



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	
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Celebration of the IUVSTA 60th anniversary at EVC-15, Geneva, June 17th 2018

Anouk Galtayries, IUVSTA President-Elect

60 years ago, during the First International Congress on Vacuum Technology held in Namur in **June 1958**, the decision was made to create a permanent international organization for vacuum science and technology with the goals:

- to promote the dissemination of information and the advancement of education in vacuum science and technology;
- to organize in different countries once every three years an international congress on vacuum science and technology;
- to affiliate with other national and international bodies to achieve these objectives.

The international organization was then officially registered in Belgium on **August 1959**; it was the beginning of the International Union for Vacuum Science, Technique and Applications (IUVSTA).

About 1 year ago, we decided to celebrate this anniversary over a period of one year, starting at the European Vacuum Congress, which itself celebrated its 30 years, in Geneva, in **June 2018**.

This first celebration was thus very special, based on the meeting of different IUVSTA generations of scientists of all IUVSTA continents and with a dedicated scientific program embedded in the EVC-15 program. Special thanks are due to EVC Chairs and the local organizing committee for the friendly and welcoming attitude. In addition, the second part of the anniversary program took place at the Globe of Science and Innovation in front of the CERN (which we visited in the morning); a wonderful building, whose architecture and materials are linked to innovation, sustainability, and esthetics.

The objective of such celebration is both to promote IUVSTA activities and to increase its visibility to the participants in its conferences as well as to bring together different generations of IUVSTA activists for an exchange of ideas in a friendly atmosphere.

The objective was reached due to your fantastic participation. The enthusiastic, dedicated contributions of so many people from so many countries constitute, for me, the first real success of this anniversary. It was a pleasure to share this effort with all of you.



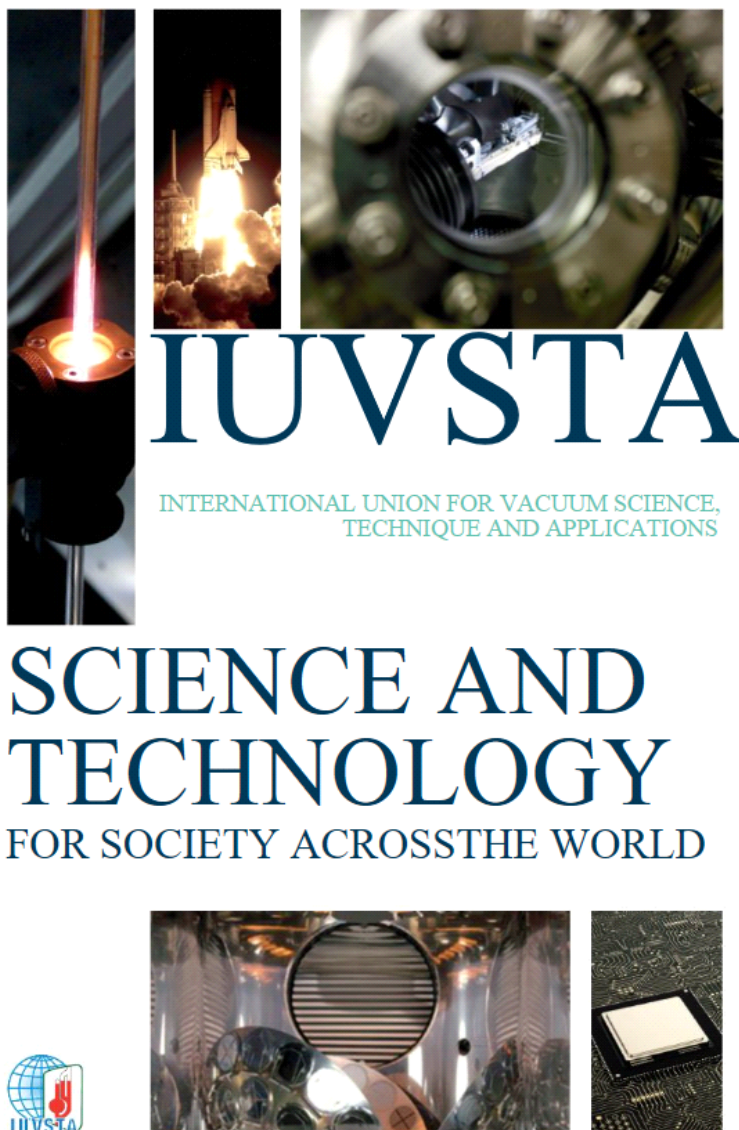
Swiss astronaut Claude Nicollier's lecture was extremely interesting and inspiring



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The second success is linked to the publishing of the IUVSTA book, both providing an easy reading to the History of IUVSTA, which has been updated to the present, as well as offering a wonderful view to all the Histories of the National Societies comprising IUVSTA. It has been a 6-months work of nice exchanges between Nikola Radic, Marie-Geneviève Barthes-Labrousse and myself, but also with about 40 other contacts from all member-societies, with wonderful moments of interaction with enthusiastic new friends. Thus all societies which are current members or have existed for some time (for example Yugoslavia has also its entry!) had the opportunity to present themselves in a condensed way. This document is really lively and, for that, worth reading. If you do not have yet in hands the IUVSTA book, please read its electronic version at: <http://iuvsta.org/flipbook/>.

Thank you for working for or reading this book and for your comments!



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The third success is the efficiency that this communication action has fostered: first it has been a very good tool to contact corporate partners and to receive sponsorship from 8 different countries, which has greatly helped to finance these events. Such exchanges with corporate partners have also lead to the creation of the first new co-branded IUVSTA prize for a young researcher. This is a wonderful opportunity for our Union and for all the young scientists that we represent. Also included in the third success, this anniversary has also been the opportunity to invite our scientific organization to listen to concrete societal concerns, with the two talks on *"Groundbreaking technologies for a carbon-based sustainable development"* given by Alberto Tagliaferro, Politecnico Torino (Italy) and *"Water Stewardship, a constructive approach to cope with the water crisis"*, given by Cedric Egger, hydro-geologist from Nestlé Waters in Lausanne, Switzerland.

I think it is very important that we keep and cultivate this particular link that our national societies have in their own creation to applications and vacuum industry: **to stay close to societal, innovative, and technological questions and as well as to high level science.** This is the message I keep from the pioneers who founded such an organization as IUVSTA.

It is now up to each society to appropriate this anniversary in their national or international scientific, educational and technical events, I am fully open to discuss this with all of you. It is also by collaboration between us that we can succeed in contacting our national or international companies to support our actions in a win-win manner.



Professor Greene: on the history of materials science



The session at the Globe



At the Globe: time to catch up with friends



At the Globe: A private session for us at the "Universe of Particles" exhibition (Photo: Martin Wüest)



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IUVSTA GROWTH IN TIME AND SPACE

A brief survey on the occasion of the 60th anniversary

Nikola Radić

The seed of IUVSTA was planted at the 1st International Congress on Vacuum Techniques held 10-13 June, 1958 in Namur, Belgium, and organized by the IOVST (the International Organization for Vacuum Science and Technology). IOVST included collective as well as individual members from all over the world, and was led by Prof. Emile Thomas at that time. The Congress was a huge success, with 520 researchers and scientists from 25 countries plus 218 participants on behalf of 129 technical exhibitors. 73% of regular participants came from four countries – Belgium, Germany, France and Great Britain, while additional 18% came from USA, Switzerland (+Lichtenstein), The Netherlands, Japan and Italy.

The 2nd International Vacuum Congress & 8th Symposium of the American Vacuum Society was held 14-19, October 1961 in Washington, D.C., (USA). Approximately 1800 scientists and more than 200 exhibitors were registered. About twenty nations were represented, with heavy attendance from Switzerland, Sweden, Yugoslavia, Liechtenstein, Japan, Italy, Great Britain, The Netherlands, Germany, France and Belgium.

On 8 December 1962 in Bruxelles, the IOVST was transformed into IUVSTA - the International Union for Vacuum Science, technology and Applications - with a seat in Bruxelles. This meeting is considered as the 1st Executive Council Meeting and the 1st IUVSTA General Meeting. Members of IUVSTA were to be National Vacuum Societies/Committees, and not individuals or institutions. The ten IUVSTA founding countries were: Belgium, Federal Republic of Germany, France, Great Britain, The Netherlands, Spain, Sweden, Switzerland, United States of America, and Yugoslavia.

From its inception, IUVSTA grows by admitting new members either by invitation or by their individual application. It seems that invitations to join IUVSTA were quite successful, with 10 more National Vacuum Societies admitted by the GM4 (1971), effectively doubling its membership. The new members were four Eastern European countries – Czechoslovakia, Hungary, Poland, Bulgaria – Italy, Austria, and four out-of-Europe countries – Japan, Australia, India, and Israel.

The next 6 triennia (GM5-GM10, 1974-1989) witnessed only a modest growth – one new member was admitted at each consecutive GM: Finland, German DR, Brazil, PR China, Mexico, and Portugal.

The geopolitical upheaval in Europe during early 1990's generated a lot of activity in IUVSTA in order to adjust to the changed circumstances. Some member countries ceased to exist – German DR reunited with Federal Republic of Germany, while Yugoslavia dissolved into its constituent republics in several steps. USSR split into many former federal republics, while Czechoslovakia peacefully separated into the Czech Republic and Slovakia. At GM11 (1992) in The Hague, IUVSTA accommodated most of these sudden developments: Croatia, Korea, Romania, Russia, and Slovenia were admitted into full membership, while the German DR and Yugoslavia were deleted from IUVSTA. That was the beginning of a dynamic period in IUVSTA history which lasts until today, during which some member-societies were terminated (Czechoslovakia, Bulgaria) or suspended (Romania, Ukraine, Russia), while other new members were admitted upon their application – the Czech Republic, Slovakia, Pakistan, Iran, Argentina, and the Philippines. Quite recently, Bulgaria was readmitted into IUVSTA, making total full membership of 32 at the end of 2017.

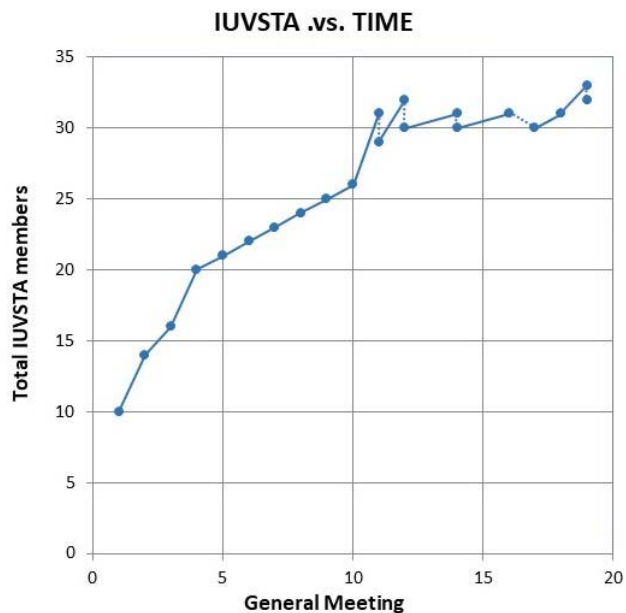
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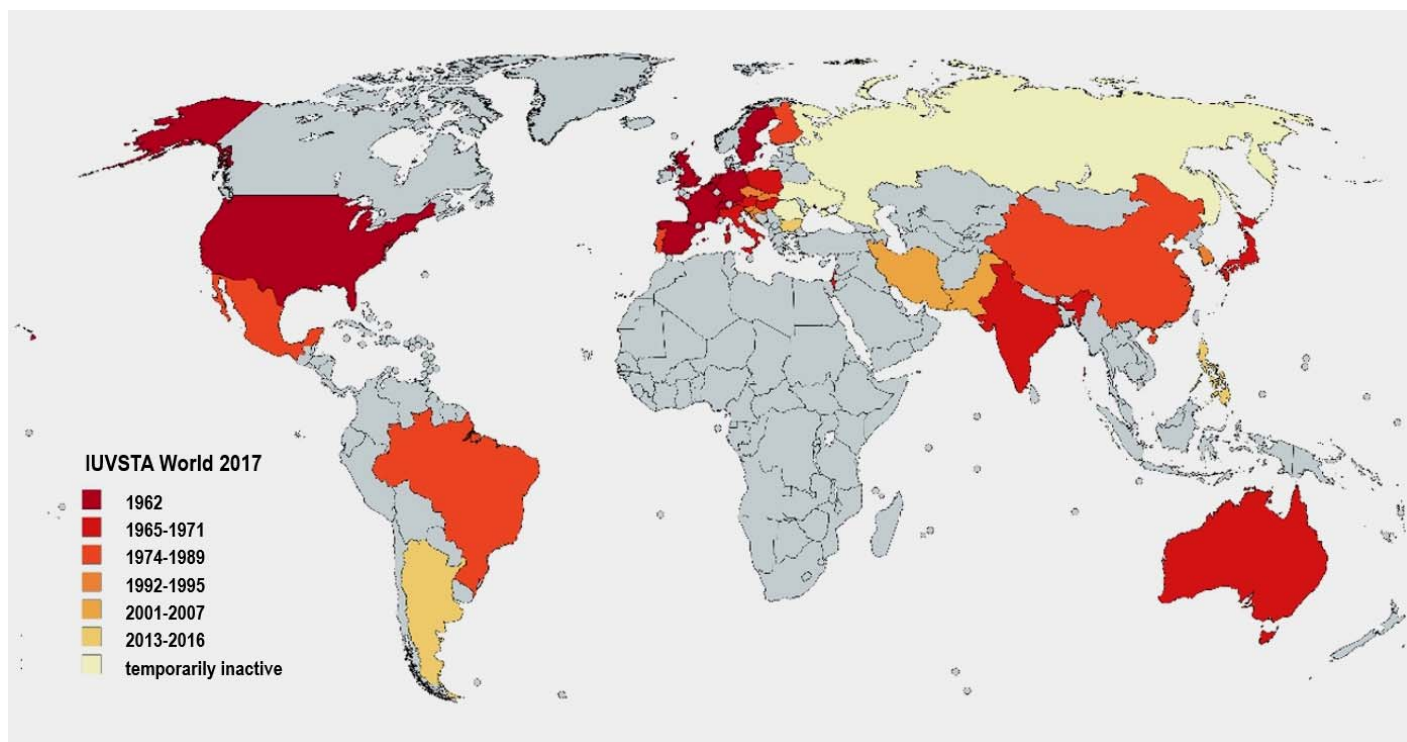


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In terms of global spread, the growth of IUVSTA is shown on the map. In 2017, about 64% of world population lived in IUVSTA countries, and generated about 93% of the world GDP (WB data – these figures include three currently suspended countries). That makes IUVSTA a global and influential organization with clear potential for further growth.





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IUVSTA strength lies in continuous participation by its members, symbolically united in a collective photo of IUVSTA members in 2018:



In „IUVSTA – Science and Technology for Society across the World“ - published on the occasion of IUVSTA 60th Anniversary, the short histories of actual, suspended, and historical IUVSTA members are presented as they are written by their own authors. You can view a flip-book version here:

<http://iuvsta.org/flipbook/files/assets/basic-html/page-1.html#>



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15th European Vacuum Conference, Geneva, 17-22 June 2018

Martin Wüest, Jörg Patscheider



EVC-15

The 15th European Vacuum conference took place in Geneva from 17-22 June 2018. It was the most successful EVC at least for the last 10 years with 292 conference attendees. In addition, there were 66 exhibitor persons representing 32 companies. Monday afternoon was reserved for a special IUVSTA Symposium to celebrate the 60th anniversary of its founding with special lectures. Joe Greene spoke on the 14-billion year history of the universe leading to modern materials science, while Anne L'Huillier presented an overview on exploring matter at ultrashort time scales. Cristoforo Benvenuti spoke about getter pumping for particle accelerators. The final presentation was given by Swiss astronaut Claude Nicollier, who fascinated the audience with a personal account of working in vacuum during extravehicular activities in low Earth orbit. This afternoon attracted an additional 42 IUVSTA guests, who came just for this session and the IUVSTA event at the CERN Globe. Each of the five conference days started with a plenary lecture, after which the conference program continued in three parallel sessions. An exclusive number of invited talks set the tone for the eight sessions, which extended over several consecutive days. The two poster sessions with over hundred contributions were very well attended. In additions to the topics represented by the IUVSTA divisions, a session dedicated to Vacuum in Accelerators complemented the program. Another highlight was the visit to CERN, the world's largest vacuum installation, on Thursday afternoon. The visit started with an introductory talk about high-energy physics in the conference room, where the discovery of the Higgs boson was announced several years ago. The participants enjoyed visiting various stations along the Large Hadron Collider with fascinating technologies and stunning findings. The day ended with the conference banquet at the Chateau de Penthes, located in a wonderful park overlooking Lake Geneva. After a week with plenty of interesting presentations, events and interactions among the participants, the conference ended on Friday at noon, releasing the participants full of rewarding impressions into a sunny weekend.



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A visit to CERN



Professor John Colligon, Founder of the EVC Series, points out highlights of its 30-year history



An aperitif with delicious refreshments started the conference dinner at the Chateau de Penthes.



At the conference dinner



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First European
Vacuum Conference
Salford UK from 11- 15 April 1988

EUROPEAN VACUUM CONFERENCE: THE FIRST 30 YEARS

Professor John Colligon; series founder
University of Huddersfield – STFC
E: John.Colligon@stfc.ac.uk T: +44 (0)1925 603948



15th European
Vacuum Conference
17 - 22 June 2018,
Geneva, Switzerland

The idea of a European Vacuum Conference (EVC) was first proposed by John Colligon during the 51st meeting of the International Union for Vacuum Science, Technique and Applications (IUVSTA) Executive Council held in Debrecen, Hungary. It was clear that the numerous vacuum societies in the European region did not have a joint conference to match the American Vacuum Society's annual symposium in the USA. The proposal was approved by the IUVSTA Executive Council and John Colligon was invited to set up and chair the first event. This, EVC-1, took place in Salford UK from 11- 15 April 1988 and was well supported. On the last day of EVC-1 IUVSTA held its first Highlights Seminar at which the chairs of its scientific divisions gave an overview of the state-of-art in their field. The 57th IUVSTA Executive Council meeting took place just after the conference in nearby Hale. Procedures for bidding and running future conferences were then established for this series with the Vacuum Science Division of IUVSTA responsible for seeking bids for future EVC's and John Colligon (who then became Secretary General of IUVSTA from 1989-1998) providing the IUVSTA link as series chair. The EVC series is now part of the established portfolio of IUVSTA meetings. It has provided a useful and well-supported forum for scientists based in Europe to exchange latest data in vacuum technology and vacuum-related science. It celebrates its 30 year anniversary at the same time as IUVSTA celebrates its 60 years of activity.

ORGANISING COMMITTEE

Dr A Chambers (Univ. of York) UK Chairman; Exhibition and
BVC Course Organiser
Dr J S Colligon (Univ. of Salford) European Chairman
Dr R K Fitch Proceedings Secretary
Dr M Holmes (Caburn UHV)
Mr P Nash (NPL, Teddington) Secretary
Dr J M Walls (VG Ionex)

EUROPEAN PROGRAMME COMMITTEE

Dr L P Andersson (Sweden) Conference Secretary
Dr P Barna (Hungary)
Dr J S Colligon (UK) Chairman
Dr K Eisele (FRG)
Dr J Leclerc (France)
Mr P Nash (UK)
Dr H Pulker (Austria/Liechtenstein)
Dr J Verhoeven (The Netherlands)

Figure 1a. Organizers of EVC 1



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INVITED SPEAKERS

Some of the topics and speakers already arranged are:-

- Afterglow and Decaying Plasma CVD Systems
L. Bardos (Czechoslovakia)
- Ion-Assisted Selective Deposition of Thin Films
S. Berg (Sweden)
- Fundamental Plasma Reactions and Phenomena Relative to Thin Film Technology
A Bubenzer (FRG)
- Development of the Jet Vessel as a consequence of recent Fusion Experiments
K J Dietz (FRG)
- Problems in pumping aggressive, poisonous and explosive Gases
P Duval (France)
- The Mimas Vacuum System
C Henriot (France)
- Chemical Vapour Deposition
M Hitchman (UK)
- Electron and Photon Stimulated Desorption as Probes of Structure and Bonding at Surfaces
T E Madey (USA)
- Recent Developments in Si MBE
E Rosencher (France)
- Gas Analysis by Mass Spectrometry; Calibration Techniques and Applications
G W Schwarzingner (Austria)

Figure 1a. Invited Speakers at EVC 1

I have picked out a few items from the 30 year history of the EVC. It clearly has had a role in supporting local vacuum society conferences and thereby encouraging participation by scientists from overseas in their programme. This, in turn, has encouraged IUVSTA to run its Executive Council meetings and some short courses and workshops at, or near to, the same venue.

I am grateful to Lynn Provo, who was editor of the IUSTA News bulletin for many years, for finding the data in Figure 1 which shows the names of those involved in setting up and contributing to EVC-1.

Also I wish to thank Dr Austin Chambers who set up a wonderful manufacturers' exhibition. Figure 2 shows John Coburn, Ian Owen and me in discussion at that event. In addition delegates attended a Jacobean Banquet at Worsley Old Hall, near Salford (Figure 3). Here there was traditional fare with the added challenge to devour the meal using only a dagger. An excellent choir gave musical support and a Jester and plenty of Mead to drink made for a happy evening. EVC-1 was not all work. Over 50 delegates attended a concert by Manchester Philharmonic Orchestra on the Sunday evening before the conference began. The programme is shown in Figure 4.

A visit was also arranged to the ancient walled city of Chester, which was occupied by the Romans in the years -50 to +50 AD.

The EVC did, indeed, move around Europe as the venues list in Table 1 below shows.



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


Fig 2 EVC 1 Exhibition; John Colligon talking with John Coburn and Ian Owen



Figure 3: EVC-1 delegates at the Jacobean Banquet

Hallé
ORCHESTRA
Leaders: Michael Davis and Pan Hon Lee

Sponsored by The Co-op 

OKKO KAMU
Conductor

STOIKA MILANOVA
Soloist

National Anthem


GLINKA
Overture, Russlan and Ludmilla

BEETHOVEN
Violin Concerto in D

interval

SIBELIUS
The Swan of Tuonela

SIBELIUS
Symphony No. 5 in E flat


MANCHESTER FREE TRADE HALL
Wed/Thu/Sun 13/14/17 April 1988 at 7.30 p.m.
Programme seventy pence

The Hallé Concerts Society is subsidised by:
The Arts Council of Great Britain, the Association of
Greater Manchester Authorities, Manchester City Council
and Cheshire and Lancashire County Councils.


 Arts Council Funded

Figure 3: Programme of a Concert by the Hallé Orchestra attended by over 50 EVC 1 delegates



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TABLE 1 EVC venues

EVC-1	11-15 April 1988	Salford (GB)
EVC-2	21-26 May 1990	Trieste (I)
EVC-3	23-27 September 1991	Vienna (A)
EVC-4	13-17 June 1994	Uppsala (S)
EVC-5	23-27 September 1996	Salamanca (E)
EVC-6	7-10 December 1999	Lyon (F)
EVC-7	17-21 September 2001	Madrid (E)
EVC-8	23-26 June 2003	Berlin (D)
<u>EVC-9</u>	4-7 April 2005	Paris (F)
EVC-10	22-26 September 2008	Hungary (H)
<u>EVC-11</u>	20-24 September 2010	Salamanca(E)
<u>EVC-12</u>	04-08 June 2012	Dubrovnik (HR)
<u>EVC-13</u>	08-12 September 2014	Aveiro (PT)
<u>EVC-14</u>	06-10 June 2016	Portoroz (SI)
<u>EVC-15</u>	17-22 June 2018	Geneva (CH)

John Colligon: 15th July 2018



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87th IUVSTA Workshop: Nanostructured surfaces, June 24 - 28, 2019, Trzebnica, Poland

<http://www.iwsp2019.ifd.uni.wroc.pl>

Scope

The Institute of Experimental Physics of the University of Wrocław organizes the International Workshop on Surface Physics (IWSP-2019). The forthcoming IWSP-2019 will be a 87th IUVSTA workshop and a satellite conference to IVC-21. The leading theme of the workshop is "Nanostructured surfaces". The aim is to provide an overview of the current state of research in this field, report the latest achievements, show perspectives and discuss the most probable paths of progress of surface science. The workshop is intended to be a platform for scientists of different fields from academia and scientific laboratories.

The scientific program of IWSP-2019 will cover such phenomena as: adsorption, desorption, diffusion of atoms and molecules on surfaces, molecular self-assembly and growth of thin films, nanostructured and functionalized materials, electronic and atomic structure of interfaces and low-dimensional systems, solid-gas and solid-liquid interfaces, as well as the methods of characterization of surface superstructures. However, other areas of frontier research related to understanding and controlling the physical and chemical properties of surfaces and interfaces will be also represented. Special sessions dedicated to these issues are planned.



Invited speakers

Grażyna Antczak, University of Wrocław, Poland
Peter Broekmann, Universität Bern, Switzerland,
Alessandro Fortunelli, ICCOM-CNR U.O.S. di Pisa, Italy
Mieczysław Jałochowski, UMCS Lublin, Poland
Takashi Kumagai, FHI MPG Berlin, Germany
Nian Lin, Hong Kong University of Science and Technology, China
Gareth Parkinson, Technische Universität Wien, Austria
Talat Rahman, University of Central Florida, USA
Martin Sterrer, Karl-Franzens Universität Graz, Austria
Christian Tusche, Forschungszentrum Jülich, Germany
Olaf Magnussen, Christian-Albrechts-Universität zu Kiel, Germany

Important dates:

Full registration of participants and abstract submission: April 1, 2019

Workshop: June 24 – 28, 2019

Organizers

Marek Nowicki
University of Wrocław, Poland
nowicki@ifd.uni.wroc.pl
Ireneusz Morawski
University of Wrocław, Poland
imorawski@ifd.uni.wroc.pl