

**Minutes of the IUVSTA STD meeting  
ECM 125  
Hotel Natura, Rogla, Slovenia  
Saturday March 11, 2017**

**1. Opening**

The STD Director David Ruzic opened the meeting at 14:30. According to the Agenda, a short welcome was followed by the attendance, in the attachment. Note: vote are present by the STD Director, Scientific Secretary, Education Chair, Miran Mozetic and the 9 division chairs, from which 7 are present in the room, so 10 votes are possible.

**2. Attendance**

Members: David Ruzic, Christoph Eisenmenger-Sittner (Sec. General), Mariano Anderle, Lars Montelius, Anouk Galtayries, Francois Reniers, Andrej Vincze, Deborah O`Connell (rec. secretary), Miguel Manso – BID chair, Ivana Capan – EMPD chair, Ana Silva – NSD chair, Deborah O`Connell – PSTD chair, Ivan Petrov – SED chair, Maria Carmen Asensio – SSD chair, Jay Hendricks – VSTD chair, and Miran Mozetic – Education Committee chair.

Observers: Joe Greene, Anton Stampfl, Jörg Patschneider, Daniel Verniere, Sylvie Bourgeois, Andras Berko, Martin Wuest, Manfred Leisch, Katsuyuki Fukutami, Slobodan Milosevic, Gyeun Young Yeom, Ulf Karlsson, Marcell Juni Ferreira, Timo Gans, Par Omling, Emanuel Haro Poniatowski, Stanislav Novak, Ute Bergner, Janez Kovac, Dietrich Zahn.

**3. Agenda**

The agenda was adopted as proposed with addition one more endorsement request.

**4. Approval of minutes**

The Minutes from the meeting of the STD meeting held in Gyeongju, Korea during the ECM 123 were posted to the IUVSTA web, no remarks or comments have been received. The minutes are confirmed and the members voted in favour. Similarly the short ECM 124 STD report was approved.

**5. Divisional reports**

**Some other issues are focusing to the conferences being organised this and the next years, consequently related to the IVC and EVC series of IUVSTA. More details are below, selected from the submitted reports to the Sci. Secretary.**

**APSSD, Leszek Markowski, - Chair**

**Report of the Applied Surface Science Division to the ECM-125  
Rogla, Slovenia, March 10 – 12, 2017**

A) Past events

**1. IVC-20 (with ICSS-16, ICN+T 2016, VASSCAA-8, 25th KVS, ITC 2016, ISPB 2016) which has been held in Busan, Korea (South) in August 22-26, 2016**

Basing on the information received from Prof. Young Kuk (Program Committee Chair) it is stated that the abstract submission results to the ASS section included **125** papers (among them **8** were invited). The final result of the submission procedure is presented in the table below.

Topic Name	Total	Poster	Oral	Invited
AS 01. Quantitative Surface and Interface Analysis	<b>11</b>	4	9	10
AS 02. Surface Chemistry and Catalysis *(w/ SS)	<b>2</b>	2	1	
AS 03. Surface Modification	<b>23</b>	18	7	
AS 04. New Approaches and Novel Applications for Surface Analysis	<b>11</b>	2	9	
AS 05. In-situ or Operando Surface/Interface/Nanomaterials Characterization	<b>9</b>	4	5	
AS 06. Oxidation, Corrosion, and Insulating Films Analysis	<b>10</b>	7	3	
AS 07. Polymer, Organic and Biomaterials Characterization *(w/ BI)	<b>9</b>	5	4	
AS 08. Surface Science in Energy Related Materials *(w/ EMP, AE)	<b>19</b>	15	5	
AS 09. New Instrumentation for Surface and Nano Characterization *(w/ SS, NS, ICNT)	<b>7</b>	3	4	
AS 10. Industrial Applications of Surface Analysis	<b>2</b>	0	2	
AS 11. Depth-profiling, Imaging, and Chemical Mapping	<b>7</b>	3	4	
AS 12. Tribology and Adhesion	<b>0</b>	0	0	
AS 13. Catalysis (Photocatalysis, Green-catalysis) *(w/ AE)	<b>7</b>	4	3	
<b>Total</b>	<b>131</b>	<b>67</b>	<b>56</b>	<b>10</b>

During this Congress the following ASSD members have been acted as the members of International Programme Committee of IVC-20: Yongsup Park (Korea) (Chair), Bonnie J. Tyler (UK) (Co-Chair, John Grant (USA), Carlos Jose Tavares (Portugal), Francois Reniers (Belgium), Leszek Markowski (Poland). The Applied Surface Science field was divided into 13 topics and include 1 Keynote and 9 Invited Speakers (see table above). Moreover, the abstract submission results in more than 130 oral and poster presentations. More IVC-20 details can be found on the IVC-20 webpage <http://www.ivc20.com/>

**2.** The IUVESTA Workshop No. 80 entitled “Ultra Low Emittance Light Source Vacuum Systems” has been held in Hsinchu (Taiwan), October 24 - 28 2016 (submitted by Taiwan Vacuum Society and sponsored by Vacuum Science and Technology Division). This Workshop was co-supported by ASSD.

**3.** The ASSD division of SOPORVAC, Portuguese Vacuum Society, organized a Vacuum workshop, VACUO 2016, together with the 20th National Physics Conference: <https://eventos.spf.pt/fisica2016/pt/workshop>

The event has been held on September 8 2016 at the University of Minho in Braga, Portugal.

Topics included Vacuum technology, Applied Surface Science, Thin Film deposition, among others.

## **B) Forthcoming**

**1. SIMS21 - 21st International Conference on Secondary Ion Mass Spectrometry, 10-15 September**

## **2017, Kraków, Poland**

This conference is supported by IUVESTA and the Polish Vacuum Society and sponsored by the Applied Surface Science Division and also supported by others IUVESTA Divisions (Biointerfaces, Nanometer Structures and Surface Science). One day before the conference (on Sunday, September 9, 2017) a IUVESTA Short Course is also organized (entitled: "Short course for new ideas on Secondary Ion Mass Spectrometry and related analytical techniques"). The course is planned for one day. It will start at 10.00 am and will last until 5.00 pm with breaks for a lunch and a coffee. Top notch experts (1. Alex Shard, National Physical Laboratory, England; 2. Arnaud Delcorte, Université de Louvain, Belgium; 3. Dan Graham, University of Washington, USA; 4. Birgit Hagenhoff, TASCAN, Germany; 5. Fred Stevie, North Carolina State University, USA) are invited to teach about details of operation of the technique itself as well as about currently hottest subjects of SIMS. **5 lectures devoted to:**

- Fundamental aspects of SIMS
  - State of the art SIMS experimental systems
  - Organic depth profiling – what is the depth resolution limit?
  - SIMS depth profiling in thin film materials for advanced microelectronics and photovoltaic devices
  - Successful navigation through the sea of ToF-SIMS data with Multivariate Analysis
- are planned.

The IUVESTA financial support (with amount of 2 400 Euro) related to this course has been considered, discussed and approved during ECM 123. On February 3<sup>rd</sup>, 2017 the updated version (with the names of lectures and new, strongly reduced rental fees of the lecture room and cafeteria) of application for IUVESTA sponsorship has been sent to Secretary General and Scientific Secretary of IUVESTA

**2.** The ASSD co-supported also proposal of IUVESTA Workshop on "Nanoporous materials for green energy conversion and storage", which will be submitted by the IUVESTA Surface Engineering Division. The workshop is planned to be held in Austria in fall 2018.

**BID, Miguel Manso, chair**

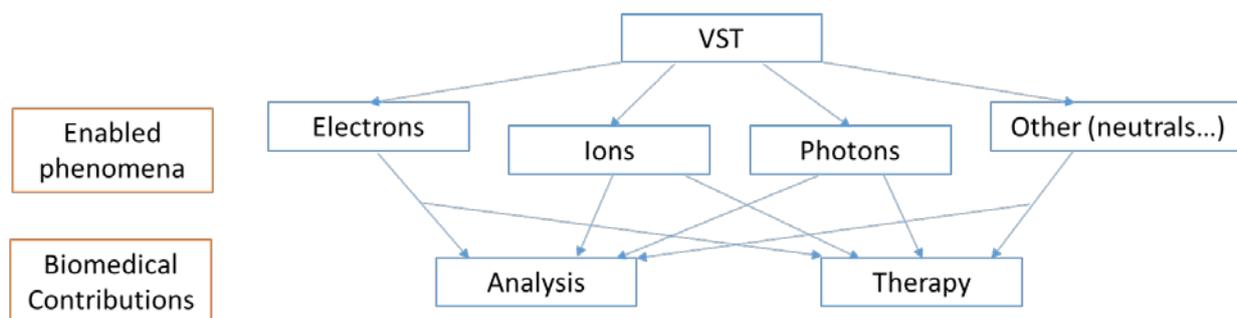
### **Activity Report from IUVESTA BI division: August 2016-February 2017**

In this semester the activities of the BI division concerned:

- Participation in COST call
- Support to IUVESTA endorsement for 2 Conferences.

#### 1) Participation in COST call:

- BI division members from COST participating countries were contacted to join a call for proposals for a COST action. The proposal "Vac4Life" was finally submitted counting with 14 national representatives (IUVESTA and non-IUVESTA). The proposal deals with networking actions pointing to training and research exchange with vacuum techniques applied in the biomedical field (Diagnostics or Therapy) as illustrated in image.



The proposal is currently under evaluation.

- 2) On Behalf of Prof. Ilya Reviakine (Washington University), BID supports the request for the endorsement of the Conference “Blood Surf” (Blood-biomaterial interface: where medicine and biology meet physical sciences and engineering) on the mechanisms underlying adverse reactions to foreign materials upon contact with blood, taking place in Madren Conference Center, Clemson, SC, USA (September 17 - 20, 2017).
- 3) As requested from Manuel Salmerón-Sanchez (main proposer) of the workshop, BID supports the request for endorsement of the “FEBS Workshop – Biological Surfaces and Interfaces: Interface Dynamics” taking place in San Feliu de Guixols (Catalonia, Spain) from 02 July – 07 July 2017. This workshop covers research into the dynamics of biological interfaces.
- 4) Follow-up of Bio topics in conferences?

### **EMPD, Ivana Capan, chair**

- 1. Ivana Capan (Chair)  
2. Detlev Grützmacher (Vice Chair)  
3. Reinhard Schwarz (Secretary)  
Very active (e-mail) correspondance between Division members
- EMP Division did not submit any application for Schools, Workshops, Technical training courses, or IUVSTA Short Courses
- EMP Division strongly supports application for Workshop „Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport Phenomena” proposed by NSD

### **NSD, Ana Silva, chair:**

**Activity Report of the IUVSTA Nanometer Structure Division (NSD) for ECM 125**  
**This written report has been prepared by the division officers for the ECM 125, to be held between 10th and 12th March 2017 in Rogla, Slovenia and covers the period between ECM 124 and 125.**

The OFFICERS of the NS Division are:

Chair: Ana Cristina G. Silva, Portugal

Vice-chair: Christian Teichert, Austria

Secretary Sidney R. Cohen, Israel

Activities

## Workshops

1) “Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of electronic interfaces and related transport phenomena”

Sidney Cohen from Weizmann Institute, Israel, Secretary of NSD division, will propose a four-day workshop be submitted to ECM125 on “Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport Phenomena” to be held 2nd - 5th September 2018 (Sunday-Wednesday). The proposed workshop will be followed by a one-day general symposium of the Israel Vacuum Society, on Thursday, with anticipated attendance of approximately 200 people. The Organizing Committee will be Sidney Cohen (Secretary of NSD), Hagai Cohen, and Christian Teichert (Vice-Chair of NSD). The scientific committee will be Ernesto Joselevich, Shahal Ilani and Ana Gomes Silva (Chair of NSD). The workshop will be presented in ECM 125, in Rogla, by Christian Teichert, Vice-chair of NSD division. The proposed workshop will take place at the new, state of the art, Lopatie Conference Center at the Weizmann Institute of Science in Rehovot, Israel, which also provides in-house assistance in planning, organization and management. This workshop is intended to foster a better understanding and interdisciplinary collaboration amongst today's experts and tomorrows leaders in characterization and understanding of nanoscale electrical phenomena, focussing on the blend between high spatial resolution and high energy resolution. The workshop will be organized with 16 invited talks (50 min) and an equal number of contributed talks (25 min) as well as one extended poster session giving exposure to young researchers. Social activities, including dinner in Tel Aviv/ Jaffa, and a tour to Jerusalem are included in the program. A partial and tentative list of 14 potential invited speakers is given, the final list will be prepared in cooperation with the NSD representatives of the National Committees. The full registration fee will be 280 € and for students a subsidized rate of 140 €. The Electronic Materials and Processes Division (EMPD) and Surface Science Division (SSD) are pleased to support the proposed workshop on “Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of electronic interfaces and related transport phenomena”.

2) The NSD supports the Workshop “Nanoporous Materials for Green Energy conversion and storage” if not in the same month that the workshop proposed by the NSD (September 2018), presented by Prof Christian Mitterer, Montanuniversität Leoben, Austria, Vice-president of Austria Vacuum Society and to be submitted by the IUVSTA Surface Engineering Division (SED).

## Education

First IUVSTA webinar presented by Alberto Tagliaferro member of NSD, National representative of Italy.

NSD supports the IUVSTA webinars promoted by Anouk Galtayries -President Elect of IUVSTA. NSD division will announce the webinar through different research institutions, Universities and within IUVSTA.

## Review Paper

Christian Teichert, Austria (Vice-Chair of NSD), Sidney Cohen, Israel (Secretary of NSD) and Ana G Silva, Portugal (Chair of NSD), contributed with a chapter “**Recent Advances in Nanoscience**” which will form part of the review paper “Recent Developments in Thin Films, Nanoscience, Biomaterials, Plasma Science, and Vacuum Technology” which is being prepared for publication in “Thin Solid Films”.

## International Conferences

### 1. 16th IUVSTA School June 2017

The main organizers, Antonin Fejfar and Tomáš Šikola, informed that the registration for the upcoming IUVSTA School, endorsed by NSD division, at Devět Skal, Czech Republic, taking place from June 12th to 17th, 2017, is open. The link of the school is <http://iss.fzu.cz/>.

### 2. ICN+T 2018

ICNT 2018 will be held in Brno, Czech Republic. The main organizers are Tomáš Šikola, University of Technology Brno and CEITEC, and Antonín Fejfar, Institute of Physics, Czech Academy of Sciences, Prague, date of the conference will be July 22 – 27 2018. Regarding ICNT + 2018 organization, Tomas Sikola reports that the company selected for the congress management, C-IN ([www.c-in.eu](http://www.c-in.eu)), has already

prepared the web pages of the conference with their assistance. The contract between the University and the company should be signed within two weeks, after which the web pages will be launched. At the same time the work on defining the programme committee will start. It is planned to select the plenary/key lecturers by July, most of invited speakers by November.

### 3. ICN+T 2020

The NSD has not yet been informed by the Chair of the Steering Committee Sander Otte whether he received bids for a potential ICN+T 2020.

### 4. IVC-21

NSD circulated within the NSD member societies questions asked by the IVC-21's organizer Heiner Linke: **a)** what do you consider the most important success factors of IVC-20? **b)** Which of the scientific areas covered by IVC-20 do you consider having the most current interest? **c)** With an eye on scientific renewal and future directions, which new scientific areas do you think should be strengthened or added in 2019? **d)** Are there any aspects of the program preparation work that you think would be good to do differently next time? The ensuing discussion elicited responses. Several responses were compiled and sent to the IVC-21 organizer Heiner Linke.

Ana G Silva, Christian Teichert and Sidney Cohen, Officers of NSD for the triennium 2016-2019

#### **PSTD, Deborah O'Connell**, division chair

Within the Plasma Science and Techniques division there will be an IUVESTA sponsored workshop on *'Response of Biological Materials to Plasma Treated Medium'* from 12th to 16th March 2017 in Rogla, Slovenia. A detailed report will be presented by Miran Mozetič at the next ECM-126.

An IUVESTA endorsed workshop on *'Industrial Application of Plasma Solutions'* was held from the 15th to 18th December 2016 in Siem Reap, Cambodia organised by Miran Mozetič. The workshop was a great success with many high profile international speakers and participants.

The Plasma Science and Techniques division is proposing a workshop on *'Plasma-based Atomic Layer Processes'*, Chair Satoshi Hamaguchi, Osaka University, to be held in December 2017 in Okinawa, Japan. Details will be presented during STD. The PST division also supports a bid from the Surface Engineering Division on *'nanoporous materials for green energy conversion and storage'* The Israeli National Division has organised the *'19th Conference on Plasma and its Applications'* in February 2017. There has been a proposal to the division to collate a list of conferences that division members chair, and share within the division and with other divisions, in order to promote members and increase visibility. If other divisions agree we could potentially trial this.

#### **SED, Ivan Petrov**, division chair

##### **SE 01. TF2 Nanostructured surfaces and coatings; architecturally designed multilayers**

**Jolanta KLEMBERG-SAPIEHA** Nanostructured Protective Coatings for Harsh Environments: From Design to Manufacture

**Maria DINESCU** DESIGNING MULTIFUNCTIONALITY OF LASER PROCESSED THIN FILMS/NANOSTRUCTURES THROUGH CHEMICAL PRESSURE AND EPITAXIAL STRAIN

**Jochen M. SCHNEIDER** Quantum Mechanically Guided Materials Design for Surface Engineering

**Weiguo LIU** Nano-structured and Architecturally Engineered Thin Films and Optical Surfaces

##### **SE03/TF13 Advances in surface engineering and deposition techniques**

**Susan KRUMDIECK** Crystal Structure Control in Pulsed-Pressure MOCVD

**Jyh-Wei LEE** Development of transition metal nitride hard coatings through the composition and processing control

##### **SE 04. Advanced protective coatings and tribological applications**

**Atsuo KAWANA** Development of the PVD ceramics coating and duplex treatment technology

##### **SE07/TF12 Surface engineering and thin films for biomedical/ biological application**

**Marcela BILEK** Energetic ion surface modifications for the one step functionalisation of scaffolds and porous materials: fundamentals and applications`

##### **New Ideas for workshops for 2017-2019**

- New horizons in Boron-containing coatings: modelling, synthesis and applications; Linköping University DATES:Spring 2018
- High entropy alloy coatings – Jochen Schneider, Diederik Depla
- Porous Materials for Green Energy Applications – Mitterer, Franz, Rebholz
- Hydrophilicity and Hydrophobicity at Solid Surfaces: Their Physics and Chemistry - Ken Nakamura
- Excited and Activated Oxygen Species for Surface Modification: Production, Processing, and Applications - Ken Nakamura

#### **Key steps in organizing IUVSTA for workshops**

**Solid scientific case** for a hot topic which has to be defended in front of the IUVSTA Scientific Technical Directorate and Executive Council meeting in competition with other divisions (we have experience and a good success rate at this stage) “The IUVSTA Workshop program was established to provide a forum for intense scientific debate and discussion between a small number of experts in a focused scientific field which falls within the area of activity of the Scientific Divisions of IUVSTA. The purpose of the Workshop program is scientific rather than educational. The format is intended to be rather similar to that of the US Gordon Conferences; specifically that they are informal, involve all delegates living together, typically in a relatively remote site (i.e. not in a large city), are small enough and long enough to ensure active debate (i.e. less than 50 delegates and typically 5 days duration). In order to guarantee the financial stability of such a meeting these meetings are supported by a contribution from the IUVSTA STD Discretionary Fund (currently a maximum of €6,000). They are organized by one or more of the Scientific Divisions.”

**Key role is played by the local organizers**, who take all the organizational and financial responsibility. It could be National Vacuum Society, typically lead by a team of one host institution, e.g University, Research Lab, etc

#### **SSD, Maria Carmen Asensio, division chair**

The main concern of the SSD during the first ECM of the new Triennium has been to ensure a valuable participation and visibility of the Division in all the events organized by the IUVSTA. In particular, former Chair of the division Prof. Peter Varga has presented the new structure and chair and vice-chairs of the SSD to VASCAA and ECOSS organizations guaranteeing an important role of IUVSTA in the future of these two important series of international conferences.

VASCAA, taking advantage that almost all board members were participating on the IVC in BUSAN, has organized a VASCAA International Steering Committee followed by a dinner. In the meeting the change of Prof. Y. Saito by Prof H. Kang as VASCAA chair has been decided. Also, after a brief discussion the Australian bid has been selected as the venue for the VASCAA-9 in 2018. Similarly, the general chair of the ECOSS, Prof. Petra Rudolf has contacted the new SSD chair and informed that Prof. M.C. Asensio has been designed member of the ECOSS International Steering Committee replacing Prof. Peter Varga.

Also, the new officers of the SSD have been confirmed as follow:

#### **Surface Science Division**

**Maria Carmen Asensio** Chair France [asensio@synchrotron-soleil.fr](mailto:asensio@synchrotron-soleil.fr)

**Mario Rocca** Vice-Chair Italy [rocca@fisica.unige.it](mailto:rocca@fisica.unige.it)

**Fumio Komori** Vice-Chair Japan [komori@issp.u-tokyo.ac.jp](mailto:komori@issp.u-tokyo.ac.jp)

Finally, the SSD has partially participated in still informal discussions together with the IUVSTA Educational Committee in order to organize in the near future Short courses and Schools in countries not related yet to the IUVSTA.

**TFD, Andrej Vincze on behalf of D. Depla informed about**

**Report TFD : ECM125 (March, 2017 in Rogla, Slovenia)**

## 1. Elections

For the triennium 2016-2019, the election procedure was started with a call for representatives. D. Depla expressed his interest to continue his function as secretary. Two candidacies were received for chair (or alternatively vice-chair) : F. Frascassi (It.) and P. Hovsepian (GB.). 18 (out of the 27 votes) were received. The members supported the candidacy of the secretary (D. Depla) to continue his function. Both colleagues interested in the function as chair received the same number of votes (9). After a short discussion among F. Frascassi, P.Hovsepian and D. Depla, F. Frascassi was proposed to become chair of the TFD, and P. Hovsepian vice-chair. The TFD agreed with this proposal.

## 2. Call for member information

All members were contacted to send to the secretary a photograph, the details of their research group, a website linked to the research group activities, and a few key words. Although the call was repeated a few times, not all members have responded yet. The chair, vice-chair and secretary plan to initiate the procedure again, and to present the results to all members of the TFD within the next six months. The overview will also be published in the next TFD report.

## 3. ICTF (International conference on thin films)

### 3.1. ICTF17

The report by the organizing committee for ICTF17 (India, New Delhi, November 13-17, 2017) is attached to this report. Despite the efforts of both the TFD secretary, the TFD chair, and the previous and current chair of the CPC to speed up the selection process for the plenary/invited speakers, the selection has not been finalized yet. The communication between the ICTF17 organizing committee is slow, and difficult. The response time to certain questions regarding lodging, planning and budget takes day to be answered, if answered at all. For example it is still not clear why foreign delegates pay a registration fee of \$600, while an Indian delegate can register for \$75. The discussion on the organization of short courses is on-going, but the final decision still not made. The TFD chair/vice-chair/secretary have expressed already their concerns, and follow up the situation as close as possible.

### 3.2. ICTF18

It is the tradition to start the bidding procedure for the next ICTF after the first ECM of the new triennium. Hence, more details will be given in the next report.

## Update of ICTF17

### Technical program:

**Plenary speakers: 4 Nos., Invited speakers: 95, Oral Presentation: 140, Poster: 300 in three session (100 in each session) under following sub-theme**

- ❖ Thin film metrology: precision measurement/characterization methods of thin film for thickness, surface, structure, properties etc & quantum standard.
- ❖ New approaches for thin film growth and characterization
- ❖ Thin film growth mechanism and models
- ❖ Plasma-surface interactions for thin film engineering
- ❖ Thin film multilayer and superlattices
- ❖ Nanostructured composite, multi-component & architecturally designed coatings
- ❖ Semiconductor, dielectric, ferroelectric & piezoelectric thin films
- ❖ Organic & carbon based thin films
- ❖ Magnetic, superconducting and multiferroic thin films
- ❖ Thin films for optoelectronics, nanoelectronics and spintronics
- ❖ Thin film solar cells: inorganic, organic, perovskites etc.
- ❖ Thin film sensors & actuators
- ❖ Industrial thin film coatings & applications
- ❖ Thin films and surfaces for biomedical applications
- ❖ Thin film for batteries
- ❖ Thin film instrumentation

**Status of the invited / plenary speakers.**

- Invited speakers: Target 95
  - 40 Nos. of invited speakers identified & approached.
  - Consent obtained from many & awaited from few.
  - Search for more is in progress
- Plenary speakers: Target: 4 Nos,
  - Approached many including noble laureates: None confirmed,
  - Waited from Prof. David Cahen, Weizmann Institute of Science, Israel
  - Search for 3Nos. in progress, expected to get soon

**Registration deadline and status of abstract submission**

Registration deadline is September 25, 2017 (without late fee).

The abstract submission date: July 10, 2017

**Sponsoring: number of sponsors**

Indian vacuum society (IVS) is working in collaboration with National Physical Laboratory, New Delhi in organizing the ICTF17. We have approached & in the process of approaching to many Indian Govt. agencies such as CSIR, DST, BRNS, ISRO, DRDO etc. for funding. Some vacuum based private firms also shown interest in giving sponsorship to conference.

**Awards:**

- IUVSTA-Elsevier Student Awards (Total 2000 Euros, 500 Euros max. for each student)
- IVS Awards (in oral & poster sessions)

**Short courses:**

we are planning to have two conference workshops on themes:

(1) Industrial thin film coatings

(2) Thin film solar cells.

In each theme there will be three/four lectures.

**Satellite events**

Evening Lectures (1 or 2)

Cultural Program (1 No.)

Conference dinner (3 Nos.)

**Others information:**

Event organizers/firms identified: M/s Alpcord Network, New Delhi

Firm will look after accommodation booking, registration, visa etc. for delegates through website ([www.ictf2017.in](http://www.ictf2017.in)). Accommodation in various hotels already blocked.

**VSTD, Jay Hendricks**, division chair

Quote form the VSTD report delivered by J. Hendricks

This report covers the activities of VSTD that have occurred since  
ECM123 in Gyeongju, Korea, August 19th, 2016

**VST Workshops, Schools and Technical Training****Workshops that were held:**

- 77<sup>th</sup> IUVSTA Workshop in conjunction with IVC20: "Surface Processes, Gas Dynamics, and Vacuum Technology of Cryogenic Vacuum Systems" Ichiro Arakawa, Katsuyuki Fukutani, Oleg

B. Malyshev, Paolo Chigiato “was held as a satellite meeting of IVC-20 **Aug. 17-21** in 2016 Korea. IUVSTA funding of 6000 Euro.

Brief Report: Work shop meeting was a success!

In the various modern applications of vacuum technology, the presence of a low temperature surface in a vacuum system is very common. The behaviour of such a system is often determined by the physical process at the cold surface. At this workshop, the physical basis of gas-surface processes at the cold surface and related phenomena will be discussed.

This is a workshop provided a forum for intense debate and discussion between a small number of experts in the field of science and technology of cryogenic vacuum systems. The workshop had Oral presentations (16) given by invited speakers, posters (13). IUVSTA funding covered 28% of the workshop cost. Total attendance, including as was 47, with 16 invited speakers, 13 participant posters, and 5 committee members, and 6 accompanying persons, and 7 industrial sponsors.



77<sup>th</sup> IUVSTA Workshop “Surface Processes, Gas Dynamics, and Vacuum Technology of Cryogenic Vacuum Systems” organized by Ichiro Arakawa was a big Success and IUVSTA support was greatly appreciated, covering 28% of the total cost.

- 80<sup>th</sup> IUVSTA Workshop for the Ultra-low Emittance Light Source Vacuum Systems: VSTD supported a workshop proposal entitled “Workshop for the Ultra-low Emittance Light Source Vacuum Systems” was held **24-28 October 2016** in Taiwan. <http://www.taiwanvacuum.org/index.php/en/ws80>. IUVSTA Workshop underwritten by Taiwan Vacuum Society (TVS) was organized by **International Organizing Committee (Chair\*)** Gao-Yu Hsiung\* (NSRRC, Taiwan), Hsiao-Chaun Hseuh (BNL, USA), Yoshio Saito (ICRR, Univ. Tokyo, Japan). Joe Herbert (ASTeC, UK), Tohru Honda (KEK, Japan), and Jay Hendricks (NIST, USA).

**The Program Committee consisted of:** Hsiao-Chaun Hseuh (BNL, USA), Eshraq Al-Dmour (MAX IV, Sweden), Paolo Chiggiato (CERN, Switzerland), Matthew Cox (Diamond, UK), Michael Hahn (ESRF, France), Jay Hendricks (NIST, USA), Joe Herbert (ASTeC, UK), Tohru Honda (KEK, Japan), Hsiao-Chaun Hseuh\* (BNL, USA), Gao-Yu Hsiung (NSRRC, Taiwan), Hsin-Pai Hsueh (NSRRC, Taiwan), Kazuhiko Mase (KEK, Japan), Yusuke Suetsugu (KEK, Japan). The goal of this workshop tries to find the best solutions on the vacuum design and manufacturing processes for those upgrading projects, and planning synchrotron light source facilities approaching to the ultra-low emittance  $< 1$  nm-rad. Presented by Gao Yu Hsiung at ECM121. The IUVSTA division chairs voted unanimously to forward to the ECM121 for a vote. The next day ECM121 voted to approve the workshop for 6,000 Euro.

Brief Report: Work shop meeting was a success!

About 50 participants from 26 organizations of 15 countries have attended the 80th IUVSTA Workshop and enjoyed the fruitful presentations and technical discussions on vacuum systems for the ultra-low emittance light source. Four-days program covers 32 presentations, a visit to the TPS light source, a reception, excursion, and workshop dinner etc. activated the brainstorming on those critical issues of vacuum design for the new or upgrade projects. The photographs and the program book can be downloaded for a good memory and the reference. All the participants can contact each other via the e-mails listed in the program book for further collaborations. The organizers wish the participants all the best and complete their projects with great achievement.





80<sup>th</sup> workshop on Ultra Low Emittance Light Source Vacuum Systems was a Great Success!!!  
 Oct 24-28, 2016, NSRRC, Hsinchu, Taiwan

- IUVSTA Short Course at IVC-20: Busan Aug. 21<sup>st</sup> was successfully held.  
 Short Course Offering: “Vacuum Gas Dynamics: Theory, Experiments and Applications”, Lecturers F. Sharipov, Brazil, Irina Graur, France, Oleg Malyshev, UK.

### Vacuum Gas Dynamics: Theory, Experiments and Applications

[Description](#)



**Felix Sharipov** Federal  
 University of Parana



**Irina Graur** Aix Marseille  
 University



**Oleg Malyshev** STFC  
 Daresbury Laboratory

The course addressed to students, scientists and engineers who are not experts in Rarefied Gas Dynamics who deal with this field in their routine work. It targets basic research training in Vacuum Gas Dynamics and provides a coherent and rigorous introduction into this field including relevant theoretical and experimental methods for practical applications.

### EVC-15 Planning has Started for 2018 Meeting!

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### Swiss Vacuum Society wins bid to host the 15<sup>th</sup> EVC in 2018

(Swiss Bid Champions: Prof. Dr. Hans-Arno Synal [synal@phys.ethz.ch](mailto:synal@phys.ethz.ch); [Martin.Wuest@inficon.com](mailto:Martin.Wuest@inficon.com) [Mauro.Taborelli@cern.ch](mailto:Mauro.Taborelli@cern.ch))

The members of the committee are:

Jörg Patscheider, EMPA, Dübendorf, Switzerland (chair)  
Janez Setina, IMT, Ljubljana, Slovenia  
Ulf Helmersson, Linköping University, Linköping, Sweden  
Maria C. Asensio, SOLEIL, Gif-sur-Yvette, France  
Jacek Szuber, Silesian University of Technology, Gliwice, Poland  
Diederik Depla, University Ghent, Ghent, Belgium  
Anouk Galtayries, IRCP-CNRS, Paris, France  
Andrej Vincze, International Laser Centre, Bratislava, Slovakia  
Paolo Chiggiato, CERN, Geneva, Switzerland  
Ana Gomes Silva, New University of Lisbon, Lisbon, Portugal  
Jay Hendricks, NIST, Gaithersburg, MD, USA

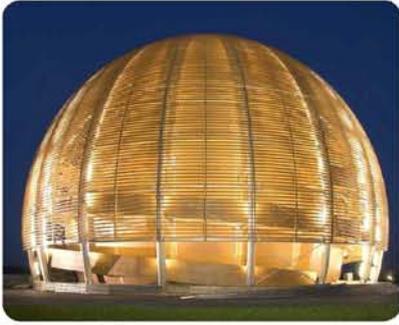


**The Swiss Vacuum Society is organizing the 15th European Vacuum Conference in Geneva to be held 17-22 June 2018.**

**The EVC-15 web page can be found at [www.evc15.org](http://www.evc15.org)**

Jörg has proposed the following as our kick off email:

1. We will have five plenary speakers and ten invited speakers as landmarks in the program. Plenary speakers will start the day with a 50 min presentation, invited speakers will be offered 40 minutes (incl. discussion).
2. Next year we will have IUVSTA's 60<sup>th</sup> birthday. Monday afternoon of the conference program will be devoted to a special session to appropriately celebrate this anniversary.
3. On Thursday afternoon we will have a visit to CERN, which will be followed by the conference dinner.
4. The important timelines for us as the Scientific Committee are the following ones:
  - a. March 10: propositions for plenary and invited speakers sent to me.
  - b. March 20: consensus reached on plenary and invited speakers
  - c. April 1<sup>st</sup>: Proposal for Plenary and Invited speakers available to the Organizers
  - d. May 1<sup>st</sup>: All proposed Plenary and Invited speakers have been contacted
  - e. Dec. 15: Abstract deadline
  - f. March 1<sup>st</sup>, 2018: First sketch of program available and abstract notification to submitters



## **15th European Vacuum Conference, EVC-15**



Surrounded by its magnificent natural landscape of lake and mountains and according to its tradition in science and international relations, the city of Geneva welcomes the participants to the European Vacuum Conference EVC-15 for an exciting and creative week. The conference will offer the opportunity to scientists from all over the world to present and discuss their recent advances in vacuum science and technology and related fields.

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.

**17 – 22 June 2018  
Geneva, Switzerland**

ISOTC112 Liaisons Activities: Since IUVSTA has the opportunity to give Liaison status to IUVSTA members an ISO TC112 subcommittee has been organized by VSTD. Karl Jousten has been able to provide access to documents that have come before the committee.

VSTD ISO TC 112 sub-committee

- Karl Jousten, Germany
- Martin Wüest, Switzerland
- Janez Šetina, Slovenia
- Marcelo Juni Ferreira, Brazil
- Jay Hendricks, USA

**Highlight Seminar (Still!) to be Published:**

The abstract has been assembled by Miran Mozetic and a call has been issued that each contributor should prepare 3-4 journal pages with a limit of ~10 co-authors and ~15 references. The draft will be discussed at the ECM123 meeting. VSTD Chair, Jay Hendricks, has now submitted VST contribution on “highlights of Next Generation Vacuum Science and Technology” it is hoped that a final version can be worked up soon and a renewed timeline will be discussed at the ECM125 meeting in Rogla.

**Elections Held for VST new Triennium 2016-2019:**

Current committee Jay Hendricks, USA	Chair
Manfred Leisch, Austria	Vice-Chair
Joe Herbert, UK	Secretary

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**6 and 7. Proposals of Workshops and School, approval**

The STD director D. Ruzic shortly introduced the proposals to the STD. All proposals were suggested to present and then vote in one round with secret ballots.

As the first the WS 1 proposal to be held in Rehovot, Israel was presented by A. Silva, and after the presentation the STD members and other observers asked about WS details, financing and information about the costs of the accommodation in the conference place. (too low price for accommodation?)

The WS 2 to be held in Vadstena, Sweden was presented by I. Petrov. There was a small discussion was about the financing and possible impact.

The WS 3 to be held in Seggau, Austria was presented by M. Leisch. A discussion was held about the traveling to the place, costs of the accommodation, which is in the price of the registration.

The WS 4 to be held in Okinawa, Japan was presented by D. O`Connell. Small discussion was about how to get there, about the prices of the accommodation.

The voting was conducted by secret ballot, 7 division representatives and the Educational committee chair and the STD director and Scientific Secretary have votes (10 votes in total).

The ballots were counted by the STD Director and STD Scientific Secretary, and the results are the following:

WS 1, Israel	8 supportive, 2 against and 0 abstain vote
WS 2, Sweden	9 supportive, 0 against and 1 abstain vote

WS 3, Austria 8 supportive, 1 against and 1 abstain vote  
WS 4, Japan 9 supportive, 1 against and 0 abstain vote

### **For continue the numbering, the Scientific Secretary suggest a chronological order:**

According the results **the STD will propose a IUVSTA Workshop on IUVSTA Workshop on Plasma-based Atomic Layer Processes to be held in Okinawa, Japan from December 4-7, 2017 to the ECM 125 for final approval as the 82<sup>nd</sup> IUVSTA workshop.**

WS 4, Japan 9 supportive, 1 against and 0 abstain vote

According the results **the STD will propose a IUVSTA Workshop New Horizons in Boron-Containing Coatings: Modelling, Synthesis and Applications to be held in Vadstena, Sweden in June 2018 to the ECM 125 for final approval as the 83<sup>rd</sup> IUVSTA workshop.**

WS 2, Sweden 9 supportive, 0 against and 1 abstain vote

According the results **the STD will propose a IUVSTA Workshop on Surface Micro-Spectroscopy and Spectro-Microscopy: Nano-Characterization of Electronic Interfaces and Related Transport Phenomena to be held in Rehovot, Israel from September 2-6, 2018 to the ECM 125 for final approval as the 84<sup>th</sup> IUVSTA workshop.**

WS 1, Israel 8 supportive, 2 against and 0 abstain vote

According the results **the STD will propose a IUVSTA Workshop on Nanoporous materials for green energy conversion and storage to be held in Seggau, Austria from September 24-29, 2018 to the ECM 125 for final approval as the 85<sup>th</sup> IUVSTA workshop.**

WS 3, Austria 8 supportive, 1 against and 1 abstain vote

Regarding the reporting to be done after a workshop, a new system with an online form was suggested, the IUVSTA president will suggest the questions to be answered, and should be done with the reports too. To help with this, a model scientific report will be distributed as an example. It will be from a WS in 2008, on HIPMIS written by J. Colligon.

The Short course proposals were discussed in the Education Committee meeting, where the voting took place too in favour for both of them and thus the STD suggested accepting them for the financial support of 2000 EUR.

### **8. Endorsement requests**

All 10 endorsements requests were discussed shortly and as a package were accepted. New procedure will be initiated. As , outlined in the Statutes, endorsement requests can be acted upon by the Scientific Director in consultation with the chair of the cognizant division. This can be done off cycle and when approved, the Scientific secretary should inform the proposers that it is accepted as soon as possible and also the Communication chair (I. Petrov).

### **9. Any other business**

The national vacuum societies were asked to identify with a focus more people involve to apply for our major awards.

A discussion was about the IUVSTA Summit to be held one year 2018 with the concept like ICSU. There are proposed several places, maybe Geneva, Swiss too.

The 60. anniversary of IUVSTA, might be celebrated almost two years, 2018 and 2019.

The question of the IUVSTA highlight seminar, where and when it will be the best to have was discussed extensively.

**10. Closing remarks**

The chair D. Ruzic closed the STD 17.53 local time.

**Motion to Adjourn**

Recorded by A. Vincze, Scientific Secretary, March 12, 2017