

#### Number: 173

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

#### **Contents of IUVSTA News Bulletin Issue 173**

#### IUVSTA activities:

Executive Council Meeting 122, INL, Braga, Portugal	2
Social Program at the ECM122	4
2016 IUVSTA Prize Winners	5
General Assembly of IUVSTA – Calling Notice	7
20 <sup>th</sup> International Vacuum Congress	9
ECOSS'32	10
14th IUVSTA School on Nano-Optics	11

#### Member Societies activities:

15 <sup>th</sup> International Conference on Re active Sputter Deposition in Ghent	13
Rudolf Jaeckel Prize 2015 goes to Prof. Dr. Franz J. Giessibl	14
25 years of Czech Vacuum Society	15
STRESS-2016 Workshop	17
Pacific Rim Symposium on Surfaces, Coatings and Interfaces – PacSurf 2016	18

Ivan Petrov, <u>petrov@illinois.edu</u> IUVSTA Publications Committee Chair



Number: 173

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

# Executive Council Meeting 122, International Iberian Nanotechnology Laboratory, Braga, Portugal

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

ECM 122 was held on Sunday, April 17th 2016 at the International Iberian Nanotechnology Laboratory, Braga, Portugal. In a brief report, the President of the Union, Mariano Anderle, expressed his feeling that, although he had several sincere discussions with officers, committee chairs and division chairs on different items concerning IVC, the IUVSTA awards and the scientific focus of the union, finally all major events of the triennium were approaching a successful conclusion.

The Secretary General, Christoph Eisenmenger-Sittner expressed his thanks to the American Vacuum Society for organizing an excellent ECM 121. Thanks were also expressed to the Portuguese Vacuum Society in general and to Ana Silva and Lars Montelius in special, for providing the excellent and impressively equipped facilities of INL in which ECM 122 was held. In addition he congratulated the Organizers of the 14th IUVSTA School on "Nano Optics: from Principles to Basic Research and Applications" which was held prior to ECM 122 at INL for this successful event which attracted around 50 participants and included lectures of the top scientists in this rapidly advancing field.

The Secretary General reported on the status of negotiations with tentative new member societies. Currently, Bulgaria, Turkey, and the Philippines are candidates for membership, with Bulgaria having been accepted as provisional member at ECM 120. It can be expected that full membership will be granted to Bulgaria at GM 19 which is due August 2016 in Busan, Korea. Turkey and the Philippines are in the state of setting up officially approved societies which will act as members of the union. It is possible that this formal process will be finished before GM 19 so that two additional societies may be granted full membership at GM 19.

In conjunction with GM 19 the Secretary General thanked the representatives of the national Vacuum Societies for timely supplying the names of the Delegation Members to GM 19 as well as the National Representatives and Division Representatives for the new triennium. These data will enable the Union to perform the remaining tasks of the present triennium, as e. g. the divisional elections in a smooth and timely manner. Finally, the Secretary General expressed his thanks to all members of the Union to which he had frequent contact and emphasized the fast and efficient way in which required information was given.

Moving on in the agenda, first the committee reports of the Finance, Congress Planning and the Awards and Scholarship committee were presented. In the Absence of the Treasurer, the Past President, Jean Jacques Pireaux, presented a provisional budget for the next triennium which was set up in close collaboration of the Treasurer, Francois Reniers with the President Elect, Lars Montelius. This Budget will be submitted to the Executive Council for approval at ECM 123. The president elect urged the members of the Union to give input to this proposed budget before the next ECM. The Chair of Congress Planning Committee, Anouk Galtayries, reported on the state of the bids for IVC 22 in 2022. Four bids from Brazil, Japan, Mexico and the UK were received and all bidders were requested to fine-tune their proposals before a vote on them is taken at ECM 123. The chair of the Awards and Scholarships Committee, Frank Richter, announced the prize winners of the IUVSTA prizes. The IUVSTA prize in Science will go to Prof. Jean Marie Dubois for his outstanding contribution to the development of science and technological applications in the field of quasi-crystals and complex metallic alloys. The prize in Technology will go to Prof. Taeghwan Hyeon for outstanding contributions in the scalable production of uniformly sized nanoparticles with precisely controlled compositions and dimensions as well as pioneering research in the design of metal oxide nano particles for medical applications.



<u>Nu</u>mber: 173

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

After these three reports the Agenda was continued with the Item "Executive Council Nomination for President Elect" to allow persons who would have to leave early to vote on this important item. There was one candidate for President Elect, Prof. Anouk Galtayries. After a brief presentation of her intentions in respect to leading the Union, a secret vote was carried out and Prof. Galtayries was unanimously elected as the candidate of president Elect who will be proposed to GM 19.



#### The ECM122 participants

To conclude all items which needed a vote, the Agenda was continued with the items "Future Executive Council Meetings" and the STD report. The next executive council meeting, the 123rd IUVSTA Executive Council Meeting (ECM 123) will be held in Gyeongju, Korea, from August 19 to 21, 2016. At the End of IVC 20 the 124th Executive Council Meeting will be held at the Conference site. There was one proposal from Slovenia for ECM 125 and it was decided by a show of hands that ECM 125 will be held in Rogla, Slovenia, 10 – 12th March 2017.

Within the STD report one school and one Technical Training Course were recommended for funding by STD. These two proposals were approved for funding by ECM. School No. 15 entitled "IUVSTA International School on Lasers in Materials Science – Lasers for the Nano-Engineering of Surfaces - LANES", will be held in San Servolo Island, Venice, Italy, July 10-17, 2016 and the Technical Training Course No. 19 entitled "Modern Trends in Microscopy", will be held in Islamabad, Pakistan, May 10 – 12 2016.

After the voting items the committee reports were resumed and before ECM 121 was adjourned, the history and the main fields of the Portuguese Vacuum Society SOPORVAC were presented by the its President, Carlos Jose Tavares.

After the successful completion of the Sunday morning meetings the participants were invited to have lunch and to continue discussions. All delegates agreed that this was an excellent and productive meeting.



#### Number: 173

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

### Social Program at the ECM122, April 15 to 17, 2016 in Braga, Portugal

#### Ana Cristina Gomes-Silva, on behalf of SOPORVAC, acs@fct.unl.pt

The 122nd Executive Council Meeting of IUVSTA hosted by the Portuguese Vacuum Society (SOPORVAC) and held in the International Iberian Nanotechnology Laboratory (INL) in Braga, Portugal, from 15 to 17 April 2016. The successful ECM 122 was running with a busy and interesting agenda having participated 38 IUVSTA members.

The meeting opened with Welcome Words of the General Director INL and President elect of IUVSTA, Lars Montelius, followed by Porto Wine, white and red (late bottled vintage - LBV) taste. After adjourn on Friday there was a reception given by the Mayor of Braga in the City Hall of Braga where IUVSTA members and accompanying persons (45 people) had the opportunity to visit the main and historical room of the city hall. The dinner took place in the centre of Braga at "Diana Restaurant". On Saturday by the end of the Meeting and before adjourn there was a tour to INL guided by its General Director, followed by the Dinner hosted by SOPORVAC at Bom Jesus de Braga accompanied with FADO performance of the group "Cidade do Berço". " FADO " : The genre originated in Portugal in the early 1800's and quickly took its place as the music of the country. In 2011, UNESCO recognized Fado on its Intangible Cultural Heritage of Humanity List. The group name "Cidade do Berço" means "City of the cradle" referring to the city of "Guimarães" which was the first capital of Portugal and the birthplace of Portugal



Porto wine tasting at INL



" FADO" performed by the group "Cidade do Berço" in the Restaurant "Bom Jesus"



Number: 173

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

From the President

Dr. Mariano Anderle Scientific Attaché at the Italian Embassy in Hanoi 9, Le Phung Hieu Hoan Kiem, Hanoi Vietnam Tel: +84.438.256256 Portable: +84.912.840009 Fax: +84.438.267602 Email: hanoi.scienza@esteri.it

Date: Hanoi, May 13th, 2016

#### Re: IUVSTA Prize 2016 Winners

It is my great pleasure to communicate the IUVSTA Prize 2016 Winners!

#### IUVSTA Science Prize 2016

#### To: Prof. Jean-Marie Dubois

Institut Jean Lamour - UMR 7198 CNRS / Université de Lorraine Nancy, France

"...for his outstanding contribution to the development of science and technological applications in the field of quasicrystals and complex metallic alloys".

The Prize consists of a cash award, a struck medal and a certificate setting forth the reasons for the award and will be presented at the IUVSTA triennial International Vacuum Congress, IVC 20, August 21-26, 2016 in Busan (Korea).

#### IUVSTA Technology Prize 2016

#### To: Prof. Taeghwan Hyeon

School of Chemical and Biological Engineering Seoul National University Seoul, Korea

"...for outstanding contributions in the scalable production of uniformly sized nanoparticles with precisely controlled compositions and dimensions as well as pioneering research in the design of metal oxide nano particles for medical applications"

The Prize consists of a cash award, a struck medal and a certificate setting forth the reasons for the award and will be presented at the IUVSTA triennial International Vacuum Congress, IVC 20, August 21-26, 2016 in Busan (Korea).

Congratulations to the winners!

Mariano Anderle IUVSTA President



Number: 173

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 Prize Winners will be Plenary Speakers at IVC20



**IUVSTA Science Prize 2016: Jean-Marie Dubois** is currently a scientific adviser of the Dpt. for Nanostructured Materials and an honorary member of Jožef Stefan Institute (JSI), Ljubljana, Slovenia. Also an emeritus director of research of CNRS, France, he owns a PhD in Physics from Polytechnic National Institute, Nancy, France, a Dr Hon. Causa from Iowa State University, USA and another from Federal University of Paraïba, Brazil. He was awarded a number of honours and scientific prizes, among which the Robert F. Mehl Award of the TMS. He is a former overseas fellow of Churchill College, Cambridge, U.K. and a professor at Dalian University of Technology, China. He is an active member of the Science Academy of Lorraine and an associate-correspondent of Stanislas Academy, Nancy, France. Distinguished Director of Research at CNRS, France at the end of his professional career, he was instrumental in the creation of Institut Jean Lamour, the largest public research body dedicated to materials science and engineering in France,

which he headed for a decade until 2012. He then became the chair of the national professional committee of CNRS that is in charge of evaluating the activity of scientists and laboratories acting in the field of materials chemistry, nanomaterials and processing. Dubois retired from CNRS in 2015. He is now lecturing at the Jožef Stefan post-graduate school of Ljubljana and is a part time scientist at JSI. His research topics have revolved around metal physics and engineering of complex metallic materials, including metallic glasses, liquid metals, quasicrystals and large unit cell compounds. He is the author of more than 260 scientific articles in refereed journals, 14 international patents (with 40 international extensions), and 7 books. After establishing structure models for metallic glasses and quasicrystals, Prof. Dubois became interested in applied properties of these materials: heat insulation, low adhesive properties and infrared light absorption, cold-welding and solid-solid adhesion against steel in vacuum of Al-based complex intermetallics. His general interest today is on understanding the surface energy of those materials, their scaling properties in relation to their electronic structure and crystal lattice complexity, and in more general terms, uncovering the rules that govern the occurrence and stability of complex architectures in metallic crystals.



**IUVSTA Technology Prize 2016: Taeghwan Hyeon** received his B. S. (1987) and M. S. (1989) in Chemistry from Seoul National University (SNU), Korea. He obtained his Ph.D. in Chemistry from U. Illinois (1996). Since he joined the faculty of the School of Chemical and Biological Engineering of SNU in September 1997, he has been focused on the synthesis and applications of uniform-sized nanoparticles and nanoporous materials, and published > 300 papers in prominent international journals. In 2010 he was appointed as the first "SNU Distinguished Fellow" (Distinguished University Professor) of the Seoul National University. In February 2011, he was selected as "Top 100 Chemists" of the decade (2000-2010) by UNESCO&IUPAC. In 2012, he was appointed as a Director of Center for Nanoparticle Research of Institute for Basic Science (IBS). He is Fellow of Royal Society of Chemistry (RSC) and Materials Research

Society (MRS). He received many awards including Hoam Prize (2012, Samsung Hoam Foundation), POSCO-T. J. Park Award (2008), the Korean Young Scientist Award (2002), and DuPont Sci&Tech Award (2005). Since 2010, he has served as an Associate Editor of J. Am. Chem. Soc. He has been serving as editorial (advisory) board members of ACS Central Science, Advanced Materials, Nanoscale, Nano Today, and Small.



Number: 173

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

### General Assembly of IUVSTA Comprising the 19th Ordinary General Meeting and the Extraordinary General Meeting of 2016 BEXCO Busan, Busan, Korea Wednesday, 24th August 2016 at 13.00 hrs

### Calling Notice

The above meetings shall be held at the place and time noted above.

Member National Societies should endeavour to be represented by delegations or to be represented by another Member National Society.

#### Statutes Article 12 - Composition

The General Meeting shall be composed of delegations of the Members of the Union. Each delegation shall consist of a maximum of three (3) persons. It will be led by a head of delegation nominated by the National Committee which it represents. Each head of delegation will vote in the name of his National Committee, casting all the votes given to the National Committee so represented.

Each Member of the Union must notify to the Secretary General of the Union the composition of its delegation to the General Meeting, indicating clearly the name of the head of the delegation.

#### Statutes Article 15 - Representation

Members of the Union may arrange to be represented at the General Meeting by another Member, the President or a Vice-President. At an Extraordinary General Meeting, no Member can represent more than three (3) Members including itself. At an Extraordinary General Meeting, the President or a Vice-President cannot represent more than three (3) Members. At an Ordinary General Meeting, there is no limitation in the number of Members a Member or the President or a Vice-President can represent. Any Member of the Union wishing to be represented at the General Meeting by another Member shall inform the Secretary General of the Union four (4) weeks before the date of the General Meeting. The Secretary General of the Union shall verify that the Member requested to act as representative of another Member is entitled to do so.

The representation shall be exercised by the head of the delegation of the representative Member.

#### DRAFT AGENDAS

#### **General Meeting 19**

0	-
Attendance and Constitution of General Meeting 19	C. Eisenmenger-Sittner
Welcome by the President	M. Anderle
Remembrances	M. Anderle
Alterations to Membership	C. Eisenmenger-Sittner
Admission to membership of Bulgaria	
Approval of Minutes of GM 18	R J Reid C. Eisenmenger-Sittner
Amendments to the Statutes and By-Laws	C. Eisenmenger-Sittner
There are no proposed changes to the Statutes and By-Laws	
Approval of the Accounts for Financial Year 2015	F Reniers



#### Number: 173

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

Approval of the Budget for Financial Year 2016	
Transfer of Presidency from M Anderle (Italy) to L. Montelius (Sweden)	
Elections for the Triennium 2016-2019 L Montelius	
The Executive Council nominee for President Elect is Anouk Galtayries (France)	
The Past President will be Prof M. Anderle (Italy)	
The President nominates the following Officers:	
Scientific Director David Ruzic (USA)	
Scientific Secretary Dr Andrej Vince (Slovakia)	
Secretary General Prof Christoph Eisenmenger-Sittner (Austria)	
Treasurer Prof François Reniers (Belgium)	
Ratification of the framework budget for the Financial Years 2017 to2019	F Reniers
Approval of subscription rates for each of the three Financial Years 2017,	
2018 and 2019	F Reniers
Ratification of National Committee Councillors & Alternates	C Eisenmenger-Sittner
Recognition of retiring Officers and ECM members	M. Anderle
Any Other Business Floor	
Adjournment of General Meeting 18	L Montelius

#### 2016 Extraordinary General Meeting

Constitution of the 2016 Extraordinary General Meeting	L Montelius
Report of the Past President	M. Anderle
Reports of the Previous Executive Council	
Secretary General	C Eisenmenger-Sittner
Committee Reports	M. Anderle
Scientific and Technical Director	D. Ruzic
Division reports	D. Ruzic
Treasurer & Finance Committee	F Reniers
Inaugural Statement of the President	L Montelius
Motion to Adjourn Floor	

The final Agenda for the meeting will be circulated 6 weeks before the date of the meeting. Items of additional business proposed by a National Society should be communicated to the Secretary General two months before the date of the meeting to be included on the Agenda. Alternative nominations for President Elect supported by a minimum of 6 Member National Societies should be communicated to the Secretary General.

C Eisenmenger-Sittner Secretary General April 2016



#### Number: 173

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

### WWW.IVC20.COM



Deadline for Preregistration May 31, 2016



Number: 173 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



#### Welcome of the Chair

On behalf of the Organizing Committee, it is my pleasure to announce the **32<sup>nd</sup> European Conference on Surface Science** (ECOSS-32). ECOSS is a traditional annual meeting organized jointly by the Surface Science Division of IUVSTA and the Surface and Interface Section of the European Physical Society. After 10 years it is back in France.

The conference provides the occasion for European scientists to meet and discuss the latest advances, either experimental or theoretical, in surface physics and chemistry. The most recent technical developments are also presented.

Grenoble, capital of the French Alps, is the ideal place for this meeting. It is the location of the largest synchrotron radiation and neutron facilities in Europe as well as one of the most important areas for semiconductor research and industry.

Roberto Felici Chair of ECOSS 32

#### Local Organising Committee (LOC)

Roberto Felici - ESRF, Grenoble Chair

Aude Bailly - UGA/CNRS, Institut Néel, Grenoble Eric De Vito - UGA/LITEN, CEA-Grenoble Elisabeth Djurado - UGA, Grenoble INP Giovanna Fragneto - ILL, Grenoble Anouk Galtayries - SFV-ENSCP, Paris

**Conference Secretary** 

Gweltaz Hirel - SFV, Paris Laurence Magaud - UGA/CNRS, Institut Néel, Grenoble Gilles Renaud - UGA/INAC, CEA Grenoble Olivier Renault - UGA/LETI, CEA Grenoble Hubert Renevier - UGA, Grenoble INP







#### 10 | P a g e

Société Française du vide 19 rue du Renard F-75004 Paris, France Phone: +33 (0)1 53 01 90 30 - Fax: +33 (0)1 42 78 63 20 E-mail: sfv@vide.org - www.vide.org



Number: 173

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

# 14th IUVSTA School on Nano-Optics: from Principles to Basic Research and Applications, Braga, Portugal

#### Ana Cristina Gomes-Silva, on behalf of SOPORVAC, acs@fct.unl.pt

The 14th IUVSTA School on "Nano-Optics: from Principles to Basic Research and Applications" was held in the International Iberian Nanotechnology Laboratory (INL) in Braga, Portugal, from Monday, April 11 to Friday, 15 April 2016. The School was co-chaired by Ana Cristina Gomes-Silva, Universidade Nova de Lisboa, Portugal (Secretary of NSD) and Christian Teichert, University of Leoben, Austria (Chair of NSD). The local organizers were Carlos Tavares of Universidade do Minho, Braga and Jana Nieder of INL, Braga. The School was supported by the Bio-Interfaces Division as well as the Surface Science Division. The School focused on the most significant and hot-topics on Nano-optics and its applications in a multi-disciplinary basis, namely a) super-resolved imaging/nano-imaging; b) nanoscopy; c) singlemolecules techniques; d) nano (bio)-plasmonics and photonics; e) ultrafast and nonlinear optical processes; f) near- and far-field optics and g) human-centric lighting. Nine distinguished and prominent invited lecturers gave in a systematic and didactic fashion, during their exceptional tutorial lectures of 1 hour duration, a comprehensive overview on theory and basic/fundamental physics, experimental and applications reaching the frontiers of research and addressing the latest developments. The closing lecture (90 min) was presented by Prof. Thomas Klar. In addition, there were two sessions with five contributed lectures, as well as two poster presentations including shotgun presentations (5 min) of the 23 presenters. From the 11 exhibitors and sponsors from Spain and Portugal (MTBrandão, MRA, Paralab, Caixa Geral de Depósitos, Sarspec, Photon Lines, PIMicos, Innova, FEI, ADMedida and Izasa Scientific) present 6 exhibitors took the opportunity given for short presentations of their technologies in a commercial session (one hour in total).



#### **Opening session**

#### Nano-Optics school attendees

The school included a brain storming session on the future of the field with active participation of the students and lecturers. Finally, the participants evaluated School and the lectures. The winner of the best poster presentation was attributed to Upkar Kumar, from CNRS, France (picture below) with the poster title "Multimodal plasmonics in crystalline



#### Number: 173

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

colloidal systems" with the prize money of 50% of the student fee, corresponding to 100 €. Some figures: 64 total participants; 15 countries (Europe, Asia and USA); 9 invited lecturers (22.2 % female); 35 abstracts submitted; 23 posters presented (39.17% presented by female, major not from biology); 5 contributed lectures; 5 MSc. students; 19 Ph. d. students; 5 Post-doc; 8 regular contributions; 11 exhibitors and sponsors.

Regarding social events, after the opening session with presentation of INL (Lars Montelius), presentation of IUVSTA and of the Nano-Optics School (Ana G.-Silva) and short presentation of SOPORVAC (Carlos Tavares), there was a welcome reception with Port Wine taste. On third day of the school there was guided excursion until Porto and around Porto downtown and historical part, followed by a guided visit to Porto Wine Cellars (Sandman) and taste, finishing with a guided boat trip in the Douro River under the 6 bridges. The day finished with dinner in center of Braga at "Caldo Entornado". Ana G.-Silva is collecting the PDF of the lectures and of the posters presented to edit the final version of the Nano-Optics School book.



Prof Dr. Thomas Klar



Upkar Kumar, awarded best poster prize.



**Douro River Boat Tour** 



#### Number: 173

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

### 15<sup>th</sup> International Conference on Reactive Sputter Deposition

#### www.rsd2016.be



www.rsd2016.be



#### Number: 173

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

### Rudolf Jaeckel Prize 2015 goes to Prof. Dr. Franz J. Giessibl

#### Professor Michael Kopnarski, German Vacuum Society (DVG)

The German Vacuum Society honors not only groundbreaking scientific achievements in the areas of its interest but also outstanding examples for the transfer of scientific results into technological practice with the Rudolf Jaeckel Prize. This year's prize is applied to the first mentioned subject, although the honoree also delivered outstanding contributions

to the application of his

scientific results.

The awarded Professor Franz Josef Gissibl is chairholder for Applied and Experimental Physics at the University of Regensburg. Franz Josef Gissibl was born in 1962. From 1982 to 1987, he studied physics at the Eidgenössische Technische Hochschule Zürich and at the Technische Universität München, where he also delivered his diploma thesis on experimental semiconductor physics. From 1988 to 1991 he worked in the IBM physics group at the University of Munich with the Nobelist Gerd Binnig and earned his PhD about cryogenic atomic force microscopy, a topic from which he is fascinated to the present. After receiving his doctorate, he developed an atomic force microscope for the ultra high vacuum in a start-up company in



the Silicon Valley. With this instrument, he has succeeded in achieving the atomic resolution of the silicon (111)-(7x7) surface with an atomic force microscope for the first time in 1994. While working as a Senior Associate with McKinsey from 1995 to 1996, he developed a new centerpiece of a force microscope, a force sensor of quartz ("qPlus Sensor"), during the weekends. After qualifying as a professor at the University of Augsburg in 2001, he accepted an offer of its present place of activity at the University of Regensburg in 2006.

Professor Giessibl has an international reputation as one of the pioneers in the scanning probe microscopy who, with his research, was able to attain fundamental knowledge to the insight of the interaction between the tip and the probe. Furthermore, he could also achieve important progress in the application of scanning probe techniques under difficult ambient conditions, e. g. with cryogenic temperatures, or for issues of the microtribology. With the development of the gPlus sensor which is characterized i. a. by high stiffness and frequency stability coupled with low noise, he has succeeded to demonstrate "subatomic" resolution and to study structures in single atoms in the maximum-resolution atomic force microscopy for the first time. Many prizes and awards which he received in the last 20 years, e. g. the Keithley Award of the American Physical Society last year, give evidence of his most successful research activities. From the beginning of his career, Franz J. Gissibl was also engaged in the application of the scanning probe microscopy

in the UHV and encouraged the research and development in this field.

The award presentation happened on this year's annual conference of the German Vacuum Society which again took place in combination with the *Symposium on Vacuum based Science and Technology SVST* from 17 through 19 November 2015 in Kolobrzeg (Kolberg) at the cost of the Baltic Sea organized by the Polish and German Vacuum Societies.



#### Number: 173

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

### 25 years of Czech Vacuum Society



### Short history of ČVS:

Czechoslovakia was represented in IUVSTA by the Czechoslovak Committee for Vacuum Science, Technique and Applications from the year 1965).

Two decades later a Working Group "Vacuum Technology" was created within the framework of the Czechoslovak Society for Science and Technology. This Working Group organized summer schools and seminars on vacuum science and technology. The main organizer was Pavel Hedbávný.

After changes in Czechoslovakia in 1989 and then after birth of Czech and Slovak Republics, the "Czech Vacuum Society" (ČVS) was founded on the 29 April 1993. The chairman of preparatory committee and the first President of ČVS, serving then more then 10 years, was Pavel Hedbávný. ČVS continued organizing Summer Schools on Vacuum Technology held every year and began organizing and coorganizing conferences and workshops (including IUVSTA events). In November 1992 Pavel started a tradition of meetings of users and producers of vacuum technology and named it PRAGOVAC. This event has become to be very popular. In November 2016 the 25<sup>th</sup> anniversary PRAGOVAC will be held.

The presidency has been taken over by Karel Mašek who is also successfully serving till now.



#### Number: 173

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



### traditional Prague meeting of vacuum users and producers





#### Number: 173

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



#### Scope

The aim of this international workshop on stress is to discuss recent advances and cutting edge technologies associated with understanding, quantifying and controlling stress in thin films and coatings. Jointly organized by the SVC and ICMCTF/ASED of the AVS, this unique forum brings together scientists and technologists from the Materials Research and Surface Engineering communities to address both fundamental and applied research as well as technological problems and solutions of interest to both academia and industry.

#### Workshop Topics

- Stress Fundamentals and Modeling
- Physical and Chemical Processes of Stress Development
- Stress Evaluation Methods, including optical diagnostics (wafer curvature, Raman), X-ray and neutron Diffraction, mechanical testing
- Stress in Industrial Processes, e.g., optical films and coatings. hard coatings for cutting tools, coatings for aerospace applications, coatings for manufacturing applications & welding processes
- Stress and Mechanical Properties in Thin and Thick Films Stress and adhesion failure, fatigue, fracture, toughness
- Stress in Electronics/MEMS

#### Confirmed Invited Speakers

E. Barthel (FR) E. Bemporad (IT) E. Chason (US) G. Doll (US)

G. Greczynski (SE) J. Keckes (AT) C.E. Murray (US)

G. Ockenfuss (US) T. Suhonen (FI) S. Zhang (SG)

#### Organizing Committee

General Chair: L. Martinu, Polytechnique Montreal (CA) ludvik.martinu@polymtl.ca

Program Chair: G. Abadias, Univ. of Poitiers (FR) Co-Chairs: I. Petrov, Univ. of Illinois (US) C. Stoessel, Eastman Chemical (US)

gregory.abadias@univ-poitiers.fr petrov@illinois.edu cstoessel@eastman.com

phyllis.greene@mx.uillinois.edu

icmctf@icmctf.org

#### Committee Members:

A. Anders (US), M. Andreasen (US), R. Bandorf (DE), G. Exarhos (US), J.E. Greene (US), C. Lampert (US), C. Mitterer (AT), J. Patscheider (CH), K. Sarakinos (SE), J. Schneider (DE), R. Shimshock (US), R. Tietema (NL), B. Torp (DK), S. Walton (US)

Manager: Phyllis Greene

Secretary: Mabel Zabinski

### Program and Schedule

The stress workshop features a technical program consisting of invited lectures, contributed oral and poster presentations, as well as table top exhibits. There will be numerous opportunities for networking during the welcome reception, at lunch, at break times, in the Exhibit session and while reviewing the posters.

Short courses: October 2, 2016 Workshop: October 3-5, 2016





Advanced Surface Endorsed Topical Conference

17 | Page



#### Number: 173

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

### Abstract Deadline: August 5, 2016



General Information
Abstract Submission
Manuscript Submission
Technical Program
Presentation Guidelines
Housing & Travel
Registration
Sponsors

IKA

beam technology

Gold Sponsor

Silver Sponsor

Thermo Fisher

SCIENTIFIC

PHYSICAL

OF ULVAC-PHI

### General Information

#### **Overview & Focus**



Technical Sponsor

### Topical Conference www.avs.org

#### Information

AVS Della Miller 110 Yellowstone Dr., Suite 120 Chico, CA 95973

Phone: 530-896-0477 Fax: 530-896-0487 E-mail: della@avs.org

The Pacific Rim Symposium on Surfaces, Coatings and Interfaces (PacSurf 2016) will be held on the Big Island of Hawaii from December 11 - 15, 2016. This conference is being organized by AVS (United States) with a Steering Committee composed of representatives from Australia, Canada, Chile, China, Japan, Korea, Mexico, New Zealand, Singapore, and Taiwan. Symposium attendees will interact during morning and evening sessions that will include plenary, invited, and contributed presentations.

The main topics for PacSurf 2016 will be focused on the latest advances in Biomaterial Surfaces & Interfaces, Energy Harvesting & Storage, Nanomaterials, and Thin Films. We will have morning and evening technical sessions with the afternoons free for other activities and discussions.

The conference will be held in the Hapuna Beach Prince Hotel, which is ideally located on the Kohala Coast of the Big Island of Hawaii. We are confident you will benefit by attending PacSurf 2016 and networking with the other attendees.

#### **Steering Committee**

General Chair: Dave Castner (Univ. of Washington)

Program Chair: Charles R. "Chip" Eddy, Jr., (U.S. Naval Research Lab)

Australia: Sally McArthur Canada: Adam Hiitchcock P.R. China: Hongjun Gao Japan: Katsuyuki Fukutani Korea: Tae Geol Lee Mexico: Alberto Herrera Gomez New Zealand: Duncan McGillivray Singapore: Sam Zhang Taiwan: Jinn Chu United States: Joe Greene



### http://www2.avs.org/conferences/PACSURF/2016/pdfs/call.pdf