory or industrial plasma systems.

By fostering a technical exchange among these communities, the session aims to advance both the fundamental science and practical applications of plasma processing in thin film technologies.

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Processing Monitoring, Control, and Automation: Technical Advisory Committee (TAC)

As the fourth industrial revolution transforms manufacturing, the demand for intelligent, automated vacuum processing systems is rapidly growing. This session explores the forefront of automation technologies reshaping thin film deposition, plasma processing, and surface engineering.

Achieving high repeatability, reproducibility, and yield levels requires robust solutions for real-time process monitoring and control. While the benefits - such as increased throughput, reduced material and energy waste, and lower operational costs - are well recognized, the path to reliable automation remains complex. Challenges include sensor and actuator integration in harsh environments, data fusion across different systems, the development of adaptive, autonomous control algorithms and cybersecurity.

This session focuses on practical solutions while highlighting the latest advances in:

- Embedded real-time sensors and actuators,
- Cyber-physical monitoring and control systems,
- Digital twins for process control,
- Automation and digitalization,
- AI and machine learning for predictive and adaptive automation,
- Robotic systems for material handling and process execution, and
- Autonomous materials discovery and optimization platforms.

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We welcome contributions from researchers, engineers, and solution providers that address these challenges through innovative technologies, case studies, or system-level implementations. Presentations that demonstrate practical applications, integration strategies, or lessons learned from deployment are especially encouraged.

Join us to explore how automation and digitalization enable the next generation of intelligent vacuum processing systems.

Protective, Tribological, and Decorative Coatings: Technical Advisory Committee (TAC)

The Protective, Tribological and Decorative Coatings Technical Advisory Committee (TAC) encourages speakers to submit presentations dealing with design, research, development, applications, and production of coatings deposited with vacuum processes, the characterization of their properties related to wear, friction, and corrosion, and to assess their protection of the receiving components, such as cutting and forming tools, engine components, as well as decorative parts. The use of such coatings is typically driven by performance requirements, reduction of life-cycle cost, environmental consideration, and durable cosmetic and aesthetic designs. These end-user motivations lead to dedicated coating and technology developments, vacuum coating equipment concepts, new testing procedures and methods, and production quality standards. Therefore, successful coating solutions in the marketplace require strong co-operation between market specialists, universities, suppliers, manufacturers, and end-users.

The TAC encourages speakers to present on the subjects of new emerging technologies. Developing and scaling up from laboratory to high volume production at high production yields is also of high interest of the participants in this session. Today's global landscape is changing rapidly and will drive many new application developments that will include new coatings on new applications. Environmental pressure on CO_2 emissions and electroplating as well as fast moving communication technologies are well known examples of such change. Electrification of transportation and moving away from the combustion engine are daily news. Topics of interest for this session include, but are not limited to:

Applications:

- Hydrogen economy related components,
- Coatings for high-performance engines, including hydrogen and e-fuels combustion,
- PVD and CVD coatings for cutting, forming and molding tools,
- Coatings for the reduction of friction and exhaust gas emissions,
- Low and high-temperature coatings for aerospace applications,
- Decorative components and large area pre-fab sheets,
- Corrosion protective coatings (e.g. Zn:Al) on large-area surfaces, and
- Electroplating replacements by vacuum deposited coating.

Development:

- Super-lubricity coatings,
- Corrosion protection,
- New colors,
- Hydrogen embrittlement barriers,
- Testing and evaluation of coating performance,
- Scale-up of vacuum coating processes for industrial demands,
- Failure analysis of coatings,
- Assessment, control and management of residual mechanical stress,
- Duplex coatings and thin-on-thick systems, and
- Modelling approaches to performance analysis and prediction.

Production Related:

- Reliability and life of coated parts and systems,
- Upscaling from laboratory to production,
- Scrap rates from percentages to ppm levels, and
- Integration of Industry 4.0 in vacuum coating plants.

TAC Co-Chairs:
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Quantum Computing: Technical Advisory Committee (TAC)

Quantum computing promises to harness the power of quantum mechanics to solve problems unfathomable for classical computers to resolve. Quantum computing, once a theoretical dream, is now experiencing an unprecedented surge of progress. Driven by intense research efforts, substantial investments, and collaboration across academia and industry, quantum computing technology is rapidly approaching reality with a promise to revolutionize fields ranging from materials science and drug discovery to finance and artificial intelligence. The SVC Quantum Computing session aims to explore the current state and prospects of this transformative technology.

The session welcomes researchers, academics, and industry leaders to explore the cutting edge of quantum computing and share their insights on its remarkable emergence. We seek submissions on a range of topics, including:

Quantum Hardware and Software:

- Progress and challenges in superconducting qubits, trapped ion, topological, and other platforms,
- Novel device architectures and fabrication techniques,
- Algorithmic breakthroughs, development frameworks and their practical applications,
- Error correction and fault-tolerance techniques, and
- Benchmarking and performance analysis.

Scalability Challenge:

- Bridging the gap between quantum and classical systems, and
- Architectures for large-scale quantum computing.

Applications:

- Emerging applications in materials science, drug discovery, and encryption,
- Quantum-enhanced machine learning and artificial intelligence, and
- Financial modeling and risk analysis.

Impact:

- The ethical implications and impact of quantum computing on society,
- Educational initiatives and talent development for the quantum workforce, and
- Commercialization and industry trends in quantum technology.

TAC Co-Chairs:
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Thin Film Contributions for the Hydrogen Economy: Technical Advisory Committee (TAC)

This session is focused on the role of physical vapor deposition (PVD) and related thin film and surface engineering technologies in the emerging hydrogen economy. This session aims to bring together experts, researchers, and industry professionals from around the world to share their knowledge and insights on the application of PVD thin film coating techniques in advancing the use of hydrogen as a clean energy source.

Participants will have the opportunity to present their research findings, case studies, and innovative approaches in utilizing PVD thin film coating technology for various aspects of the hydrogen economy. The topics of interest include but are not limited to: PVD coatings for hydrogen storage materials, PVD methods for fuel cell catalyst preparation, thin film coating-based hydrogen production and purification techniques, and advancements in thin film coating processes for the manufacturing of hydrogen-related devices and components. Specific industrial implementation of solutions is of critical importance to the SVC's international stakeholder base.

The SVC TechCon provides a unique platform for scientists, engineers, and industry leaders to collaborate, exchange ideas, and explore the potential of thin film coating technology in shaping the future of the hydrogen economy. We encourage interested individuals and organizations to submit their abstracts showcasing their contributions to this rapidly evolving field. Together, let us uncover the transformative capabilities of thin film coating technology and pave the way for a sustainable and efficient hydrogen-powered future.

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WebTech Roll-to-Roll Technologies and Innovation: Technical Advisory Committee (TAC)

WebTech is the forum for flexible web and roll-to-roll (R2R) processing at the SVC. It is the podium to present new achievements in processing of flexible substrates such as polymer, textile or glass. The session scope encompasses materials, manufacturing techniques, products, applications, market developments and economical aspects of this versatile high-volume manufacturing method.

The WebTech TechCon session typically features presentations on materials, deposition processes, manufacturing techniques (including “best practices”), use cases / application examples, market analysis and business perspectives in all areas related to R2R processing.

Some pertinent topic focus areas are:

- Substrate materials and technologies (polymer, flexible glass, fabrics and non-wovens etc.)
- Deposition sources and deposition modalities specific to R2R processing,
- Inline process diagnostics and control (particularly for non-transparent coatings),
- Modeling and simulation of R2R processes,
- Examples and approaches to utilize artificial intelligence (AI), machine learning, and other “Industry 4.0” modalities in R2R,
- Aspects of progressing R2R coatings from concept demonstration to commercial scale,
- Coatings under harsh conditions,
- Interfacing with non-vacuum / atmospheric pre- and post-processing, including cleaning,
- Low-cost / high-performance barrier coatings, and
- R2R processing for electronics, semiconductor and energy conversion applications.

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