

IUVSTA NEWS BULLETIN

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UNION INTERNATIONALE POUR LA SCIENCE, LA TECHNIQUE ET LES APPLICATIONS DU VIDE
INTERNATIONAL UNION FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS
INTERNATIONAL UNION FÜR VAKUUM FORSCHUNG, TECHNIK UND ANWENDUNG

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This is the fifth IUVSTA News Bulletin of the triennium 2004-2007.

President Message

The fourth message of president professor Ugo Valbusa

Dear Colleagues,

The next ECM in Basel will be very important for finalizing the activity of the Union in the remaining six months of this triennium.

As we approach the end of the triennium the level of activity of the Scientific Divisions will accelerate in the preparations for the IUVSTA triennial Congress, which will take place at Stockholm in the beginning of July when Sweden shows all its shining beauty. The event will offer a stimulating overview of the science related to IUVSTA that is going on worldwide and will offer one of the world's largest exhibition of vacuum equipments. The Congress will get together professionals within academic research, industry and exhibiting companies with the scope to take part in recent scientific findings in the field of materials, thin films, surfaces, nanotechnology, and vacuum science. The event is a merging of six international and national meetings, specifically the 17th International Vacuum Congress (IVC-17), the 13th International Conference on Surface Science (ICSS-13), the International Conference on Nanoscience and Technology (ICN+T2007), the 6th Nordic Conference on Surface Science (NCSS-6), the 22nd Nordic Semiconductor Meeting (NSM-22) and the 4th Swedish Meeting on Vacuum and Materials Science (SVM-4). It will be a large assembly of scientists, engineers and manufacturers and we can safely predict a large-scale and successful meeting.

During ECM 101 a committee chaired by the chair of the Awards and Scholarship Committee will decide the winners of the IUVSTA Prizes for Science and Technology. I would like to thank all the donors who provided the endowment of the Prize.

Some of the positive developments at Seoul in Korea at ECM 100 arose from our Long Range Planning Committee, which discussed the IUVSTA Strategy Model prepared by the Chairman. The Model will help in developing and implementing a strategic plan for the Union and the following meeting in Basel will extend the discussion. It is an important appointment where we can think deeply about what IUVSTA stands for, what it is doing and can do in the future and whether its structure is adequate to cope with changing circumstances.

Once again I sincerely thank all those among you who continue to work for, or participate in, the activities of IUVSTA.

Finally, I would like to wish you all a Happy New Year.

Ugo Valbusa IUVSTA President

IUVSTA Activities

Executive Council Meeting ECM-100 Seoul, Korea

The **ECM 100** was held in Seoul, Korea at the invitation of the Korean Vacuum Society. A special joint symposium with the Korean Vacuum Society took place from Monday 18th September to Tuesday 19th September Wednesday. The IUVSTA Highlight Seminars were held on Wednesday, September 20th and ECM 101 finally took place from Thursday September 21st to Friday September 22nd. The organization of the event by the Korean Vacuum Society was excellent and The scientific levels of both, the special Symposium and the Highlights Seminars were outstanding. More information about this special event can be found on the Web: <http://www.kvs.or.kr/~IUVSTA&ECM-100/>



49th IUVSTA Workshop (Plasma Science Division), "Utilisation of signal control from plasma measurements to establish process control ", Dublin City University, Ireland, 4th to 6th September 2006. <http://www.dcu.ie/conferences/IUVSTA49/conference.php3>

This workshop held in Dublin City University concentrated on how data from measurements on plasma processes and systems could be utilised to establish and maintain process control.

It was organised to have several invited speakers to set the scene on specified topics, followed by discussion periods. Although the number of attendees, 30, was slightly less than anticipated, it was large enough to have a good pool of knowledge and small enough to encourage good discussion groups.

The subject matter covered the basic reasons for the measurements, to collection and handling of data and how the data can be utilised to effect process control. The measurement techniques covered throughout the meeting included probes, optical methods, QMS and electrical characteristics. Data handling and analysis methods, featured multi variant analysis, fuzzy logic, data correlation and blackboard techniques.

An excursion to visit the Intel manufacturing facility for one afternoon covered, not only the wafer fabrication plant and chip manufacture, but also new initiatives for computer systems. From the interest shown by those that went, it could have lasted a full day.

From many of the sessions, it appeared that further time would have been beneficial to cover the discussions, to such an extent that the workshop could have continued a further day itself. However, the constraints on the attendees from industry meant that this was an impossibility, even if the extra day had have been included in the original programme.

50th IUVSTA Workshop (Electronic Materials and Processing Division, Nanometer Structures Division, Thin Film Division and Surface Engineering Division) "Toward Novel Nano-structure Based Devices: Nanostructured Materials Fabrication Characterization and Assembly for Novel Devices" was held in Dubrovnik during October 22-26, 2006. <http://www.nano2006.org>

IUVSTA Technical Training Courses (IUVSTA-TTC)

The 6th IUVSTA Technical Training Course was held in October 2006 in Budapest, Hungary. The 7th IUVSTA Technical Training Course was held in the PR of China and the 8th IUVSTA Technical Training Course took place in Strbske Pleso, Slovakia. So far 8 Technical Training Courses have been granted. The correct numbering of the Courses can be found in the following table.

TTC #	Applicant	Approved at	Remark
1	Pakistan Vacuum Society	ECM 92	held Sept. 2006
2	Chinese Vacuum Society	ECM 93	held 2003
3	Croatian Vacuum Society	ECM 94	funds returned
4	Polish Vacuum Society	ECM 95	held 2004
5	Polish Vacuum Society	ECM 98	held June 2006
6	Hungarian Vacuum Society	ECM 98	held Oct. 2006
7	Chinese Vacuum Society	ECM 100	held Oct. / Dec. 2006
8	Slovak Vacuum Society	ECM 100	held Nov. 2006

In the following there is a brief report on the 6th IUVSTA Technical Training Course which was held in October 2006 in Budapest, Hungary:

6th IUVSTA TTC (Division of Vacuum Physics, Technology and Application of Roland Eötvös Physical Society (DVPTA of REPS) as the national vacuum society in Hungary), Institute of Nuclear Research (ATOMKI), Debrecen, Hungary, October 9-13, 2006

Participants got an introduction to the theoretical basics of vacuum physics (kinetic theory of gases, transport phenomena, flow of gases, interaction of gases and condensed matter). The working principle and practical operation of pumps and gauges were discussed. Practical cleaning methods were also advised. Calculation of the main parameters of a vacuum system completed the theoretical description. Vacuum systems and accessories, methods and operating systems of electron spectrometry, mass spectrometry and thin film preparation were demonstrated. Participants have got a certificate on completing this course.



Participants – 109 technicians, engineers, scientists and students – came from big and small companies, research institutes and universities. Many of them worked without special training in the given field, and appreciated the comprehensive and practical nature of the IUVSTA TTC. For the demand of the participants a printed version of the vacuum part of the course is due in the first half of 2007. A new university-course on vacuum technique will be assisted with the slides of this IUVSTA TTC.

More could be finding on [IUVSTA web site](#) => IUVSTA Activities.

Future events

International Vacuum Congress IVC-17/ICSS-13/ICN+T 2007

This 17th International Vacuum Congress IVC-17 and 13th International Conference on Solid State Surfaces ICSS-13 will be held in Stockholm, Sweden, 2-6 July, 2007. The local host is the Swedish Vacuum Society, which will work closely with the Finnish Vacuum Society to ensure the maximum exposure in the Baltic area. The congress will be an important global event and will take place at Stockholm International Fairs. Approximately 2000-3000 delegates to attend the congress are expected.



The main session topics for the congress are will be Surface Science, Nanometer Science, Applied Surface Science, Thin Films, Electronic Materials, Advanced Surface Engineering, Plasma Science and Technology and Vacuum Science. The invited speakers will be leading researchers, several of whom are Nobel Laureates in Physics or Chemistry. The presentations will cover the latest research results in the nano, surface and materials sciences, for example nanowires, bio-nanosystems, new material for data storage in novel computers and frontline development in catalytic processes. Among other events the social programme will include a reception at the Stockholm City Hall and the conference Dinner at "Skansen", an open air museum displaying historical buildings from all parts of Sweden Web: <http://www.congrex.com/ivc17icss13/>.

Other events taking place in conjunction with the IVC 17 will be the IUVSTA ECM 102 and the 51st IUVSTA Workshop on "Modern Problems and Capability of Vacuum Gas Dynamic", Web : <http://www.vgd07.dl.ac/>.

14th International Conference on Thin Films ICTF-14

The ICTF-14 will be held in Gent, Belgium from November 17th - 20th, 2008. Preliminary information can be found on the website of the conference: <http://www.ICTF14.UGent.be>

International Vacuum Congress IVC-18

The IVC-18 will be held in Beijing, China in August, 2010. The local host is the Chinese Vacuum Society.

IUVSTA Scientific Workshops & Summer Schools

These high level scientific Workshops are being organized by our Scientific Divisions on specially selected topics. Click above to view the list of scientific Workshops currently being offered by the Divisions. Will you participate?

IUVSTA Events Schedule

Click here to see [the list of forthcoming conferences](#), meetings and workshops which are being organized, co-organized or endorsed by IUVSTA. Links to related society events are also given.

Miscellaneous

Donation

We encourage for donation to complete the donation plan for the IUVSTA prize in Technology.

Forthcoming ECM's

Details of forthcoming Executive Council Meetings can be obtained by clicking here. When available, these details include the agenda, schedule of committee meetings, travel advice and accommodation arrangements.

ECM-101 Basel, Switzerland

The **ECM 101** will be held in Basel, Switzerland at the invitation of the Swiss Vacuum Society from Friday 16th February to Sunday 18th February, 2007. The event will take place, In the Hotel Ramada Plaza, Basel, Switzerland. Web: <http://event-iuvsta-ecm-101.web.cern.ch/event-IUVSTA-ECM-101/>

The **ECM-102** will be held in conjunction with IVC-17 in Sweden from 29th June- 1st July, 2007. Details on ECM-102 will be posted on the [IUVSTA web site](#) as soon as they are available.

List of future events

IUVSTA Science Workshops (ISW) being prepared:

51st IUVSTA Workshop (Vacuum Science and Technology Division), "Workshop on Modern Problems and Capability of Vacuum Gas Dynamic" Djurönäset, Värmdö Sweden July 9-11 2007, Contact person: Oleg Malyshev, Web : <http://www.vgd07.dl.ac/>

52nd IUVSTA Workshop (Applied Surface Science Division and Thin Film Division), "Structure and Dynamics of Free Clusters and Nanoparticles Using Short Wavelength Radiation" Sicily, July23-27 2007

Other Conferences:

E-MRS 2007 Spring Meeting May 28 - June 1, 2007 Congress Center - STRASBOURG (France), http://www.emrs-strasbourg.com/index.php?option=com_content&task=view&id=157&Itemid=75

ECASIA 07, 12th European Conference on Applications of Surface and Interface Analysis, Brouxelles, Flagey September 9 - 14, 2007, <http://www.ecasia07.be/>

More on the [IUVSTA web](#).

Closing Comments

We welcome further ideas on what you would like to see in your Bulletin or how you would like to see it. You can contact the editor, <mailto:christoph.eisenmenger@ifp.tuwien.ac.at>.