Beneath the AVS Surface

October 2024 Member News & Updates

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AVS Events Calendar

AVS Sponsored & Endorsed Events

AVS 70th International Symposium & Exhibition
November 3-8, 2024
Tampa, Florida | **Website**

AVS National Short Course Program
November 4-7, 2024
Tampa, Florida | **Website**

15th International Symposium on Atomic Level Characterizations for New Materials and Devices (ALC 2024)
November 17-22, 2024
Matsue, Japan | **Website**

Workshop on Innovative Devices and Systems (WINDS) 2024
December 1-6, 2024
Kohala Coast, Hawaii | **Website**

AVS Pacific Rim Symposium on Surfaces, Coatings and Interfaces (PacSurf 2024)
December 8-12, 2024
Waikoloa, Hawaii | **Website**

50th International Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-50 2025)
January 19-23, 2025
Kailua-Kona, Hawaii | **Website**

VIEW ALL EVENTS

25th International Conference on Atomic Layer Deposition (ALD 2025) / 12th International Atomic Layer Etching Workshop (ALE 2025)
June 22-26, 2025
Jeju Island, South Korea | **Website**

39th North American Molecular Beam Epitaxy Conference (NAMBE 2025)
August 23-27, 2025
Albuquerque, New Mexico | **Website**

AVS Board Meetings

Sunday, November 3, 2024
Tampa, Florida (in conjunction with the AVS 70th International Symposium & Exhibition)

Sunday, February 2, 2025
Cary, North Carolina (in conjunction with a visit with Publications Staff)

Friday, May 16, 2025
San Diego, California (in conjunction with ICMCTF 2025)

NCCAVS 44th Annual Equipment Exhibition, NCCAVS Technical Symposium and 12th Annual Student Poster Session
February 27, 2025
Fremont, California | **Website**

International Conference on Metallurgical Coatings & Thin Films (ICMCTF 2025)
May 11-16, 2025
San Diego, California | **Website**

Sunday, September 21, 2025
Charlotte, North Carolina (in conjunction with the AVS 71st International Symposium & Exhibition)

Sunday, December 7, 2025
(Via Zoom)

Career Resources

Featured Jobs

Korea Institute for Advanced Study [AI Center]
Research Fellow Positions

Carnegie Institution for Science
Postdoctoral Fellowship

Texas Tech University
Faculty Position in Experimental or Theoretical Condensed/Soft Matter Physics

Washington University St. Louis
Senior Equipment Specialist - Physics

Colorado School of Mines
Assistant Professor, Physics - Optical Quantum Physics

Rochester Institute of Technology
Tenure Track Faculty in Physics Experimental Optics and Photonics

VIEW ALL JOBS

AVS Career Center

Professional Development
Apply for Jobs - Post Jobs

CAREER CENTER

"The AVS Career Center has consistently been a cost effective source for qualified candidates in our recruiting efforts. Our AVS postings have attracted a wide range of applicants both domestic and international." **-Physical Electronics USA**

Member News

AVS Publications Webinar

Earlier this month, AVS Publications Team held a free webinar titled, "Becoming a Peer Reviewer: Everything You Need to Know." It had over 100 registrants. Our editors offered a wealth of information and attendees learned about the peer review process and how to successfully serve as a peer reviewer. The full webinar has been posted in our Technical Library for members. Thank you to everyone who attended, our editors, and our publishing team!

If you are interested in becoming a peer reviewer for AVS Publications, please watch the recording linked below and consider completing the Peer Reviewer Training Assessment provided by AIP Publishing. Successful completion of this assessment will tag you as an Engaged Reviewer in our submission system, so our editors can more easily locate you for peer review opportunities!

AVS Technical Library

Peer Review Training Assessment

Professor Joe Greene Postdoctoral Fellow Program

Applications Now Open for the 2025-2026 Class!

Materials Research Laboratory is pleased to announce the **Professor Joe Greene Postdoctoral Fellow** program. This program is designed to support outstanding early-career scientists and engineers specializing in Materials Science,

Update Your MyAVS Profile

Please make sure that you keep your membership current with up to date information such as Chapter and Division affiliations.

MyAVS

Gift AVS Platinum Membership

Start the year off with an act of mentorship by gifting your colleague or student an AVS Platinum Membership. Help expand their network and yours.

GIFT FORM

Staff News

Tonya Yandle, AVS Editorial Assistant (NC), who celebrated her AVS 19th Anniversary (10/18/24).

Yvonne Towse, Chief

Physics, Chemistry, and related fields. Successful candidates will initially be appointed as full-time Postdoctoral Research Associates for one year, with the option of a second year.

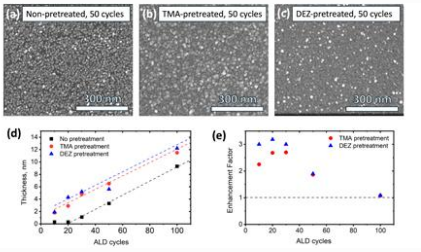
Click here to find out more about the program. Applications are now open, and the application deadline is **Friday, November 15, 2024.**

APPLY HERE

Operating Officer (NY), who celebrated her AVS 31st Anniversary (10/26/24), and AIP 36th Anniversary (8/28/24).

Publications Highlights

Enhanced Nucleation Mechanism in Ruthenium Atomic Layer Deposition: Exploring Surface Termination and Precursor Ligand Effects with $RuCpEt(CO)_2$



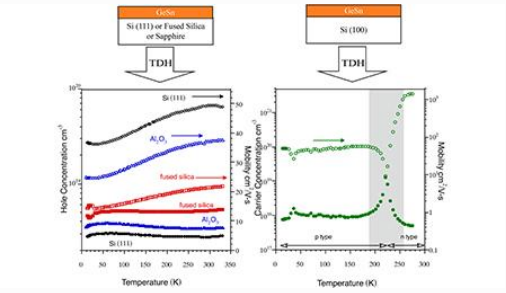
READ ARTICLE

Publication: *J. Vac. Sci. Technol. A* 42, 052402 (2024)

Authors: Amnon Rothman, Seunggi Seo, Jacob Woodruff, Hyungjun Kim, and Stacey F. Bent

Miniaturization of microelectronic devices necessitates atomic precision in manufacturing techniques, particularly in the deposition of thin films. Atomic layer deposition (ALD) is recognized for its precision in controlling film thickness and composition on intricate three-dimensional structures. This study focuses on the ALD nucleation and growth mechanisms of ruthenium (Ru), a metal that has significant future implications for microelectronics. Despite its advantages, the deposition of a high surface-free energy material like Ru on a low surface-free energy material such as an oxide often faces challenges of large nucleation delays and non-uniform growth. To address these challenges, we explored the effectiveness of organometallic surface pretreatments using trimethylaluminum (TMA) or diethylzinc (DEZ) to enhance Ru film nucleation and growth. Our study employed a less-studied Ru precursor, cyclopentadienylethyl(dicarbonyl)ruthenium [$RuCpEt(CO)_2$], which demonstrated promising results in terms of reduced nucleation delay and increased film continuity. Ru ALD was performed on silicon substrates with native oxide, using $RuCpEt(CO)_2$ and O_2 as coreactants. Our findings reveal that surface pretreatment significantly improves nucleation density and film thickness within the initial 60 ALD cycles, achieving up to a 3.2-fold increase in Ru surface coverage compared to nonpretreated substrates. Supported by density functional theory calculations, we propose that the enhanced nucleation observed with $RuCpEt(CO)_2$ compared to previously-studied $Ru(Cp)_2$ is due to two key mechanisms: the facilitated removal of CO ligands during deposition, which enhances the reactivity of the precursor, and a hydrogen-abstraction reaction involving the ethyl ligand of $RuCpEt(CO)_2$ and the metal-alkyl groups on the surface. This study not only advances our understanding of Ru ALD processes but also highlights the significant impact of precursor chemistry and surface treatments in optimizing ALD for advanced microelectronic applications.

Testing Properties of Silicon Substrates on GeSn Films



Publication: [Remote plasma-enhanced chemical vapor deposition of GeSn on Si (100), Si (111), sapphire, and fused silica substrates]
Journal of Vacuum Science and Technology B, Vol. 42, No. 5, Sept/Oct 2024

Authors: B. Claflin, G. J. Grzybowski, S. Zollner, B. R. Rogers, T. A. Cooper, and D. C. Look

READ ARTICLE

Why are there different electrical properties of GeSn deposited on different substrate types?

Silicon-based microelectronic devices have been the foundation of modern electronics. However, progress in development of silicon-based optical and electro-optical devices is hampered by silicon's indirect bandgap.

Germanium tin (GeSn) alloys are being investigated as enabling technology for silicon-based optical and electro-optical devices like light emitting diodes (LED), lasers, and other types of emitters and detectors. Adding tin to the germanium crystal reduces the bandgap, and if enough is incorporated, the alloy's bandgap transitions from indirect to direct. However, creating alloys with this level of Sn incorporation is a significant challenge.

Since SiGe alloys have been successfully incorporated into silicon device manufacturing, GeSn alloys should also be compatible with silicon processing. The ability to leverage the vast knowledge base of silicon processing technology significantly reduces the barrier to successfully introduce these products to the marketplace.

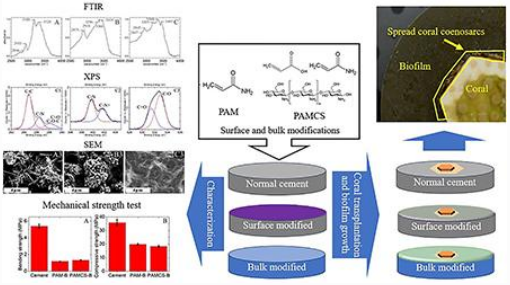
In the *Journal of Vacuum Science & Technology B*, researchers from the Air Force Research Laboratory, KBR, New Mexico State University, Vanderbilt University, and Wright State University simultaneously deposited GeSn films on Si (100), Si (111), c-plane sapphire (Al_2O_3), and fused silica substrates in a remote plasma-enhanced chemical vapor deposition process. Temperature dependent Hall measurements showed that GeSn films deposited on Si (111), (Al_2O_3), and fused silica were p-type at all temperatures, while the film deposited on Si (100) showed a p-type to n-type transition around 220 K.

Since the films were deposited onto the substrates at the same time, processing differences could not be the cause of the difference in the films' electrical properties. However, x-ray diffractometry showed that the films deposited on Si (111), fused silica, and sapphire all had (111) texturing while the film deposited on Si (100) had (100) texturing. Spectroscopic ellipsometry and secondary ion mass spectrometry did not reveal any additional differences between films on the different substrates.

"There has to be something about the (100) versus (111) texturing of the GeSn films that is causing the differing electrical properties, and additional work is needed to understand why," Rogers said. "Some of that work has been started, but we're still trying to figure out what would be the best experiments to run. We've used about all the characterization techniques that we currently have access to. We might have to partner with other groups that have capabilities that we don't have right now."

Phenomenological Investigation of Organic Modified Cements as Biocompatible Substrates

Interfacing Model Marine Organisms



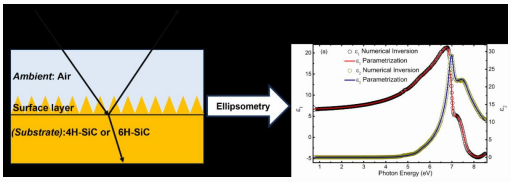
Publication: Biointer*phases* 19, 051002 (2024)

Authors: Jinglun Zhao, Tao Yuan, Hui Huang, Xiaolin Lu

READ ARTICLE

Organic modification can generally endow inorganic materials with novel and promotional characteristics to fit into new functionalities. In this paper, new cement-based composite materials, with Portland cement as the substrate and polyacrylamide (PAM, alone) and PAM/chitosan as the functional components mixed with cement (bulk modified) or served as the surface coating (surface modified), were prepared and engineered as sampling substrates for biofilm and coral co-culture. In comparison to the bulk modified substrate and pure cement material, the surface modified substrate showed a balanced mechanical property, considering both bending and compressive strengths and distinctive surface features toward facilitating biofilm and coral growth, as characterized by spectroscopic, morphological, mechanical, and biofilm and coral co-culture experiments. We, thus, believe that the as-prepared surface modified substrate has the very potential to be applied as a substitute/alternative for the conventional cement material in the construction and engineering of artificial facilities with ecological protection functions.

Optical Properties of 4H-SiC and 6H-SiC from Infrared to Vacuum Ultraviolet Spectral Range Ellipsometry (0.05–8.5 eV)



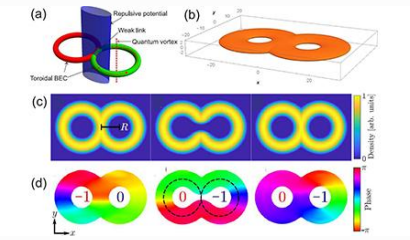
READ ARTICLE

Publication: *Surf. Sci. Spectra*, **31** (2): 026003 (2024).
Authors: Madan K. Mainali, Prabin Dulal, Bishal Shrestha, Emily Amonette, Ambalanath Shan, and Nikolas J. Podraza

In this featured article recently published in *Surface Science Spectra* (*SSS*), complex dielectric function ($\varepsilon = \varepsilon_1 + i\varepsilon_2$) spectra were obtained from reflection mode spectroscopic ellipsometry and unpolarized transmittance measurements for 4H and 6H stacking sequence silicon carbide (SiC) nitrogen-doped single crystals from the infrared (IR) to vacuum ultraviolet (VUV) spectral range. Silicon carbide (SiC) possesses several crystal polytypes, with 4H-SiC and 6H-SiC being the most commonly available and used in semiconductor devices. Different polytypes of silicon carbide have different crystal structures and resultant optoelectronic properties. 4H-SiC and 6H-SiC both exhibit hexagonal crystal structures but different stacking sequences relative to the basal plane, ABCB for 4H-SiC and ABCACB for 6H-SiC. These wide bandgap materials are commonly used as the major component layer in high-power, high-frequency, and high-temperature semiconductor devices.

Consider submitting your XPS, AES, ToF-SIMS, SE, UV-vis, or LEIS data to *SSS* and joining a list of scientists and researchers who have contributed important analytical reference information that surface scientists and lab analysts need. Technique specific templates and other submission information can be found **here**.

Exploring Dynamics of Quantum Vortices in Curved Geometries



Publication: Quantum vortices in curved geometries
AVS Quantum Science, Vol. 6, No. 3, Sept. 2024

Authors: A. Tononi, L. Salasnich, and A. Yakimenko

READ ARTICLE

Insights from studying superfluid behavior in curved environments could lead to a better understanding of quantum mechanics.

In Bose-Einstein condensates (BECs), atoms condense into a single quantum state. This condensate exhibits quantum behavior on a macroscopic scale. A BEC can form a quantum vortex, where the phase of the wavefunction circles around a line or point, and the density of the condensate goes to zero at the center of the vortex. Here, the angular momentum of a vortex is quantized, and the surrounding structure has a significant effect on its shape and behavior.

In *AVS Quantum Science*, researchers from the Barcelona Institute of Science and Technology, the Università di Padova, the Consiglio Nazionale delle Ricerche, and the Taras Shevchenko National University of Kyiv analyzed the physics of quantum vortices in curved geometries.

“In curved geometries, the restrictions imposed by the shape of the system can lead to fascinating effects on how these vortices interact and behave,” said author Andrea Tononi.

The team examined quantum vortices in ring-shaped curved waveguides, looking at cases of vortices within single rings and at interactions between pairs of rings with multiple vortices.

“We investigated the physics of a single waveguide, analyzing the vortex configurations in the rotating superfluid,” said Tononi. “We also studied the transfer of quantum vortices in planar rings connected together, and the dynamics of two rings with rotating superfluids merging into one.”

The authors hope that studying how BECs operate in curved environments could lead to a better understanding of quantum mechanics and new technological applications.

“By investigating how the features of curved geometries — such as curvature, boundaries, system size, and topology — affect superfluid properties, we may eventually harness this knowledge to engineer behaviors that are not possible in flat systems,” said Tononi. “This could lead to the development of advanced technologies, such as highly sensitive sensors that leverage the dynamics of vortices for precise measurements.”

The researchers are looking forward to future research on quantum dynamics in curved systems.

“I am particularly intrigued about the possibility of uncovering new types of topological phases within systems in curved geometries,” said Tononi. “My hope is that the unique characteristics of curved spaces will play a significant role in the behavior of matter in these phases.”

Publications Announcements

AVS Quantum Science (AQS)

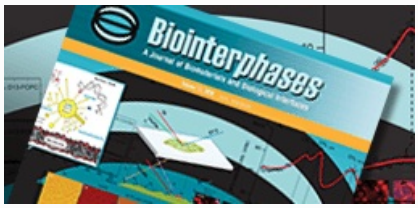
Browse Issues | Scilights | Press Releases

Special Topics & Calls for Papers

AQS Website

Biointerphases (BIP)

Browse Issues | Scilights | Press Releases
BIP Special Topics & Calls for Papers:



- Tutorials in Sum-Frequency Generation Spectroscopy 2024 **Deadline: December 2, 2024**
- Secondary Ion Mass Spectrometry (SIMS) **Deadline: February 14, 2025**

BIP Website

Journal of Vacuum Science & Technology A (JVST A)

Browse Issues | Scilights | Press Releases
JVST A Special Topics & Calls for Papers:

- Atomic Layer Deposition and Atomic Layer Etching **Deadline: December 1, 2024**
- Artificial Intelligence and Machine Learning for Materials Discovery, Synthesis and Characterization **Deadline: December 9, 2024**

JVST A Website

Journal of Vacuum Science & Technology B (JVST B)

Browse Issues | Scilights | Press Releases
JVST B Special Topics & Calls for Papers:

- CHIPS: Future of Semiconductor Processing and Devices **Deadline: December 9, 2024**
- Vacuum Nanoelectronics **Extended Deadline: December 11, 2024**

JVST B Website

Surface Science Spectra (SSS)

[Browse Issues]
[SSS Special Topics & Calls for Papers]

- [Materials for Energy and the Environment]
  Deadline: May 30, 2025

SSS Website

Event Report

The 17th International Symposium on Sputtering and Plasma Processes (ISSP2024)

July 2-5, 2024
Kyoto Research Park
Kyoto, Japan

The 17th International Symposium on Sputtering and Plasma Processes (ISSP 2024) was a great success, drawing a dynamic mix of academic researchers, industry leaders, and innovators from around the world. With participants hailing from 18 countries, the event fostered a vibrant atmosphere of collaboration, knowledge-sharing, and cutting-edge exploration. Over three days of packed sessions, attendees exchanged ideas, engaged in lively discussions, and formed valuable connections, far exceeding expectations in both scientific content and networking opportunities.

Since its inception in 1991, ISSP has been held biennially, with the exception of the COVID-19 pandemic, serving as a critical platform for the exchange of recent advances in sputtering and plasma technologies. Co-sponsored by the American Vacuum Society (AVS) and the Japan Society of Vacuum and Surface Science (JVSS), ISSP2024 continued this tradition at the Kyoto Research Park from July 2 to 5, 2024. The symposium attracted 245 participants from 18 countries, including Japan, Taiwan, the Czech Republic, Germany, Belgium, and the USA, reflecting its global reach.

The symposium began with a special pre-conference tutorial, "Introduction to High-power Impulse Magnetron Sputtering," delivered by Prof. Daniel Lundin of Linköping University, Sweden—one of the foremost experts in sputtering and plasma processes (Fig. 2). The tutorial was attended by 40 participants, who benefited from Prof. Lundin's deep insights and engaging delivery.

The main event featured 144 presentations, comprising 3 keynote addresses, 10 invited talks, 9 industrial presentations, 24 contributed orals, and 98 posters. Both oral and poster sessions were filled with engaging discussions, with presenters receiving valuable feedback from a diverse audience (Figs. 3 and 4). A unique feature of ISSP is its requirement that all oral speakers,

including invited speakers, also present posters, ensuring direct engagement between participants and leading researchers—a format particularly beneficial to early-career scientists.

In his welcome address, Prof. Tetsuhide Shimizu (Conference Chair, Tokyo Metropolitan University) expressed gratitude to the participants and sponsoring organizations, setting the stage for a conference dedicated to exploring how plasma-related technologies can contribute to sustainable development. The symposium's topical theme, "A New Dawn of Sputtering & Plasma Processes Towards Sustainable Development," emphasized the growing role of these technologies in addressing global challenges.

Throughout the conference, a wide array of groundbreaking innovations were showcased. Notable highlights included advancements in high-power impulse magnetron sputtering (HiPIMS), which holds the potential to revolutionize thin-film production by enhancing quality and functionality. AI and digital twin technologies were also prominently featured, illustrating their transformative impact on physical vapor deposition (PVD) processes and materials development. The keynote speeches were another major highlight. Dr. Takeshi Nogami from IBM Research shared insights on the future roadmap of interconnect metallurgy, while Prof. Jochen Schneider from RWTH Aachen University explored the sustainability-inspired design of PVD processes. These thought-provoking presentations sparked lively discussions and offered a glimpse into the future directions of the field.

Industry engagement was also strong at ISSP2024, with 9 leading companies offering technical presentations in the "Industrial Presentations" sessions. These companies introduced the latest innovations in sputtering coaters, targets, plasma generators, and coating evaluation systems. Additionally, the exhibition hall buzzed with excitement as 23 exhibitors showcased cutting-edge technologies, offering hands-on demonstrations that allowed participants to explore new tools and applications. One exhibitor noted, "ISSP's focus on sputtering and plasma processes creates unparalleled opportunities for building new business connections with interested customers."

As part of the cultural experience, traditional Japanese music and dance performances by Maiko and Geiko were held before the poster session on the second day, providing a relaxing and enjoyable interlude that enriched the overall conference atmosphere (Fig. 5).

ISSP2024 owes its success to the remarkable contributions of all participants, including the keynote speakers, presenters, exhibitors, and attendees. We extend our deepest gratitude to AVS for their continued support and cooperation, which played an essential role in making this symposium a resounding success. We look forward to continuing this legacy of innovation and collaboration at future ISSP events.

Figure 2. Special tutorial on "Introduction to High-power Impulse Magnetron Sputtering" by Prof. Daniel Lundin.

Figure 3. A well-attended oral presentation during ISSP2024.

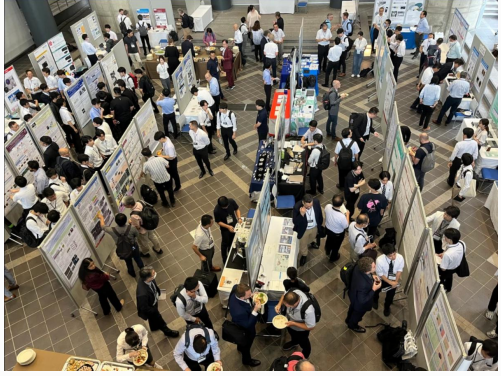


Figure 4. Active discussions at the poster presentation session.

Figure 5. Traditional Japanese music and dance performance by Maiko and Geiko, enhancing the cultural experience at ISSP2024.

AVS International Symposium & Exhibition

AVS 70th International Symposium & Exhibition

November 3-8, 2024
Tampa, Florida
Website

“Innovating Sustainability: Next Generation Energy and Quantum Devices and Their Characterization”

Featuring Presentations on Emerging Topics Related to Materials, Processing & Interfaces

The AVS International Symposium and Exhibition addresses cutting edge issues associated with materials, processing and interfaces in both the research and manufacturing communities. The weeklong Symposium fosters a multidisciplinary environment that cuts across traditional

boundaries between disciplines, featuring papers from AVS Technical Division, Groups, Focus Topics on emerging technologies and more.

The AVS 70 Plenary Speaker will be **Marla Dowell,** Director, CHIPS R&D Metrology Program and NIST Boulder Laboratory. She will present on ***"Advancing Measurement Science for Microelectronics: CHIPS R&D Metrology Program."***

An extensive Exhibition of related equipment, tools, materials, supplies, chemicals, services, consulting, technical literature, and new technologies are showcased during the week.

There will also be several special events held each day. **AVS 70 Special Events**

Featuring 100+ oral and poster sessions in the following topical areas:

- **2D Materials**
- **Actinides and Rare Earths**
- **Advanced Microscopy and Spectroscopy to Explore Field-Assisted Chemistry**
- **Advanced Surface Engineering**
- **AI/ML for Scientific Discovery**
- **Applied Surface Science**
- **Atomic Scale Processing**
- **Biomaterial Interfaces**
- **Chemical Analysis and Imaging of Interfaces**
- **CHIPS Act**
- **Electronic Materials and Photonics**
- **Light Source Enabled Science**
- **Magnetic Interfaces and Nanostructures**
- **Manufacturing Science and Technology**
- **MEMS and NEMS**
- **Nanoscale Science & Technology**
- **Plasma Science and Technology**
- **Quantum Science and Technology**
- **Spectroscopic Ellipsometry**
- **Surface Science**
- **Thin Films**
- **Undergraduate Posters**
- **Vacuum Technology**

Event Announcements

Pacific Rim Symposium on Surface, Coatings & Interfaces (PacSurf 2024)

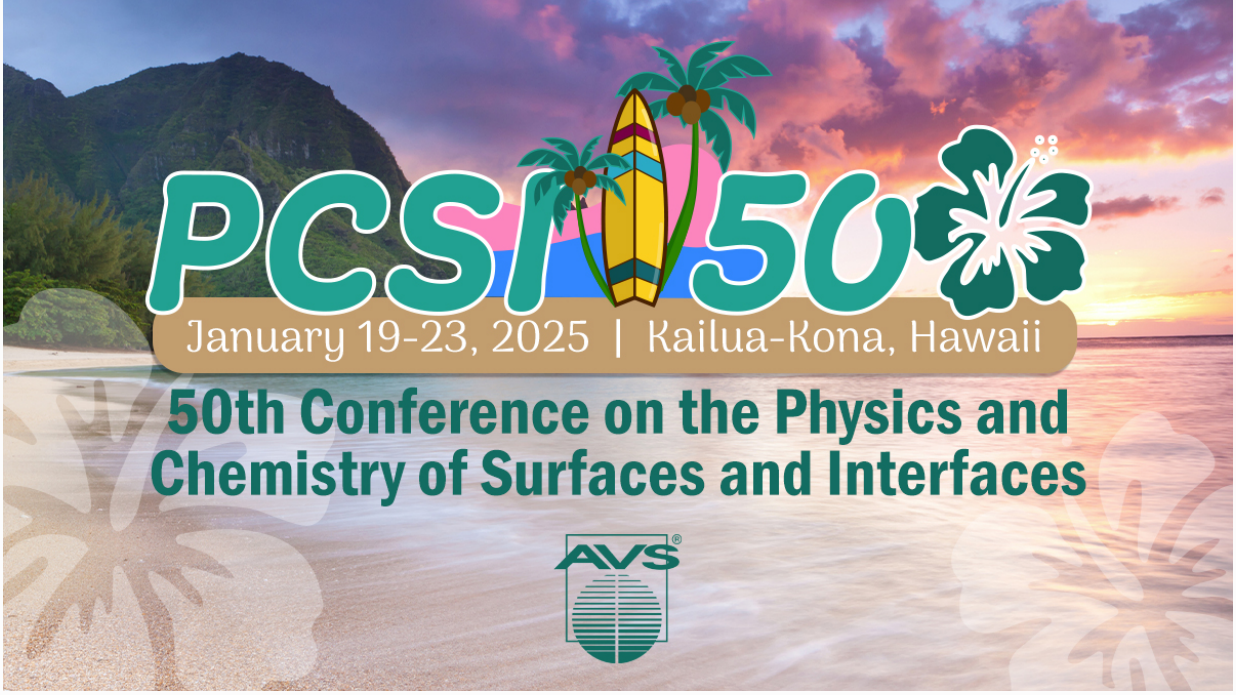
December 8-12, 2024
Waikoloa, Hawaii
Website

The **AVS Pacific Rim Symposium on Surfaces, Coatings and Interfaces (PacSurf 2024)** will be held on the Big Island of Hawaii from **December 8-12, 2024.** This conference is being organized by AVS with a Steering Committee composed of representatives from Australia, Canada, China, Japan, Mexico, New Zealand, the Philippines, South Korea, Taiwan, and the United States. Symposium attendees will interact during morning and evening sessions, including plenary, invited, and contributed presentations. The main topics for PacSurf 2024 will be focused on the latest advances in **Biomaterial Surfaces and Interfaces, Nano and 2D Materials, Renewable Energy and Energy Storage, and Thin Films and Surface Modification**. We will have morning and evening technical sessions with the afternoons free for other activities and discussions.

The conference will be held in the Waikoloa Beach Marriott Resort and Spa on the Big Island of Hawaii. We are confident you will benefit by attending PacSurf 2024 and networking with the other attendees.

50th Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-50)

January 19-23, 2025
Kailua-Kona, Hawaii
Website



The **50th Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-50)** will be held at Outrigger Kona Resort & Spa in Kailua-Kona, Hawaii, USA, from Sunday afternoon, January 19, through Thursday noon, January 23, 2025.

The annual PCSI conference is devoted to achieving a fundamental understanding of the physical, chemical, biological, structural, optical, magnetic, and electrical properties of surfaces and interfaces. These studies include novel growth processes and interfacial phenomena, new characterization tools, transport, and functionality of the structures for future devices.

Generous amounts of discussion time will be included in the program in order to emphasize the workshop character and to stimulate the exchange of new ideas.

51st International Conference on Metallurgical Coatings and Thin Films (ICMCTF 2025)

May 11-16, 2025
San Diego, California
Website

Call for Abstracts Deadline: November 15, 2024

The **51st International Conference on Metallurgical Coatings and Thin Films (ICMCTF 2025)** will be held at the Town & Country Resort, San Diego, California, USA, from **May 11-16, 2025**. ICMCTF is the premier international conference in the field of thin film deposition, characterization, and advanced surface engineering, promoting a global exchange of ideas and information among scientists, technologists, and manufacturers. ICMCTF 2025 technical sessions will have an overarching theme that emphasizes materials, processes, and applications relevant for sustainable development and will include a related Topical Symposium. The Conference includes more than 90 high-profile invited speakers, in over 40 sessions, across technical symposia, plenary and keynote lectures, short courses, an awards program, and daily social networking events.

A major exhibition of equipment, materials, technical literature, and new technologies is a key part of the conference. Attendees from all over the world come to present their findings, exchange ideas, share insights, make new friends, and often establish collaborations. The Conference typically draws 700 attendees.

Secure Your Visa Early: Due to increasing delays in securing visas it is strongly encouraged that you begin this process immediately to ensure approval. **Please click here for additional information and assistance**. Should you need an invitation letter, please contact **icmctf@icmctf.org** as early as possible to ensure you receive your visa well in time for the meeting.

25th International Conference on Atomic Layer Deposition (ALD 2025) / 12th International Atomic Layer Etching Workshop (ALE 2025)

June 22-25, 2025
Jeju Island, South Korea
Website

Call for Abstracts Deadline: February 5, 2025

The **AVS 25th International Conference on Atomic Layer Deposition (ALD 2025)** featuring the **12th International Atomic Layer Etching Workshop (ALE 2025)** will be a three-day meeting dedicated to the science and technology of atomic layer controlled deposition of thin films and atomic layer etching. Since 2001, the ALD conference has been held alternately in the United States, Europe and Asia, allowing fruitful exchange of ideas, know-how and practices between scientists. The conference will take place Sunday, June 22-Wednesday, June 25, 2025, at the International Convention Center Jeju (ICC Jeju)**, Jeju Island, South Korea.**

As in past conferences, the meeting will be preceded (Sunday, June 22) by one day of tutorials and perspectives and a welcome reception. Sessions will take place Monday-Wednesday, June 23-25 along with an industry tradeshow. All presentations will be audio-recorded and provided to attendees following the conference (posters will be included as PDFs). Anticipated attendance is 700+.

AVS Corporate Members

To learn more, please visit the **AVS Corporate Membership Website** or contact **Angela Klink**, 212-248-0200, ext. 221.

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Hiden Analytical, Inc.
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ION-TOF USA, Inc.
Kratos Analytical
Kurt J. Lesker Company
Mack Vacuum Technologies, Inc.
Oregon Physics LLC
Pfeiffer Vacuum
Physical Electronics
Reynard Corporation
R.D. Mathis Company
RF VII, Inc.
Entegris
SPECS Surface Nano Analysis GmbH
Staib Instruments, Inc.
Sumitomo (SHI) Cryogenics of America, Inc.
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