



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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Ivan Petrov, petrov@illinois.edu
IUVSTA Communications Committee Chair



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Executive Council Meeting 126, Sofia, Bulgaria

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ECM 126 was held on Sunday, October 1st 2017 at the Hotel Best Western EXPO in Sofia, Bulgaria. The President of the Union, Lars Montelius, presented a brief report and overview of activities within the Union. He highlighted the new improvements under way on the web interface, new initiatives that have started, for example webinars and the celebratory plans for the 60 year anniversary. Further he brought forward some issues for further improvements such as a better reporting mechanism in conjunction with workshops and schools that IUVSTA supports, highlighting not only the program in itself but also gender composition, geographic distribution of invited speakers and committees etc and by that foster a better understanding and an awareness of these aspects with event organisers. Also he suggested the implementation of an IUVSTA prize for the early career researchers, to recognise achievements at an early career stage. Finally he highlighted the importance of continuing to develop the Union as a voice for people within the IUVSTA, making IUVSTA more visible in society, and drawing attention to the role in how science and technology help development.

The Secretary General, Christoph Eisenmenger-Sittner first expressed his thanks to the Slovenian Vacuum Society for organizing an excellent ECM 125 which was held in a very relaxed and productive atmosphere. He also thanked the new member society, the Union of Physicists in Bulgaria, for taking the effort to organize ECM 126 here in Sofia which proved to be an excellent choice as a meeting venue.

After this the Secretary General reported on the new developments on the communications strategy of the Union. This is reflected by the name change of the former "Publications" Committee to "Communications" Committee which shows the wider approach which is taken to communicate the actions of the Union to the outer world, not only by newsletters and reports, but also by our web presence and by developing a concerted communications strategy.

Concerning future ECMs he remarked that decisions on the venue of ECM 127 and ECM 128 would be taken during this meeting.

Following the Secretary General's report the treasurer presented the finance report and the final accounts from last year. After that the Treasurer had to report that the Russian Vacuum Society had not paid its fees for the last four years. He received an email from the President of the Russian Vacuum Society asking IUVSTA to suspend Russia from the Union. It was decided yesterday to propose to the ECM to vote 'Should Russia be suspended from IUVSTA starting from 2017' The Secretary General reminded everyone of the voting procedure, and proxies. A secret vote was held. The result was unanimous to suspend Russia from IUVSTA, effective immediately. After the vote the President announced that Russia will be suspended and if it wishes to re-join they will need to pay the back fees for the previous years. He also reminded everyone that while Russia does not have the right to vote, people should still continue to include them in discussions and collaboration within Divisions.

The meeting was continued with the STD report. The STD had considered three new proposals for one workshop and two schools, all of which had been recommended by the STD for submission to the ECM. The workshop proposal entitled "Nanoscale Oxides systems in Physics and Chemistry", to be held in Avila, Spain, in July 1-5, 2018, was approved with 23 votes in favour, 14 votes against and 1 abstention. This Workshop will be the 86th IUVSTA Workshop. The school proposal entitled "Nano-Optics", to be held in Braga, Portugal, February 18 - 22, 2019 was approved unanimously. This School will be the 17th IUVSTA School. The school proposal entitled "Nano Bio Engineering for Medicine", to be held in Braga, Portugal, in 2018, was not approved by ECM.



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After the vote on Schools and Workshops the Scientific Director, David Ruzic, presented a summary of the status of the Welch award. There has been an agreement with Kenneth Bro, donator, that the money should be received within this calendar year. The proposed procedure for the award was presented. It is suggested that there will be 2 steps. Host institutions will first be invited to agree to act as hosts, in order to encourage more applications and support applicants. Applicants will then submit an application. Applicants also have the opportunity to find a suitable host themselves, and this would be considered by the committee. It is expected that this award will be launched at the 60th anniversary of the Union during EVC 15 in Geneva in 2018.



On Saturday evening the ECM participant enjoyed a tour in the historic downtown Sofia followed by a dinner in a Bulgarian ethnic-style restaurant

Following the STD report, the Secretary General announced the last voting item of this meeting, the decision on the venues of ECM 127 and 128.

Joe Greene presented a bid for ECM 127 in The Philippines to be held in February, 2018. A show of hands was taken for the three choices of dates presented. Through an open ballot, it was unanimously agreed to hold ECM 127 during the 9th – 11th February 2018, at Cebu Island, The Philippines.



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Four proposals were presented for ECM 128: Anton Stampfl presented a bid for ECM 128 in Sydney to be held either from Friday 10th – 12th August, 2018 or Thursday 16th – Sat. 18th, August. There would also be provision to host the IUVSTA Highlights Seminar in conjunction with VASCAA-9. Marcelo Juni Ferreira presented a bid for ECM 128 in Joinville, Santa Catarina, Brazil to be held from September 21st – 23rd, 2018. This would be in conjunction with the Brazilian Vacuum Applications in Industry and Science, also with provision for the IUVSTA Highlights Seminar. Haiming Guo presented a bid for ECM 128 in Beijing, China to be held from October 12th – 14th, 2018. It had not yet been planned to host the IUVSTA Highlights Seminar. Cristo Manuel Yee presented a bid for ECM 128 in Cancun, Mexico to be held from either September 28th – 30th, 2018 or the previous week, in conjunction with a national conference. There would also be provision to host the IUVSTA Highlights Seminar.

A secret ballot was held to decide on the location for ECM 128. Since there was not a two-thirds majority on the first vote (Australia 21 votes, Mexico 12 votes, The Philippines 2 votes, China 2 votes), a second ballot was called. The result of the second ballot was Australia 26 votes, Mexico 12 votes. Through a show of hands for the most appropriate dates all, bar three people, preferred the dates Friday 10th – 12th, August, 2018. It was agreed to hold ECM 128 in Sydney, Australia from Friday 10th – 12th, August, 2018.

After the decision on the future ECMs the committees reported on their work done during Friday and Saturday, and after these reports President Prof. Alexander Petrov made a short presentation on behalf of the Union of Physicists in Bulgaria. He outlined the executive council, the 15 regional branches of the Union, with approximately 100 active members and 3 times more non-active members. The Union has two journals, 'World of Physics' and 'Bulgarian Journal for Physics'. They have held 45 conferences so far, annually, with participants varying from 60 to 140 people. He presented some scientific highlights from the Union members. They are also active in participating in a number of broader scientific initiatives and meetings, including the International year of Light and the International Conference of the Balkan Physical Union.

Finally, the President, Lars Montelius thanked and congratulated Milena Damyanova and co-workers for hosting the ECM. He also thanked Ivan Petrov for his efforts in getting Bulgaria back into IUVSTA.

After the successful completion of the Sunday morning meetings the participants were invited to have lunch and to continue discussions on marking the 60th anniversary of the union before departing to their respective destinations.



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The 15th European Vacuum Conference (EVC-15)

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EVC-15 will take place from 17-22 June 2018 in Geneva (CH) at the International Conference Center (CICG). It will be a special conference: it marks 30 years since founding of the European Vacuum conference series and it will also celebrate the 60th anniversary of IUVSTA with a dedicated session on Monday 18th afternoon. Plenary lectures will be given by Joe Greene (US) on the History of Materials Science since the Big Bang, Anne L'Huillier (SE) on Exploring Matter at Ultrashort Time Scales, Cristoforo

Benvenuti (IT) on Getter Pumping for Accelerators and astronaut Claude Nicollier (CH) will talk about Extravehicular activities around the Space Shuttle.

Current and former IUVSTA Officers, Councillors and committees Chairs are invited to a special evening reception at the Globe near CERN. Two additional talks are scheduled with Guido Saracco (IT) on energy and Cedric Egger (CH) on water resources on Earth.

During EVC-15 we will enjoy plenary talks by Philippe Walter (FR), Maria Asensio (FR), Christian Teichert (AT), Kai Nordlund (FI) and Ludvik Martinu (CA). In addition, invited speakers will be Maya Kiskinova (IT), Pascal Ruffieux (CH), Uros Cvelbar (SI), Oliver Ambacher (DE), Lars Montelius (PT), Daniel Lundin (FR), Asim Aijaz (SE), Philippe Djemia (FR), Irina Graur Martin (FR) and Carmine Maletta (IT). There will be a nice trade exhibition in the foyer of the conference center.



On Thursday afternoon a tour through the CERN facilities is planned as well as the conference banquet at the beautifully located Chateau de Penthes.

Topics

- Applied Surface Science
- Biointerfaces
- Electronic Materials and Processing
- Nanotechnology
- Plasma Science and Technique
- Surface Science and Engineering
- Thin Films and Coatings
- Vacuum Science and Technology
- Vacuum in Accelerators

Technical Sessions

- Keynote contributions, shorter specific lectures and poster sessions
- An industry exhibition on the most recent instrumentation and equipment on the market
- A dedicated excursion to CERN



**N.B. abstract submission deadline
extended till Jan. 12, 2018
<https://www.evc15.org/>**



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The Vacuum and Surface Science Conference of Asia and Australia is a biennial conference that aims to bring together industry, education, development and research in vacuum science and technology within the Asian, Pacific and Indian Ocean regions. It is a conference of the vacuum societies of Australia, China, India, Iran, Japan, Korea, Pakistan, Philippines, and Taiwan. VASSCAA-9 is one of the main conferences supported by IUVSTA.

VASSCAA-9 will be held for the first time in Australia between 13-16 August, 2018. The conference is hosted by Vacuum Society of Australia (VSA) and will be held at the **SMC Conference and Function Centre**, a modern conference facility, located in the central business district of Sydney.

The **IUVSTA Highlight seminar** will be held on the afternoon of Monday 13 August, where Keynote talks will be given from representatives of the nine IUVSTA scientific divisions detailing scientific research highlights of the last three years.

Areas covered by VASSCAA-9 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

Topics will be highlighted that have major impact on the following sectors that the Australian Government has placed priority on:

- Environment
- Health and wellbeing
- Food and water resources
- Security
- Productivity and growth

Url: vasscaa9.sydney

VASSCAA-9 will run at the same time as the **Sydney Science Festival and National Science Week**. To celebrate the **60th Anniversary of IUVSTA** and introduce to the general public the science and technology of vacuum, VASSCAA-9, the VSA and the Museum for Applied Arts and Sciences in Sydney will host a number of high-profile public events highlighting the importance of vacuum science and technology to everyday life and future technologies and to the exciting science that drives its development.





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The 17th International Conference on Thin Films

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The 17th International Conference on Thin Films (ICTF17) was held in New Delhi, 14-17 November 2017. It was jointly organized by the CSIR-National Physical Laboratory (NPL) and Indian Vacuum Society, under the general sponsorship of IUVSTA. **Dr. Dinesh K. Aswal**, Director CSIR – NPL, served as the ICTF17 Chairman.

The conference lasted four days with four parallel sessions occurring daily. Each day began with the keynote/plenary lecture by one world-renowned speakers – David Cahen, Ronan McGrath, Norbert Koch, and Dinesh K. Aswal, respectively. The bulk of the conference were 75 invited talks, 99 oral and 305 poster presentations. Poster presentations were held on Tuesday and Thursday afternoon in the open space between the Auditorium building and the Exhibition tent.

On Wednesday afternoon Prof. K. L. Chopra delivered an outstanding 90-minutes presentation entitled “On Historical Evolution of Science and Technology of Thin Films” as the Prof. C. Balakrishnan-Memorial-Lecture.

Before the Conference, two Workshops were held on 13 Nov 2017, with the introductory lecture presented by D.K. Aswal on the importance of standards for the Indian science and industry. At the end of the Conference 10 Oral and 10 Poster Springer best presentation awards were announced.

There were ~ 650 registered participants (including Workshops attendees) from 28 countries. There were 42 international participants – mostly invited speakers.

The traditional Thin Film Division meeting could not be organized due to the absence of TFD officers; only three TFD members were present at the conference. Therefore, the next ICTF organizer will be announced at a later date.

The ICTF17 conference was very well organized by the Indian Host institutions.





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80th IUVSTA Workshop “Ultra-low Emittance Light Source Vacuum Systems”, 24-28 October 2016, NSRRC, Hsinchu, Taiwan

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The goal of the “80th IUVSTA Workshop for the Ultra-low Emittance Light Source Vacuum Systems” is to find the best solutions on the vacuum design and the manufacturing processes for those upgrade projects, ongoing or being planned, of synchrotron light source facilities to achieve the ultra-low emittance of < 0.5 nm-rad in the coming years. There are many challenging issues on vacuum design and engineering under debate and need to be well evaluated by the vacuum experts from the worldwide institutes or facilities. This workshop provides a forum for intensive discussions after each presentation, and was held in October 24-28 (2016) in Hsinchu, Taiwan. The venue is the National Synchrotron Radiation Research Center (NSRRC) where a brand new 3 GeV synchrotron light source named “Taiwan Photon Source (TPS)” has completed the commissioning and just opened to the user operations about one month ahead of the workshop.

There were about 50 participants from 26 organizations of 15 countries attended the 80th IUVSTA Workshop and enjoyed the fruitful presentations and technical discussions. Four-day program covers 34 presentations including 12 invited talks, a visit to the TPS light source, a welcome reception, an excursion, and a workshop dinner etc. activated the brainstorming on those critical issues of vacuum design for the new or upgrade projects. All the presentations were divided into 8 sessions covers the technical topics including the facility reports, the vacuum design concepts, the surface engineering and treatments, the NEG-coating technologies, the critical components, methodology of the manufacturing, and the gas pressure modelling. The facility reports include 3 new accelerator light sources, NSLS II (USA, 2015), TPS (Taiwan, 2016), and MAX IV (Sweden, 2016) being in operation or commissioning; 6 upgrade projects include ESRF-EBS (France), APS-U (USA), ALS-U (USA), SPring-8 II (Japan), Diamond II (UK), and PLS-III (Korea) under designing; and 2 new light source projects: KEK-LS (Japan) and HEPS (China) under planning.

The most popular issue widely discussed in the workshop was the NEG-coating technologies implemented into the beam ducts of the storage ring vacuum systems that associated with 9 presentations. The operational experiences about the NEG-coated chambers built-in the existed accelerators including the LHC, LEIR, etc. at CERN (Switzerland), the Synchrotron SOLEIL in Paris (France), and the MAX IV in Lund (Sweden), presented the successful performance as expected. However, on the other hand, there are still more than half of new projects adopt different design aspects which may not be appropriate with the NEG-coating.

There comes another issue about the reliability of the accelerators associated with the higher heat load from the synchrotron radiation during the higher beam-current operations. The design and manufacturing methodologies for the vacuum beam ducts and the critical vacuum components against the high heat load were widely discussed. Several participants from the manufacturing companies include VAT (Switzerland), SAES Getters (Italy), FMB (Germany), VACOM (Germany), Wave Power (Taiwan), as well as the research institutes include KEK (Japan), SPring-8 (Japan), BNL (USA), NSRRC (Taiwan), IMT (Slovenia), STFC (UK), and BINP (Russia), presented their manufacturing processes of the products, working experiences, trouble shootings, advices on the delivery scheduling controls, etc. were much valuable and helpful for the new projects on critical design, quality control, and entirely project control managements. For those upgrade projects of some facilities, a very tight schedule on replacing the entire machine by a new system is foreseen must be completed in a short period of shutdown interrupt the users’ experiments typically within one year. It may result in a different systematic design philosophy of the accelerator vacuum systems associated with the fast installation procedure at the beginning of the project. The modelling works on pressure distribution of the accelerator vacuum systems are always helpful on reviewing the overall design optimization. There are 4 talks presented the simulation programs about the pressure distribution based on the “MolFlow”, combined with the ray-tracing program of “SynRad” and the modelling from “3D-CAD”, were useful and becoming practical when implemented with more experimental data.



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Though the fruitful daily coffee breaks were filled in the sessions, a workshop dinner at a seafood garden restaurant near the Hsinchu harbor were arranged for all the participants tasting the typical local seafood. Besides, a half-day excursion to visit the National Palace Museum and the Taipei-101 Tower in Taipei city was still attractive for everyone to browse the Chinese culture, enjoy the Taiwanese life, and refresh the spirit. On Oct. 28, the last day of workshop, all the participants were invited to the TVS-2016 Annual Symposium (30th anniversary of the Taiwan Vacuum Society) in conjunction with the 5th International Joint Symposium (co-organized by the Vacuum Societies of Korean, Japan, USA, China, Taiwan, and the Surface Science Society of Japan) in the National Tsing Hua University (NTHU) nearby the NSRRC for more interactions with the peoples from the academic and the industrial fields in Taiwan. All the information can be found from the website of the Taiwan Vacuum Society: <http://www.taiwanvacuum.org>.



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The 82nd IUVSTA Workshop on Plasma-based Atomic Layer Processes Bankoku Shinryokan, Okinawa, Japan, December 4th - 7th, 2017

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The 82nd IUVSTA Workshop on Plasma-based Atomic Layer Processes was held at Bankoku Shinryokan Convention Center in Nago City, Okinawa, Japan, from December 4th to 7th, 2017. The venue Bankoku Shinryokan is a convention facility owned by Okinawa prefecture and was originally built as a venue for the 26th G8 Summit held in 2000. It is located at the tip of Cape Busena, a remote and rather exclusive resort area in the Okinawa main island, and surrounded by sea on 3 sides. As is the norm for all IUVSTA workshops, the participants were “confined” in the venue and surrounding areas of natural beauty for 4 days discussing science and technologies related to the theme of the Workshop.

The theme of the Workshop was atomic layer processes (ALPs), i.e., etching, deposition, and other surface processes with atomic-scale size control. ALPs include atomic-layer deposition (ALD) and atomic-layer etching (ALE). ALD has been widely used in semiconductor manufacturing processes and is now spreading to other industries that require highly controlled functional material surfaces. ALE is, on the other hand, now entering semiconductor manufacturing processes as new processing technologies for nano-scale devices. What distinguishes an ALP from other surface processes is its self-limiting reactions that limit the surface process only to (nearly) a single atomic layer. Processing with self-limiting reactions allows not only atomic-scale topography control but also high selectivity and uniformity over a wide surface area of the processed material, less dependent on the structure densities. It has been found recently that a plasma-based ALP significantly enlarges the process window by offering novel radical. This Workshop, the use of plasma for ALP technologies was especially emphasized, with the goal set to explore fundamental science and to clarify the mechanisms of plasma-based ALPs such as plasma-based ALE, ALD, and surface functionalization of various materials. In addition, novel/conventional ALPs without plasmas as well as other highly controlled plasma surface processing were also presented. More information on the Workshop is available at <http://officepolaris.co.jp/JSPP2017/IUVSTA17Workshop/>.

The Workshop was held concurrently with the 10th EU-Japan Joint Symposium on Plasma Processing (JSPP2017). The number of participants, including students, of the 82nd IUVSTA Workshop was 45 and the total number of participants of both the IUVSTA Workshop and JSPP2017 was 141. The registered participants of the IUVSTA Workshop were also allowed to attend the JSPP2017 sessions freely. As the JSPP2017 covers a wide range of plasma science and technologies, which were of interest to participants of the IUVSTA Workshop.





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Call for Abstracts to the 83th IUVSTA Workshop New Horizons in Boron-Containing Coatings: Modeling, Synthesis, and Characterization

Vadstena, Sweden, September 2-6, 2018

<http://boronliu.com/>



This workshop is intended to initiate an in-depth discussion covering a broad range of boron-containing materials and synthesis technologies including approaches such as PVD and CVD to more complex methodologies incorporating gas- and/or power-pulsing techniques, presented in a systematic fashion, by key scientific groups worldwide. The topics include:

- modeling and simulation of structure/property relationships for novel B-containing materials
- Control of nanostructure/composition during PVD and CVD synthesis
- Synthesis of targets for arc and magnetron sputtering; new precursors for CVD
- Protective coatings: hard, wear-, corrosion-, low-friction, high-temperature application
- Coatings for x-ray and neutron detectors and optics

Plenary Speaker - Jan-Eric Sundgren, Swedish Association for Engineering Industries, "The importance of research and innovation in securing sustainable growth in high wage economies"

Confirmed invited speakers

Paul Mayrhofer, Technical University Vienna, Austria
John Abelson, University of Illinois, USA
Weitao Zheng, Jilin University, China
Jochen M. Schneider, RWTH Aachen University, Germany
Marcus Morstein, PLATIT AG, Switzerland
Jinn Chu, National Taiwan University of Science and Technology, Taiwan
Jiri Houska, University of West Bohemia, Czech Republic
Ulf Jansson, Uppsala University, Sweden
Marián Mikula, Comenius University, Slovakia
Harald Hillebrecht, Freiburg, Germany
Peter Polcik, Plansee, Austria
Carina Höglund, ESS, Sweden
Alexander Grishin, KTH, Sweden
Sasa Bajt, Center for Free Electron Lasers at DESY, Germany
Helmut Riedl, Technical University Vienna, Austria

Important dates:

- March 15, 2018 Abstracts submission deadline
- May 31, 2018 – Registration of all participants
- September 2-6, 2018 – Workshop

Workshop Chairs:

Johanna Rosen, Jens Birch - Linköping University
Ivan Petrov, Joe Greene - University of Illinois





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Call for Abstracts to the 84th IUVSTA Workshop Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport Phenomena

The Weizmann Institute of Science, Rehovot, Israel, September 2- 5, 2018

<http://www.weizmann.ac.il/conferences/SMSEP2018/>

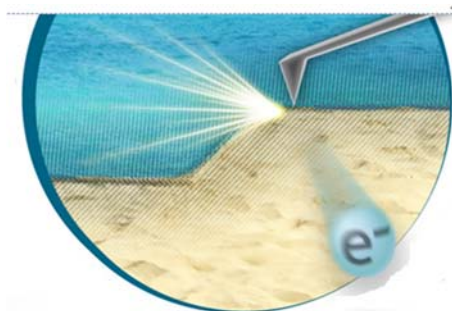
The workshop will address ground state and dynamic aspects of interface-related electronic properties, with an emphasis on methodologies combining *spatial* and *spectroscopic* data at the nanoscale.

Ample time for interaction both in the conference hall and informally during excursions and social activities (poster session with cocktail buffet, tour and dinner in old Jaffa, ½ day tour to Jerusalem) will encourage good scientific interchange.

The workshop site, at the beautiful campus of the Weizmann Institute in Rehovot, Israel provides a secluded venue, yet central to Israel's many famous attractions. Scientific presentations will be broken into 1/3 each from invited speakers, contributed talks, and posters+flash presentations

Topics:

- * *High spatially resolved spectral mapping*
- * *Novel electron spectroscopy of interfaces*
- * *Electronic states and charge dynamics*
- * *Fields and band-alignment at interfaces*
- * *Optoelectronic phenomena at surfaces*
- * *Interfacial electrical and spin-selective transport*



Confirmed Invited Speakers:

Cervenka Jiri, Institute of Physics, Prague
Cuevas (Juan) Carlos, Autonomous University of Madrid
Fadley Charles, University of California at Davis
Franke Katharina, Free University, Berlin
Kawai Maki, Institute for Molecular Science, Okazaki
Kiskinova Maya, Elettra Synchrotron, Trieste
Kohn Amit, Tel Aviv University
Koppens Frank, Institute of Photonic Sciences, Barcelona
Lienau Christoph, Oldenburg University
Nitzan Abraham, University of Pennsylvania, Philadelphia
Nowack Katja, Cornell University, Ithaca
Rose Volker, Argonne National Laboratory
Skourtis Spiros, University of Cyprus, Nicosia
Stephan Odile, University of Paris-Sud, Orsay
Zeldov Eli, Weizmann Institute of Science, Rehovot



Organizing committee: Sidney Cohen[#] and Hagai Cohen (Weizmann) Christian Teichert[#] (Montan, Leoben)

Scientific committee: Shahal Ilani and Ernesto Joselevich (Weizmann), Ana Gomes Silva[#] (NOVA Lisbon)

[#]NSD executive committee members



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Call for Abstracts to the 85th IUVSTA Workshop Nanoporous Materials for Green Energy Conversion and Storage

October 14 - 19, 2018, Seggau Castle, Austria

<http://iuvsta85.unileoben.ac.at>

Scope

The aim of the workshop is to address issues and challenges regarding the implementation of nanoporous materials for energy conversion and storage purposes combined with a minimal carbon footprint for the environment. The workshop will focus mainly on the emerging role of such materials towards:

- conversion of energy into d
- different forms using available green technologies, including solar cells and fuel cells,
- storage of highly energy-dense and environmental friendly gases, such as hydrogen and methane, and
- electrochemical energy storage using batteries, supercapacitors and hybrid technologies.

Attention will be given to the influence of the porosity and surface chemistry of commercially available and lab-synthesized porous materials produced in various forms (powders, granules, pellets, cloths, thin films, membranes, etc.) on the overall performance towards such energy-related applications.

The workshop is intended to provide a forum and networking venue for scientists, engineers, and technologists from academia, government laboratories, and industry. Attendees interested in synthesis and functionalization, characterization, performance evaluation, and application of nanoporous materials are welcome.

Invited speakers

Heinz Amenitsch, Graz University of Technology, Austria,
Austrian SAXS Beamline, Elettra Trieste, Italy

Samuel Bernard, Research Institute on Ceramics, CNRS,
Limoges, France

José Luís Figueiredo, Universidade do Porto, Portugal

Peter Hall, The University of Sheffield, U.K.

Michael Hirscher, Max Planck Institute for Intelligent
Systems, Stuttgart, Germany

Ana Kalijadis, University of Belgrade, Serbia

Guillaume Maurin, Université Montpellier, France

Oskar Paris, Montanuniversität Leoben, Austria

Kyriaki Polychronopoulou, Khalifa University of Science &
Technology, Abu Dhabi, UAE

Theodore Steriotis, National Center for Scientific Research
Demokritos, Athens, Greece

Valeska Ting, University of Bristol, U.K.

Matthias Thommes, Quantachrome Instruments, Boynton
Beach, FL, U.S.A. and University of Edinburgh, U.K.

Cheng-Yu Wang, National Chiao Tung University, Hsinchu,
Taiwan,

Organizers

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Nikolaos Kostoglou

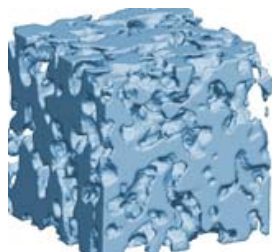
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Important dates: Mark your calendar

Abstract submission: May 4, 2018

Notification of successful abstracts: early June 2018

Full registration of participants: August 31, 2018

Workshop: October 14 – 19, 2018





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

German Vacuum Society awards the Rudolf Jaeckel Prize 2017 to Professor Armin Dadgar for groundbreaking contributions in the field of nitride based electronic and photonic components

The Rudolf Jaeckel Prize of the German Vacuum Society for outstanding scientific and technological achievements in the field of vacuum based sciences was awarded for the twelfth time. The Prize was established in appreciation of the German physicist Rudolf Jaeckel and his pioneering performance for the development of vacuum physics and technique who successfully connected scientific research with practical applications.

German Vacuum Society's president, Dr. Ute Bergner, awarded Professor Armin Dadgar from the Otto von Guericke University Magdeburg for his internationally outstanding contributions in the field of epitaxial growth of nitride semiconductors layers for lighting and electrotechnical applications during a ceremonial meeting of the society in Dresden.



German Vacuum Society President Dr. Ute Bergner, prize winner Professor Armin Dadgar, and Professor Ludwig Schultz, Chairman of the Rudolf Jaeckel Prize committee

Professor Dieter Bimberg from the Technical University Berlin delivered the laudation for Armin Dadgar who established the research of the epitaxy of nitride semiconductors and their application for electronic components and light emitting structures at the University Magdeburg. During his speech, he mentioned that within the last twenty years it was not only possible to analyze n and p doping of gallium nitride. Akasaki, Amano and Nakamura received the Nobel Prize for their findings of this for blue LED important material in 2014.

Professor Bimberg pointed out that the prize winner succeeded in producing semi-insulating material by carbon doping and vertical p-i-n diodes on silicon as cost effective alternative instead of expensive gallium nitride, SiC or sapphire substrates. Furthermore, he underlined the decisive importance of the successful transfer of the growth processes of sapphire and silicon carbide substrates to silicon. Only the extreme cost reductions resulting from Armin Dadgar's research enabled the feasibility of the production of homogenous light emitting LED structures.

Armin Dadgar is an author of more than 250 publications, 500 conference contributions and holds more than 40 patents.



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An IUVSTA endorsed conference:



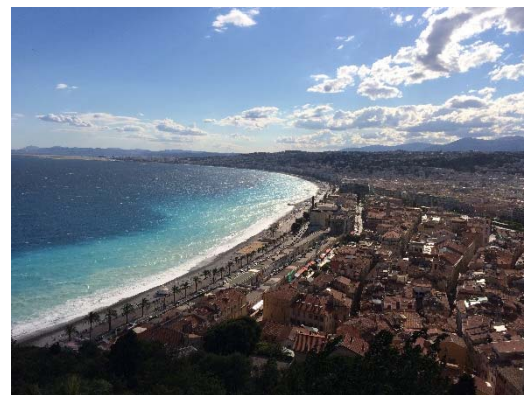
The **21st International Colloquium on Plasma processes (CIP)** was held jointly with the **5th Magnetron Ion processing & Arc Technologies European Conference (MIATEC)** in **Nice, France** under the sun of the French Riviera, from **June 26 to 30, 2017**. Both, CIP and MIATEC were biennial international conferences, organized by the French Vacuum Society (SFV) and devoted to the latest developments in plasma processing science and technology.

CIP provides an opportunity to present recent progress in the field of plasma processes from fundamental research to applications. The aim of the colloquium is to highlight some of the latest developments, recent issues and challenges for plasma processes in various industrial fields, such as: surface treatments, nanoscience, energy and environmental technology or life sciences.

MIATEC focuses on the advances in fundamental research and understanding of all PVD (Physical Vapor Deposition) processes treating a large panel of subjects from sputtering in noble and reactive atmosphere, to arcs and ion processing and finishing with thin film deposition and surface processing by PVD (Ion Beam Assisted Deposition, non-equilibrium low current arc discharges and HiPIMS – High-Power Impulse Magnetron Sputtering).

This joint event included plenary lectures (5), invited and keynotes conferences (15), as well as **Short courses** on plasma science, PVD and related technologies, prior to the conference. Chaired by two scientific committees and 1 common steering committee, it was attended by 143 participants (54% from abroad) including 30 participants at the short courses.

It was the last issue of these series, as CIP and MIATEC are fusing with 1 other SFV conference to form **PLATHINIUM** (PLASma, THIN films International Union Meeting) in **September 2019 in Antibes (French Riviera)**, chaired by **Andre Anders (G)**.



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ECASIA'17
EUROPEAN CONFERENCE ON APPLICATIONS
OF SURFACE AND INTERFACE ANALYSIS
24-29 Sept. 2017
MONTPELLIER, FRANCE



Chaired by Philippe Marcus and Anouk Galtayries, ECASIA'17 took place in **Montpellier, France, from 24 to 29 September 2017.**

ECASIA'17 was organized both by Chimie ParisTech and SFV, and covered all aspects of Applications of Surface and Interface Analysis with emphasis on **“Surface and Interface Analysis: the Link between Science and Technology”**.

ECASIA'17 brought together experts from universities, research centers, and industries for a total of **415 participants from 38 countries**. It was a forum for presentation and discussion of advances in all areas of surface and interface analysis, structured in 4 parallel sessions. The program included **4 Plenary Lectures, the ECASIA Award Lecture (Dave Castner), 6 Keynote Lectures, 192 oral presentations, 130 posters and 4 short courses (40 participants)**.

A large exhibition accompanied the Conference, with 29 exhibitors, featuring the latest developments in surface and interface analysis and its applications.

Social events, including receptions on Sunday and Monday evening, an excursion on Wednesday afternoon and the conference dinner, **contributed to the warm and friendly atmosphere of Montpellier.**





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IUVSTA endorsed conference:

ITFPC¹⁷

8th INTERNATIONAL CONFERENCE ON INNOVATIONS
IN THIN FILM PROCESSING AND CHARACTERIZATION

23-27 October 2017 / Nancy (France)

WWW.ITFPC.COM

Endorsed by





The **8th international conference on Innovations in Thin Film Processing and Characterization (ITFPC'17)** was held in Nancy (France) on October 23-27, 2017. This biennial conference is organized by the *Société Française du Vide (SFV)* and the *Institut Jean Lamour (IJL)*.

Besides the scientific topics covered by the conference, this event aimed at providing an open forum to discuss on progresses and latest developments in thin film processing (etching, CVD and PVD) and engineering including nano-layer growth and properties, surface functionalization, covering a wide field of applications in energy, nanotechnology, mechanics, optics, photonics, chemistry, biology, medicine, etc. The characterization methods were emphasized with particular focus on the new trends in atomic scale investigation.

Chaired by Nikola Radic (Croatia), Gérard Henrion (F) and Jean-François Pierson (F), it was attended by **95 participants** including 20 at the connected short course proposed before the opening of the conference. The conference included **6 invited plenary talks, 7 keynote lectures, and 7 exhibitors**.

It was the last issue of this series, as ITFPC is fusing with 2 other SFV conferences to form **PLATHINIUM (PLASma, THIN films International Union Meeting)** in **September 2019 in Antibes (French Riviera), chaired by Andre Anders (G)**.



Poster session in the exhibitors' area.



Winners of the SFV grants.



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Call for Abstracts

Deadline: February 16, 2018

The AVS 18th International Conference on Atomic Layer Deposition (ALD 2018) featuring the 5th International Atomic Layer Etching Workshop (ALE 2018) will be a three-day meeting dedicated to the science and technology of atomic layer controlled deposition of thin films and now topics related to atomic layer etching. The conference will take place Sunday, July 29-Wednesday, August 1, 2018, at the Songdo Convensia in Incheon, South Korea.

As in past conferences, the meeting will be preceded (Sunday, July 29) by one day of tutorials and a welcome reception. Sessions will take place (Monday-Wednesday, July 30-August 1) 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 600+.

Key Deadlines:

Abstract Submission Deadline: February 16, 2018

Author Acceptance Notifications: April 9, 2018

Student Award Applications Deadline: May 1, 2018

Early Registration Deadline: June 1, 2018

Hotel Reservation Deadline: June 26, 2018

JVST Special Issue Deadline: September 5, 2018

ALD Program Chairs

Chair: Jin-Seong Park, Hanyang Univ., South Korea
Co-Chair: Hanjin Lim, Samsung Electronics, South Korea
Co-Chair: HyunChul Choi, LG Display, South Korea

ALE Program Chairs

Chair: Geun Y. Yeom, Sungkyunkwan Univ., South Korea
Co-Chair: Ankur Agarwal, KLA-Tencor, USA

Website: www.ald-avs.org



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Call for Abstracts

Deadline: May 2, 2018

“Materials, Interfaces and Process Technologies for the IoT Era”

Over the course of the next few years, it is predicted that there will be a significant increase in the number of devices connected to the internet, with as many as 50 billion devices by 2020. This explosion of Internet of Things (IoT) will lead to unprecedented growth in data acquisition and collection, and will be harnessed by new cognitive data analytics to provide unique insight and new business opportunities for numerous industries. To this end, one of the key ingredients which will lead to the advancement of IoT technology will be the novel ‘IoT device’ which provides sense and compute processing at the edge, with communication to a central cloud infrastructure. However, to achieve such a pervasive capability, a low cost IoT platform is required. This includes advanced sensor technology, energy harvesting, non-volatile memory, advanced low power processor technology and wireless communication all coupled with new methods for advanced packaging and assembly. Hence, advances in material science and synthesis, surface and interface engineering, manufacturing and process technologies for each aspect of the IoT platform will be highlighted as they will be essential to enable the scaling of IoT devices and the adoption of low cost future IoT technology. Contributions which target applications and/or pertain to the fundamental study of Materials, Interfaces and Process Technologies for the IoT Era are highly encourage.

Exciting Sessions are being planned in the following topical areas:

- 2D Materials
- Actinides and Rare Earths
- Advanced Ion Microscopy
- Advanced Nanophotonics Metrology
- Advanced Surface Engineering
- Applied Surface Science
- Biomaterial Interfaces and Plenary
- Electronic Materials and Photonics
- Extending Additive Manufacturing
- Heterogeneous Catalysis
- In-situ Microscopy and Microfluidics
- Industrial Physics Forum
- Magnetic Interfaces and Nanostructures
- Manufacturing Science and Technology
- Materials/Devices for Neuromorphic Computing
- Materials and Processes for Quantum Computing
- MEMS and NEMS
- Nanometer-scale Science and Technology
- Novel Trends in Synchrotron
- Plasma Science and Technology
- Plasmas for Biomedical, Agricultural and Environmental Applications
- Processing and Characterization of Air-Liquid Interfaces
- Spectroscopic Ellipsometry
- Surface Science
- Thin Film
- Tribology
- Vacuum Technology

Website: www.avs.org/symposium

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The 44th ICMCTF 2017 articles with complimentary open access are now available in special issues of the Elsevier journals Thin Solid Films (Vol. 644) and Surface and Coatings Technology (Vol. 332) which can be accessed at the following links:

TSF: <http://www.sciencedirect.com/science/journal/00406090/644>
and
SCT: <http://www.sciencedirect.com/science/journal/02578972/332>

From now until May, 2019 anyone can view, download, and print the published 44th ICMCTF (2017) conference papers. Open access, which is provided by ICMCTF and Elsevier, means that people world-wide can download and read the conference publications at no charge

The 2016 ICMCTF special issue articles are still available with open access through May 1, 2018 at

TSF: <http://www.sciencedirect.com/science/journal/00406090/620>
and
SCT: <http://www.sciencedirect.com/science/journal/02578972/308>

Please, take advantage of this opportunity to read papers of interest to you.

Expect a Call for late-breaking abstracts in early January 2018. You are cordially invited to attend the 45th ICMCTF.

<http://www2.avs.org/conferences/icmctf/>

ICMCTF Proceedings Editors:

Samir Aouadi, Esteban Broitman, Carlos A. Figueroa,
Grzegorz Greczynski, Christopher Muratore, and Michael Stüber

2017 General Chair
Christian Mitterer

2017 Program Chair/2018 General Chair
Yip-Wah Chung

2018 Program Chair
Michael Stueber



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IUVSTA endorsed conference:

VEIT 2017, Sozopol, Bulgaria, September 25-29, 2017

M.C.M. van de Sanden, Miglena Dimitrova, Chavdar Ghelev

The International Summer School on Vacuum, Electron and Ion Technologies (VEIT) has been organized biennially since 1978, when the series of VEIT Schools was launched by the Institute of Electronics, Bulgarian Academy of Sciences, with the aim to act as a forum for exchange and dissemination of knowledge and ideas on the latest developments in this field. The organizers of the 2017 VEIT edition were the Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria and the Dutch Institute for Fundamental Energy Research, Eindhoven, Netherlands.

VEIT 2017 was held in the Black Sea resort Sozopol, Bulgaria, from 25 to 29 September 2017. It was attended by 149 participants (36 students and young researchers) from 20 countries on three continents: Austria, Bulgaria, France, Germany, Iran, Japan, Mexico, Portugal, Romania, Russia, Spain, Serbia, Slovakia, Slovenia, Sweden, The Czech Republic, The Netherlands, Ukraine, UK, and USA.

The School Program covered a large spectrum of fundamental problems of the nanotechnologies, the interaction of charged particles with solid surfaces, the deposition and characterization of thin films, which were balanced out by reports on a wide range of significant high-technology applications – from equipment for deposition of hard coatings or thin optical/protective films to nanostructures prepared via evaporation, sputtering or irradiation. In accordance with their subjects, the lectures and reports were grouped for presentation and discussion in three sessions, each of them including oral presentations at plenary sessions and posters. Marking VEIT's 20th anniversary, the Organizing Committee awarded three best-poster prizes (one per poster session) to young scientists (up to five years after PhD graduation). VEIT Proceedings, a selection of 64 manuscripts presented at the event will be published in a special issue of Journal of Physics.

Despite the busy scientific program, the atmosphere was relaxed and informal. The early afternoons of most conference days were free to stimulate both scientific and social interaction between participants. The social program included a welcome party, an official dinner, and an outing to a winery in the town of Medovo, near the city of Burgas.

The next conference in the series will be held in September 2019.





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IUVSTA endorsed conference: Taiwan Association for Coating and Thin Film Technology - TACT 2017

Jyh-Ming Ting, ting@mail.ncku.edu.tw

As a continuity from 2009, 2011, 2013, and TACT 2015, TACT2017 is the fifth one in the row as an important biennial forum dedicated to knowledge exchange and interactive platform for researchers and engineers from academia and industry. TACT 2017 was held from October 15 to 18, 2017 at National Dong Hwa University in Hualien, Taiwan with great success. There were 550 attendees from 31 countries, 5 continents with 290 oral and 338 poster presentations. A lively equipment exhibit with over 30 companies took place during the conference. The plenary lecture was presented by Prof. Lars Hultman from Linköping University, Sweden. Keynote Speakers were renowned scientists from around the world: Andre Anders (Germany), Paul Braun (USA), Steve Bull (UK), Li-Chyong Chen (Taiwan), Yip-Wah Chung (USA), Ali Erdemir (USA), Jr-Hau He (Saudi Arabia), Jong Su Kim (Korea), Masaharu Shiratani (Japan), Sam Zhang (Singapore). Ivan Petrov, who delivered an AVS-sponsored lecture, was awarded the TACT life-time achievement award. Over 20 awards were given to students for outstanding achievements presented at the conference in poster and oral presentations. The conference had a lively social program which included an excursion and guided tour of historic Hualien and an evening banquet with a cultural program from student performers including a Taroko indigenous tribe dance and chorus ensemble. More information on TACT is available at <http://tact2017.conf.tw>.

The next TACT conference will take place in 2019.





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IUVSTA endorsed conference:

11th Asian-European International Conference on Plasma Surface Engineering

Jeon G. Han, hanjg5445@gmail.com

AEPSE2017 was held on September 11 to 15, 2017 in Jeju International Convention Center at a resort site, Jung Mun in Jeju island, Republic of Korea. The AEPSE conference has been held every other year as one of leading conference on advanced surface engineering since it was founded in 1997 in Seoul, Republic of Korea in collaboration between Asian and European Committees: AJC-APSE(Asian Joint Committee for Applied Plasma Science and Engineering) and EJC-PISE(European Joint Committee on Plasma and Ion Surface Engineering). The major scope of the AEPSE2017 was scientific and technological advance and industrial applications of plasmas, fundamentals of plasmas, films and coatings, functional films for digital electronics, tribological and protective coatings, nano materials and devices, energy and environments, bio and medicine etc. Special workshops on emerging topics were organized on new advances in plasma technology by invitation of numerous global experts. Those are “ Plasma Farming “, “Advanced Surface Engineering by Dry and Wet Hybrid Processes”, “ Fundamental and Industrial Application of HiPIMS” and “ Flexible Electronic Materials and Devices”. With the goal to encourage scientific achievement and to promote young scientists, awards for 3 graduate students and two young scientists were bestowed. Prof. Guenter Braeuer, the director of Fraunhofer IST in Germany, was selected as the winner of the prestigious “K.T. Rie award”, which is bestowed to a globally renowned scientist who has made a leading achievements and contributed to the advance of plasma surface engineering in AEPSE conference since 2015.

Notably, a new special program for public attraction and the exposure of a new generation young students to plasma science and technology by the name of “Global Plasma Life Fair” was also organized with AEPSE2017. Historical timeline of plasma, plasma applications in diverse industrial fields connected with our life and future vision were displayed. An educational program for students of elementary and middle school was implemented during the Plasma Fair dates. The event opens a new gateway for bridging of plasma technology with public society life in coming years.

AEPSE2017 also provided a variety of social and cultural activity programs the participants from around the world such as global network evening, cultural night with banquet, excursion etc. during the conference dates. More information on AEPSE2017 is available at www.aepse2017.org



Prof. Jenq-Gong Duh and Prof. Guenter Braeuer



Student education during the Global Plasma Life Fair



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IUVSTA endorsed conference:

Call for Abstracts to the 9th International Conference on Technological Advances of Thin Films & Surface Coatings (ThinFilms2018)

<http://www.thinfilms.sg/conferences/thinfilms2018>



ThinFilms2018 is a biennial event. Started in 2002, this conference series provides a platform for knowledge exchange and interaction for researchers and engineers from industry, research laboratories and academia. Over the years, the ThinFilms conference series has developed a strong reputation for bringing together the latest thin film research. ThinFilms2018 is the 9th of this series and will be held in Shenzhen, China, 17 - 20 July 2018.

ThinFilms2018 is composed of the following Symposia:

1. Biomedical & Healthcare Coatings;
2. Coatings for Industrial Applications;
3. Coatings for Surface Protection;
4. Electrochemical Energy Conversion & Storage;
5. Energy Conversion & Storage;
6. Inorganic Films & Nanoparticles;
7. Nanostructured and Nanocomposite Films and Coatings
8. Optical Thin Films;
9. Organic Electronics & Photonics;
10. Smart Films & Coatings;
11. Testing and Evaluation of Films and Coatings;
12. Thin Film Electronic Devices;
13. Two-dimensional Nanomaterials for Environmental and Energy Applications

Important Deadlines:

Abstract Submission: 15 March 2018
Notice of Acceptance: 31 March 2018
Early Bird Registration: 31 May 2018
Full Paper Submission: 31 August 2018

Selected papers will be published in special issues of Surface and Coatings Technology and Nanoscience and Nanotechnology Letters.

The ThinFilms2018 Organization Committee looks forward to welcoming you to Shenzhen, China in July 2018.