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IUVSTA Communications Committee Chair



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

IUVSTA President's Message

Anouk GALTAYRIES, anouk.galtayries@chimieparistech.psl.eu

Dear IUVSTA Colleagues,

We had the opportunity to meet and discuss at the last IUVSTA ECM 134, whose report is available to you in this #187 issue.

It was the third teleconference meeting in a row for our Union, which reveals how difficult and long is this time of the world pandemic. If we take it positively, this mode of exchanges is an opportunity to increase our capacity to meet with all member societies in euro-free, CO₂-free meetings! **I strongly encourage all members, especially new members who are not very familiar with the Union operation, to participate with a simple connection** (when access to internet is easy).



Let's keep a positive attitude for the next weeks, as at IUVSTA we are both:

- maintaining scientific activities, **with the historical shift for IUVSTA towards 100% electronic meetings**: (i) the ICTF18+JVC18 conference in Budapest, (ii) the first virtual, immensely popular Workshop on HIPIMS last January (about 300 connections) and (iii) the first virtual, Facebook-streamed, Technical Training Course on

plasma science last week with the help of the Philippines Vacuum Society (90 participants and more in the stream!),
- celebrating giants of the scientific history of IUVSTA with the person of Peter B. Barna, from the Hungarian Vacuum Society. Congratulations to our new Honorary President!

Take also the time to discover the opportunities offered by the **International Year of Basic Sciences for Sustainable Development (IYBSSD2022)** explained for you in this letter, as well as the ones of the **2021 call for IUVSTA Welch Award Applications**, both celebrating the 2021 scientific spring blooming over the IUVSTA world.



A 400-year-old shidare-zakura tree in Tsukuba (Japan). Provided by Yasunori Tanimoto (Japan Society of Vacuum and Surface Science)



Report on ECM 134, Teleconference Meeting

Christoph Eisenmenger-Sittner, christoph.eisenmenger@ifp.tuwien.ac.at

ECM 134 was held on Friday, March 19th 2021 as a virtual Executive Council Meeting because of the dragging Covid-19 situation.

In their virtual form, ECM 134 and the associated meetings took place on Wednesday, March 17th, starting with the Officers Business Meeting, followed by Committee meetings and the STD meeting on Thursday March 18th, and finally with ECM 134 on Friday, March 19th, 2021. Embedded in ECM 134 the Union also held its 7th Annual General Meeting, AGM 7. In AGM 7 the budgets of 2020 and 2021 were ratified. Apart from these two items, the agenda of AGM 7 also contained one extraordinary item, the vote of the General Meeting on the proposal to grant Peter B. Barna the honorary presidency of the Union.

After the President, Anouk Galtayries opened ECM 134, the Secretary General C. Eisenmenger-Sittner in collaboration with the Recording Secretary, Ana G. Silva checked the attendance. Both, ECM 134 and AGM 7 were found to be safely quorate with around 80% participation. As the quorum was established, the President adjourned ECM 134 and opened the 7th Annual General Meeting of the Union, AGM 7.

The basic items of the agenda of AGM 7 were the ratification of the validated budget of 2020 and of the proposed budget of 2021. Before putting these items to a vote, the treasurer, Arnaud Delcorte, gave a brief report on the financial status of the Union, which can be considered as very sound and well- managed. Based on this report both budget items were unanimously approved.

As a special item on the Agenda of AGM 7 it was proposed to grant the Honorary Presidency of the Union to Peter B. Barna for his outstanding services to the Union and for his scientific achievements which were also closely tied to the development of IUVSTA during the period of the cold war. Before voting on this proposal the President, Anouk Galtayries, invited Ivan Petrov to give a short presentation of Peter Barna and his scientific career and contribution to IUVSTA. Ivan Petrov highlighted the enormous contribution of Peter Barna to science and to IUVSTA, mentioning in addition the awards given to Peter Barna along the years. Within IUVSTA, Peter Barna was the one of the founders of the Thin Film Division and of the International Thin Film Conference (ICTF) series. After this brief presentation the proposal was put to a vote and the title of Honorary President of IUVSTA was granted to Peter Barna unanimously. Peter Barna, who was present at the meeting, felt deeply honoured and expressed his gratefulness to IUVSTA for the recognition and for the title of Honorary President of IUVSTA. His speech is presented below. Anouk Galtayries acknowledged the words of Peter Barna, referring to this moment as a great event for IUVSTA

After this special item, AGM 7 was closed, and ECM 134 was resumed. In her report the IUVSTA President, Anouk Galtayries, referred to the demanding times and difficulties of having to cope with so many mobility constraints due to the pandemic situation. Nevertheless, IUVSTA has been active as an International Scientific Union, as the following items show:

- i) two international scientific meetings, held totally virtual, were a great success, namely the 18th International Thin Film Conference and 18th Joint Vacuum Conference, 22-26 November, 2020 and the 96th IUVSTA workshop "HiPIMS Today" January 20-22, 2021
- ii) webinars in association with IOP reached a considerable number of international attendants and further webinars are already planned, the next one in May 2021



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- iii) the endorsement and association of IUVSTA to the International Year of Basic Sciences for Sustainable Development (IYBSSD) 2022 Organization can be of benefit for all members and also for the IUVSTA IVC congress and,
- iv) the informal and virtual monthly meetings of IUVSTA Officers have been very productive and can be kept for the future

Anouk Galtayries also highlighted that the success of IUVSTA under such circumstances is only possible due to the support and commitment of the IUVSTA members.

As conclusion, besides the impossibility of having face-to-face meetings and scientific events in person, which is desirable especially for big events and associated exhibitions, the President was optimistic for the future and prospects of IUVSTA as an International Scientific Union.

Extensive committee reports were given on Thursday March 18th. Finance Committee, Congress Planning Committee, Awards and Scholarship Committee and Education Committee were presented by the respective Chairs. During extensive discussions questions were answered and new strategies to cope with the persistent challenging situation were outlined. During ECM 134 no further questions or remarks were addressed to the committee chairs.

The next item on the Agenda of ECM 134 was the STD report. The proposal for one School was considered by STD. It was recommended to ECM 134 and put to a vote. The School proposal entitled "Physics at the Nanoscale", proposed by the Nanometer Structures Division as a virtual event was approved as IUVSTA School number 18 with a funding of EUR 4 000. In addition, a motion was put forward to financially support the ICN+T meeting up to an amount of 2 000 € maximum for sponsoring a session and to cover student registrations. This financial support was approved unanimously by ECM134. Finally, the Scientific Director, Jay Hendricks, acknowledged all Division Chairs, the Scientific Secretary Katsuyuki Fukutani and the chair of the Education Committee, Alberto Tagliaferro, for their work and efforts.

After these decisions the meeting continued with the selection of sites for future ECMs and the associated Annual General Meetings (AGMs). For the next ECM 135 several possibilities were discussed. No decision was yet made about the form of ECM 135, whether face-to-face, hybrid or 100% virtual. In case of a face-to-face or hybrid meeting it was proposed to associate ECM 135 to EVC 16 in Marseille, November this year. Details will be discussed during one of the Officers monthly meetings. Regarding the date, it was approved that ECM 135 would be held on the weekend 19-21 November 2021 in any case. Regarding ECM 136, the date and place for this will depend on the date of IVC 22 which is likely to be shifted to 2023. However, one possible date for ECM 136 is March 2022.

Before closing the meeting, several delegates announced news related to events of their national societies. Amongst these were Christian Lorenz S. Mahinay from the Philippines Vacuum Society, who announced that the national Society meeting would be held in January 2022 and Emmanuel Haro-Poniatowski, from the Mexican Vacuum Society who informed that the Societies International Conference was planned for 26th September to 1st October 2021, as a face-to-face event of 100 – 150 participants. There were several other announcements which proved, that the member societies of the Union are being very active despite the Covid 19 crisis.

Finally, The President, Anouk Galtayries, expressed her gratitude to all attendants in the ECM 134 and closed the Meeting.



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Peter B. Barna speech at the 7th Annual General Meeting of the Union

Dear Mrs President,
Dear Mr. Secretary General,
Distinguished Members of the General Meeting,

I think it is understandable that I was very touched now in these minutes when I was listening to the General Meeting's decision that, based on my work done for the benefit of IUVSTA and on the evaluation of my scientific achievements, the IUVSTA Annual General Meeting honored me with the title of Honorary President of IUVSTA. Something I never thought would happen: You included me among the honorary presidents of IUVSTA I always looked up to, of whom I was happy to work with Professor Max Auwarter in organizing ICTF3 (Budapest, 1975) and then in establishing the IUVSTA Thin Film Division. Allow me to express my gratitude to you.

All what I did was driven by my motivation and I saw as a service in the interest of IUVSTA and researchers during the Cold War period in the East-European countries who had been working isolated from the international scientific public life. During my activity in the frame of IUVSTA it was inspiring for me to meet several colleagues who also been working also by motivation for the interest of our community. I believe that the fact that IUVSTA has become so active today, perhaps the most significant international organization in its field, can be attributed to the self-sacrificing work of the members, in addition to the current council and committees.

As an encouragement to young people, I would also like to mention that organizing events and service to the community can be a great experience and one can benefit also a lot professionally.

I feel obliged to repeat what I said on the Budapest conference and remember my mentors, who were my exemplars in my service and those who have offered altruistic help to me both from Hungary and from the various parts of the world. They supported and encouraged me. Let me mention Professors Jenő Pócza and György Szigeti among them who helped me get into the international scientific life, into the organization of conferences and schools and showed examples in the selfless service to the scientific society. Let me mention Professors Joe Greene and John Colligon as well, who regularly lectured at our conferences and, as editors-in-chief, published several conference proceedings.

And finally, when I express my gratitude for granting me this high honour again, I would like to offer my service. I will be pleased to be informed on the current news on IUVSTA activities. And, please, accept with understanding if I raise an idea even if at first glance it seems to come from a way of thinking and perception I have brought from the past, and give it a consideration before discarding it.



Professor Peter B. Barna



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2022 is *International Year of Basic Sciences for Sustainable Development* and we need it more than ever!

Martin R. S. McCoustra, M.R.S.McCoustra@hw.ac.uk

Over the last nearly 18 months, we have seen massive disruption across the globe due to the COVID-19 pandemic associated with the SARS-CoV-2 virus. But how much worse could the situation have been without the progress underpinned by decades, even centuries, of curiosity-driven scientific research?

We mourn the many deaths due to COVID-19, and look to an uncertain future as new rapidly spreading variants are detected. But, how could we have known that the infection was caused by a virus? How could we have known what the SARS-CoV-2 virus looks like? And how could we know its genetic profile and that of its variants? Only through basic research! Frederick Twort, Félix d'Hérelle and many others helped to identify viruses at the beginning of the 20th century. The first electron microscope was built in the 1930s by Ernst Ruska and Max Knoll; and DNA sequencing began in the mid-1970s, notably with research by the groups of Frederick Sanger and Walter Gilbert. Some of that work saw the application of vacuum science and technology.

We could continue such a list, with basic research at the root of tests, treatments, vaccines, epidemiological modelling, and so on. We even owe high-speed, long-distance communications, which allow us to coordinate the fight against the pandemic and reduce interruptions in education, economic activity and even the practice of science, to the discovery and study of electromagnetic waves and optical fibres during the 19th century, and to the development of algorithms and computers codes during the 20th century. The COVID-19 pandemic is a reminder (admittedly so harsh and brutal that we would have preferred to have been spared) of how much we rely on the continuous development of basic sciences for a balanced, sustainable and inclusive development of the planet.

On many other issues, basic sciences have an important contribution to make to progress towards a sustainable future for all, as outlined in [Agenda 2030 and its 17 Sustainable Development Goals](#), adopted in September 2015 by the United Nations General Assembly. Basic sciences provide the essential means to address major challenges such as universal access to food, energy and sanitation. They enable us to understand the impacts of the nearly 8 billion people currently living on the planet on the environments that we inhabit and use, on climate, and on life on Earth itself; and to act to limit and reduce these impacts.

Indeed, unlike our use of natural resources, the development of the basic sciences is sustainable *par excellence*. From generation to generation, it builds up a reservoir of knowledge that subsequent generations can use to apply to the problems they will face, which we may not even know about today. It prevents us re-inventing the wheel!

International Year of Basic Sciences for Sustainable Development (IYBSSD) will focus on the links between Basic Sciences and the Sustainable Development Goals. It is planned for 2022 and organised by a consortium of international scientific unions and organisations led by [IUPAP](#) including [IUCr](#), [IMA](#), [IMU](#), [IUBS](#), [IUGG](#), [IUPAC](#), [IUHPST](#), [IUMRS](#), [IUVSTA](#); [CERN](#), [IRD](#), [IIASA](#), [EPS](#), [JINR](#), [NuPECC](#), [ICTP](#), [ISC](#), [Rencontres du Vietnam](#), [SCOR](#), [SKAO](#),





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SESAME. It builds on the recommendation of a resolution passed by the UNESCO General Conference during its 40th session in 2019. Over 50 national and international science academies and learned societies and around 30 Nobel Prize laureates and Fields Medallists also support this initiative. The Dominican Republic has agreed to propose a resolution for the proclamation of the International Year during the 76th session of the United Nations General Assembly, beginning in September 2021.

We very much hope that scientists, in fact all people interested in basic science, will mobilise across our planet and take this opportunity to convince stakeholders (the general public, teachers, company managers, policymakers, *etc.*) that through a basic understanding of nature, inclusive (especially by empowering more women) and collaborative well-informed actions will be more effective for the global common interest. We especially invite all vacuum scientists and their organizations to create or join national IYBSSD 2022 committees to organise events and activities during this international year.

Further information and communication materials can be found at www.iybssd2022.org. This will also be shared through social media accounts (look for @iybssd2022 on [Facebook](https://www.facebook.com/iybssd2022), [Twitter](https://twitter.com/iybssd2022), [LinkedIn](https://www.linkedin.com/company/iybssd2022) and [Instagram](https://www.instagram.com/iybssd2022)). You are also invited to subscribe to the Newsletter [here \(www.iybssd2022.org\)](http://www.iybssd2022.org).

Founding Unions & Partners

These organizations lead IYBSSD 2022



Screengrab from www.iybssd2022.org showing IUVSTA among the Founding Unions



The 2021 International M. W. Welch Scholarship Award

Dear IUVSTA Colleagues,

Please advertise this **Opportunity for Outstanding Young Scientists to Travel and Work at a Foreign Lab**, the IUVSTA Welch Scholarship Award (<https://iuvsta.org/welch-scholarship/>). This award will provide USD 15,000 for a young researcher to travel to and work at a lab in another country. “Young” is defined as within one year of a PhD, or up to two years after obtaining a PhD. The duration of the stay is between 3 months and 1 year. The duration depends upon the cost of living of the location chosen and level of the applicant.

A partial list of laboratories willing to host the awardee can be found here:

https://iuvsta.org/main/wp-content/uploads/2018/04/4.6-Update_Possible-Welch-Scholarship-Hosting-Laboratories_v2.xlsx

Note that this list is not exhaustive, and the candidate is welcome to propose any laboratory which is willing to host the stay.

A link to the application can be found here:

<https://iuvsta.org/welch-scholarship-application/>

It will require uploading a CV, a plan of the research to be done, a letter from the hosting institution, and two reference letters. The successful candidate will be of outstanding merit and have a research plan which will have significant impact on the candidate’s career. The application deadline is: June 15, 2021.

We are hoping to have many applicants to choose from, so please spread the word about this opportunity far and wide. Last year we had only 5 applicants and the winner was a person who studied in Canada who will be spending his stay in Japan. This is an excellent opportunity for young scientists/engineers!

For questions please contact

Chair of the IUVSTA Welch Award Committee:

Dr. Anton P.J. Stampfl

Australian Nuclear Science and Technology Organisation

Address: New Illawarra Rd, Lucas Heights NSW 2234

Postal address: Locked Bag 2001, Kirrawee DC NSW 2232

Australia

welchaward@iuvsta.org

Thank you very much!

Martin Wüest

Chair IUVSTA Awards

and Scholarship Committee

Anton Stampfl

Chair IUVSTA Welch Award Committee



Application deadline: June 15, 2021

 **2021 International IUVSTA Welch Scholarship Award**

This award will provide 15,000 USD for an outstanding young researcher to study vacuum science, techniques or applications at a lab in another country.

Details: <https://iuvsta.org/welch-scholarship/>

 IUVSTA  @IUVSTA

@LaurentArdhuin



IUVSTA Webinar Series

Alberto Tagliaferro, alberto.tagliaferro@polito.it

Among its activities aimed to foster the dissemination of science IUVSTA has recently started a new project: the IUVSTA webinar series. The webinars address a wide range of topics at different levels. Although the project started with the aim to provide science to people of less developed countries with limited financial resources to attend events outside their country, the pandemic onset boosted its relevance as it allows science to reach out people that cannot travel anymore to schools, workshops, conferences, etc. IUVSTA aim is now to reach out to people interested and involved in science all over the world (from students to young researchers, but not only) and provide them with high level scientific information on a broad spectrum of subjects. Webinars are delivered by world renowned experts and their typical duration is of about 1 hour. Attendees can follow the webinars either during their broadcast or later as the webinars are stored in a repository. The webinars are broadcasted by IOP Publishing (<https://iopublishing.org/>) through their PhysicsWorld (<https://physicsworld.com/>) webinar platform and later stored in the IUVSTA webinar repository. The access to the webinars requires a registration but comes at no cost.

Webinars have already been delivered on the following subjects: ‘Introduction to scanning Auger spectroscopy and microscopy’; ‘Focused Ion Beam: a ‘tool’ for micro/nano fabrication and characterization’, ‘Surface analysis of nanomaterials: needs and challenges’, ‘An Introduction to Nanoparticles: Basic Characteristics and Preparation’; ‘Chemical and nanostructural aspects of the characterization of ceria-based mixed oxides and supported metal catalysts’.

The next webinar will be delivered in early June 8th, 2021 by Dr. Jay H. Hendricks, NIST on a Chip Deputy Program Manager, The National Institute of Standards and Technology, USA, entitled “Quantum-Based Pressure and Vacuum Measurements and NIST on a Chip “

If you are interested to become a lecturer or you are looking for more information on IUVSTA webinars, please, contact the following email address: iuvstawebinar@iuvsta.org



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News from the Israel Vacuum Society (IVC)

At the IVS, we are proud to introduce a new series of webinars "Big Topics from Top Scientists"

Every month a renowned top scientist will introduce a topic of general interest, present the most relevant research results, and offer an outlook on future research directions and applications. The 45 min. talk will be followed by a Q&A session where all the participants can ask questions to the speaker (15 - 30 min.). This is an excellent opportunity for graduate students as well as faculty members to get an exciting overview on specific research topics and might open new directions for collaborations on future research. We believe that these webinars will intrigue and enhance our scientific knowledge. To aid your interest further, the video records of all the previously held IVS webinar series lectures are now available on the IVS Webinar Series webpage. More lectures will be uploaded as the series moves forward.

Here is the link for the IVS Webinars:

<https://www.ivs.org.il/IVS2016/Templates/ShowPage.asp?DBID=1&LNGID=1&TMID=84&FID=2415>

For further details, please, contact Dr. Haim Barak, e-mail: haim1908@gmail.com



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News from the French Vacuum Society

<https://www.plathinium.com/>

13-17 September 2021
Antibes, French Riviera
WWW.PLATHINIUM.COM

HOME THE CONFERENCE INSIDE THE EVENT THE EXHIBITION ABSTRACTS REGISTRATION INFORMATION



The call for papers remains opened for poster submissions until July 31th, 2021

<https://www.euradh2021.com/>

10-14 OCTOBER 2021
ANTIBES, FRENCH RIVIERA

www.vide.org
WWW.EURADH2021.COM



<https://www.evc16.org/>

21-26 NOVEMBER 2021
MARSEILLE, FRANCE

www.vide.org

www.evc16.org



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News from the American Vacuum Society

<https://icmctf2021.avs.org/>



https://avs.swoogo.com/avs_posters21



<https://ald2021.avs.org/>



<https://avs67.avs.org/>

