



Union Internationale Pour La Science, La Technique et Les Applications du Vide
International Union for Vacuum Science, Technique and Applications
Internationale Union für Vakuum Forschung, Technik und Anwendung

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IUVSTA Communications Committee Co-Chair



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104th IUVSTA Workshop “Current Trends in Low-Dimensional Materials: From Molecular Systems to Heterostructured Nanomaterials”

Dear Colleagues, you are invited to 104th IUVSTA Workshop which will be held as a satellite event of the 109th Annual Meeting of the Argentinian Physical Society (109 RAFA), and aims to bring together skilled theorists and experimentalists studying innovative materials to discuss their electronic, optical, mechanical, and magnetic properties; and the techniques used to characterize them.

Date & venue: The workshop will take place from September 16 to September 20 in San Luis, Argentina.

The event will cover many exciting topics, including:

- Dirac matter (graphene, TIs, semimetals) and other atomically thin materials (TMDs)
- Manipulation at the nanoscale: STM+ESR, MCBJ technique in DNAs
- Non-equilibrium topological insulators (Floquet TIs)
- Magnetic effects in nanostructures
- Quantum transport in topological quantum matter
- Two-dimensional semiconductor & van der Waals heterostructures

Invited Speakers:

- Diana Dulić* (Chile)
 - Joaquin Fernandez-Rossier (Portugal)
 - Laura Steren (Argentina)
 - Luis Foa Torres (Chile)
 - Maria Carmen Asensio (Spain)
 - Rodrigo Barbosa Capaz* (Brazil)
 - Elin L. Winkler (Argentina)
 - Eugenio Coronado* (Spain)
- (* to be confirmed)

The workshop will feature a dynamic program including invited talks, contributed presentations, and poster sessions. More importantly, time will be allocated for stimulating discussions and interactions among participants, fostering future collaborations.

In case you are interested in participating, please complete the pre-registration form by May 31.

For further information, do not hesitate to contact us at 104.iuvsta.lowdmat@gmail.com and visit

<https://104ws-iuvsta.fisica.org.ar/>

We hope to see you all in San Luis, Argentina!

Best regards,

- Alejandro Ferrón (IMIT CONICET - UNNE)
- Miguel D. Sánchez (IUVSTA Alternate Counselor, Argentina)
- Hernán L. Calvo (IFEG CONICET - FaMAF UNC)
- Alfredo Juan (ASSD - IUVSTA)



104th IUVSTA Workshop
Current Trends in Low-Dimensional Materials
San Luis, Argentina, September 16, 2024



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Registration is open for the 100th IUVSTA workshop, Ludwigsburg, Germany, October 27-31, 2024.

Scope: A specific goal of the workshop is to nucleate and promote research and development on the implementation of the **Sustainable Development Goals** (SDGs) adopted by the United Nations in 2015 into surface engineering and thin film deposition, with a particular focus on the SDG 12 'Responsible Consumption and Production'. This IUVSTA workshop is supported by the [German Vacuum Society](#) (DVG) and with the scope of presumably 40 to 60 participants ideally suited to foster discussions and create awareness of the economical, societal and environmental impact of vacuum process technologies, materials and products. Moreover, this workshop represents the first activity of the recently established **IUVSTA working group on sustainability**. Hence, it should provide a forum for all divisions of the Union and is expected to cause the identification of ideas, challenges and concepts within the IUVSTA communities, which will ultimately lead to reduced footprints.

The key scientific areas of the workshop are:

- Process purity
- Coating purity
- Chemically simple, but microstructurally complex coatings
- Accelerated materials design.

Abstracts can be submitted by email to iuvsta100@mch.rwth-aachen.de until June 7, 2024

For a **list of invited speakers** and further information visit:

<https://www.iuvsta100.rwth-aachen.de>



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Vacuum technology plays an important role in both industry and science. Think of the semiconductor industry, metrology equipment manufacturers and users (XPS, SEM, TEM, TOF-SIMS, ...) and large scientific setups like CERN, LIGO and synchrotrons.

Contamination control plays a crucial role in driving down resolution in lithography and metrology applications, contaminants can also reduce signal to noise ratios in scientific experiments. Contamination is known to affect both samples, sensors and optics.

An illustrative example from the semiconductor industry is ASML's EUV wafer stepper, which needs extreme cleanliness inside the highly complex machine. This cleanliness is needed not only to optimize microchip production yield but also to guarantee and increase the lifetime and performance of the wafer stepper.

The term 'ultra-clean vacuum' specifically refers to those situations where not only the vacuum's pressure, but also the residual gas composition is relevant. Ultra-clean vacuum is and will become even more important in domains like the semiconductor industry, Space and quantum computing.

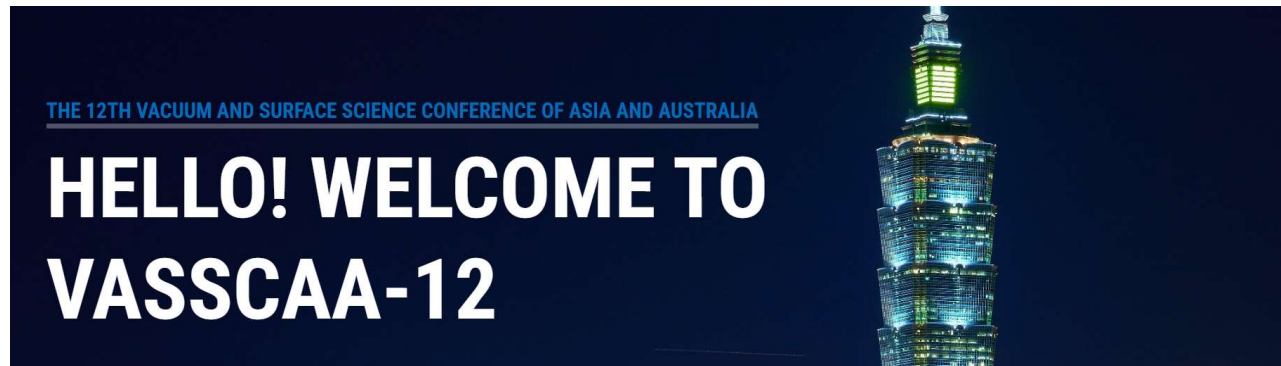
To share knowledge and experience between the various domains and between academia and manufacturers, TNO and the Dutch vacuum society (NEVAC) will host an IUVSTA workshop on ultra-clean vacuum.

This workshop will take place in the historic city of Delft, the Netherlands, from 3-6 February 2025. Please visit www.tno.to/ucv for more information.





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<https://www.taiwanvacuum.org/vasscaa-12/>

The 12th Vacuum and Surface Sciences Conference of Asia and Australia (VASSCAA-12) will be held from 14th to 17th of October 2024 in Taipei, Taiwan.

Collected papers presented in the conference will be published in the special issues of Applied Surface Science and Vacuum.

Topics covered by VASSCAA-12 are:

- Accelerator and Radiation Sciences and Technology
- Applied Surface Science
- Biosurfaces, interfaces, nanostructures
- Electronic Materials/Processing
- Magnetic surfaces, interfaces and nanostructures
- Nanometer-Scale Science & Technology
- Catalytic materials and processes
- Plasma Science & Techniques
- Surface Engineering
- Surface Science
- Thin Film
- Vacuum Science and Technology
- Renewable Energy Technologies.



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In Memory of Professor Dr. Frank Richter (July 14, 1947 † November 20, 2023)

On November 20, 2023, Professor Dr. Frank Richter passed away unexpectedly at the age of 76. Frank Richter had been a member of the German Vacuum Society DVG since 1996 and served on the society's Board of Directors for many years, in the triennium 2008 to 2011 as President of the society. Frank Richter contributed his expertise in physics and thin-film technology to various committees. For example, from 1999 to 2003 he was spokesman for the Thin Films Committee of the German Physical Society (DPG), and from 2004 he was an elected review board member of the German Research Foundation (DFG). He was also very active in the IUVSTA, serving as Secretary of the Thin Film Division from 2001 to 2004 and as Vice Chairman of the Surface Engineering Division from 2004 to 2007. From 2010 to 2016, Richter represented the DVG in the IUVSTA as Councilor for Germany. He was also Awards Committee Chair of the IUVSTA.



Frank Richter at IVC18-Beijing, 2010

Frank Richter studied physics at the Technical University in Chemnitz (Karl-Marx-Stadt at that time) and received his doctorate there in 1974. Between 1973 and 1988, he worked at the Institute for Semiconductor Physics in Frankfurt/Oder, where he habilitated in 1984. From 1988, he taught and carried out research in Chemnitz as a university professor of solid-state physics. From 1992 to 2012, Richter was Professor of Solid-State Physics at the Institute of Physics at TU Chemnitz. Frank Richter has maintained international collaborations with universities in Uppsala, Sweden, Pilsen in the Czech Republic and Manchester and Liverpool in the UK, as well as with research institutes in Australia, Japan, Korea, and the USA.

Frank Richter's research focused on the elucidation of fundamental mechanisms of thin films growth under high energy input, for example by means of magnetron sputtering or plasma CVD. The focus was on uncovering the causal chain between plasma properties, analyzed using Langmuir probe technology and optical emission spectroscopy, the properties of the layer-forming particle flow and the properties of the deposited layers. Frank Richter's expertise also lies in the characterization of the mechanical properties of layer-substrate composites. To this end, his working group developed novel methods based on a combination of nanoindentation and theoretical modeling, which allowed the measurement of mechanical parameters such as modulus of elasticity or yield stress even on layers less than 50 nm thick.

Frank was a very active and warm-hearted person. We remember many nice events where we have had very enjoyable personal moments with him and his wife.

In Frank Richter we have lost an excellent scientist, teacher, leader, as well as a committed and generous person.

We will honor his memory.

Peter Schaaf, Michael Wahl, Sven Ulrich, Ute Bergner (DVG, IUVSTA)

Francois Reniers, Christoph Eisenmenger-Sittner, Christian Teichert, Ivan Petrov (IUVSTA)

An IUVSTA endorsed conference:



The French Vacuum Society is pleased to announce the **24th International Conference on Secondary Ion Mass Spectrometry (SIMS-24)** to be held on **September 8-13, 2024**, at the Espace Encan Conference Center in the city of La Rochelle, France.

IMPORTANT DATES

1st February 2024	Call for papers
1st February 2024	Registration opening
15 April 2024	Deadline for early bird rate
30 April 2024	Deadline for submission
15 June 2024	Authors notification
1st July 2024	Program online
31 July 2024	Deadline for regular rate
15 August 2024	Deadline posters submission

For information: <https://www.sims-24.com/>



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JVC-19

19th Joint Vacuum Conference



On behalf of the Organizing Committee, it is our pleasure to announce that the **19th Joint Vacuum Conference (JVC-19)** and the **30th Croatian Slovenian International Scientific Meeting on Vacuum Science and Technique** will be held at the Hotel Le Meriden Lav in **Podstrana near Split, Croatian biggest city on Adriatic coast, between 29th September and 04th October 2024.**

Conference web page: <https://jvc19.org/>

Important dates

- **Registration start:** February 26th
- **Early bird:** until June 15th
- **Late bird:** from June 16th to September 6th
- **Abstract submission:** until June 14th
- **Abstract approval notification:** July 10th

Conference fee (early/late)

- **Participant:** 600/700 €
- **Student:** 500/600 €
- **Accompanying person:** 300/350 €

Social programme

- **Welcome reception and welcome dinner**
- **guided tour of Split old town with a focus on Diocletian's Palace (UNESCO World Heritage site)**
- **Conference dinner at konoba Rudine**

Accommodation

Le Meridien Lav 5*

Conference venue hotel

<https://www.lemeridienSplit.eu/>

**We look forward to seeing you
in Podstrana at JVC-19!**

Sincerely,

Nikša Krstulović, chair of JVC-19



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Call for Abstracts for ISSS-10

The Japan Society of Vacuum and Surface Science (JVSS) is pleased to inform you that the 10th International Symposium on Surface Science (ISSS-10) will take place from 20 to 24 October 2024 in Kitakyushu, Japan, in conjunction with the JVSS Annual Meeting 2024 (JVSS2024).

<https://www.jvss.jp/conference/iss10/>

Scope & Background
ISSS-10 is the 10th in a series of international symposia organized by the Japan Society of Vacuum and Surface Science (JVSS). The symposium will highlight recent achievements in surface science/vacuum technology and its related fields. Because the properties and functionalities of the materials under external environments are mainly ruled by "surfaces and interfaces", surface science and vacuum technology play an essential role in wide sectors. Discussion on the above mentioned major topics with interdisciplinary studies as the future directions of the fields are strongly encouraged.

Important Dates

Abstract Deadline	May 19, 2024
Acceptance Notice	July 29, 2024
Early Registration Close	Aug. 31, 2024
Manuscript Deadline	Jan. 31, 2025

Correspondence
E-mail: iss10@jvss.jp FAX: +81-3-3812-2897
URL: <https://www.jvss.jp/conference/iss10/index.html>

The 10th
International Symposium on Surface Science
ISSS-10
Innovations for a Better Society
October 20-24, 2024
Kitakyushu International Conference Center
Kitakyushu, Fukuoka, Japan

Topics & Regular Sessions

1. Surface Structures and Characterization
2. Physics at Surfaces and Interfaces
3. Nanotechnology and Nanomaterials
4. Surface Chemistry and Dynamics
5. Environmental and Energy Applications
6. Soft/Bio Material Interfaces
7. Vacuum Technology and Surface Engineering

Focused Sessions

- * Carbon Neutral
- * 2D Materials and Beyond
- * AI and Informatics

Abstract submission is accepted only via the website.

ISSS-10 Venue

Plenary Speakers

- **Hrvoje Petek** (University of Pittsburgh, USA)
"Ultrafast hot electron generation in 2D and 3D quantum materials"
- **Junji Nakamura** (Kyushu University, Japan)
"Catalytic mechanism contributing to a carbon-neutral society"
- **Peter Walde** (ETH Zurich, Switzerland)
"A new method for the controlled immobilization of enzymes on silica surfaces"
- **Franz J. Giessibl** (Universität Regensburg, Germany)
"The pull of the atom"
4th Heinrich Rohrer Medal Award Lecture
- **Wilson Ho** (University of California, Irvine, USA)
"Wave-Particle Duality in STM Junction: extension of IETS to excitations in space-time"
4th Heinrich Rohrer Medal Award Lecture



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Publications:

Conference papers will be published as Proceedings Papers or Full Articles in JVSS's peer-reviewed and open-access journal, e-Journal of Surface Science and Nanotechnology (e-JSSNT).

<https://www.jvss.jp/ejsnt/index-ejsnt.html>

For registrations and more information, please visit the symposium website at

<https://www.jvss.jp/conference/iss10/>

The ISSS-10 organizers warmly look forward to welcoming you in Kitakyushu.

Katsuyuki Fukutani

Chair of the 10th International Symposium on Surface Science (ISSS-10)

President of the Japan Society of Vacuum and Surface Science (JVSS)

University of Tokyo

Ken Nakajima

Chair of the ISSS-10 Steering Committee

Tokyo Institute of Technology



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Conference organized by the American Vacuum Society

Overview

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.



Abstract Submission Deadline: August 9, 2024, (Opens May 15, 2024)

<https://pacsurf2024.avs.org/>



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The very successful 10th Symposium on Functional Coatings and Surface Engineering (FCSE-2024) in Montreal, QC, Canada, on June 2-5, 2024

The 10th FCSE-2024 Symposium in Montreal was organized by RQMP - Regroupement québécois sur les matériaux de pointe and the St. Lawrence International Chapter of the AVS Science and Technology of Materials, Interfaces and Processing. The symposium has been endorsed by IUVSTA, AVS, SVC (Society of Vacuum Coaters), and Prima Québec, and it was hosted on the campuses of Université de Montréal and Polytechnique Montréal.

With more than 150 attendees, the historically highest number, the FCSE-2024 featured a strong technical program consisting of 73 presentations (13 invited, 23 short oral, 42 posters), and strong educational offerings including two short courses on "Plasma deposition of thin films and related processing of materials" by André Anders (Leibniz Institute, Leipzig, Germany), and "Stress evolution during thin film growth by physical vapor deposition" by Gregory Abadias (CNRS-Université de Poitiers, France), and three full-day hands-on workshops on "Tribo-Mechanical Surface Characterization" (by Jiri Nohava and Mohammad Reza Gholipour, Anton Paar, and Stephen Brown, Polytechnique Montréal), "Spectroscopic Ellipsometry: Case Studies and Tricks of the Trade" (by Nina Hong, J.A. Woollam Co, and Bill Baloukas, Polytechnique Montréal), and "Developing an Understanding of Surface Chemistry - Multi-Technique Electron Spectroscopy-Based Investigation (James Lallo, Thermo Fisher Scientific, and Josianne Lefebvre, Polytechnique Montréal). During the workshops, the participants had the opportunity to test their samples under the guidance of our experts.

A total of 21 companies participated in the industrial table-top exhibit, and the Symposium was supported by 20 sponsors which is greatly appreciated.

An international committee of eight experts from 3 continents chaired by Chris Stoessel (StoesselConsulting) selected the three winners of the poster student competition. The awardees were Louis Charles Fortier (Université de Montréal) – AVS award, Alexandre Lussier (Université de Montréal) – Prima Québec award, and Phillip Rumsby (Polytechnique Montréal) – SVC award.

Oral presentations during the two days of the technical program were divided into a series of seven sessions, namely:

I - *Plasma-based Processes* with invited talks by Andre Anders (Leibniz Institute, Leipzig, Germany) and Stephan Reuter (Polytechnique Montréal),

II – *Hard Protective Coatings* with Jochen M. Schneider (RWTH Aachen University, Germany) and Ivan Petrov (University of Illinois),

III - *Bio- and Energy-related Applications* with Sandra Carvalho (University of Coimbra, Portugal),

IV – *High Entropy Films* with Jeff J.-W. Lee (Ming Chi University of Technology, Taiwan) and Paul Mayrhofer (Technical University of Vienna, Austria),



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V - *Optical Films* with Carmen Menoni (University of Colorado, USA) and Gregory Abadias (University of Poitiers, France),

VI - *Advanced Characterization* with Grzegorz Greczynski (Linköping University, Sweden), and

VII – *Surface Engineering Perspectives* with Frederic Schuster (CEA, Orsay, France) and Chris Stoessel (StoesselConsulting).

The invited talks were complemented by short oral presentations by authors from both academic and industrial laboratories.

The subject that underlined the general program of the FCSE-2024 Symposium, namely innovative approaches to sustainability challenges was accentuated by an enlightening Evening Lecture by Christoph Herrmann (Fraunhofer Institute IST and University Braunschweig, Germany) on “Holistic Life Cycle Engineering for a Sustainable Circular Economy.”

For more detailed information, please consult: www.fcse-montreal.ca

We wish to thank all participants and organizers for an excellent 10th FCSE-2024 Symposium, *Ludvik Martinu and Jolanta E. Klemberg-Sapieha, FCSE-2024 Symposium Chairs*

