

# 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 fourth IUVSTA News Bulletin of the triennium 2004-2007.

## President Message

### The Third message of president professor Ugo Valbusa

Five months elapsed from the last ECM in San Diego and ECM-100 is coming soon. ECM-100 is a particular event for our Union for several reasons. First of all it is the first meeting that IUVSTA has in Korea. We meet in a country that has a very active vacuum society and where science and technology are well advanced. It will be a great opportunity for us to exchange scientific information and to join the Korean scientific community. ECM 100 includes also the Highlight Seminars session, the scientific event of our Union where the best scientific results achieved in the fields covered by the IUVSTA Divisions are reviewed by distinguished lectures. This is a significant appointment of the triennium that shows the efficacy of the IUVSTA scientific and technical directorate. Korea Vacuum Society has also organized a Special Symposium from 18th to 19th of September. The Symposium will cover topics like Vacuum Science and Applications, Surface and Interface Sciences, Nanostructured Materials, Plasma and Display Technologies, Growth of Thin Films, Semiconductors and Device Applications, Alternative Energy Technologies and Complex Facilities Using Ultra-High Vacuum. I hope that all of you will profit of this unique opportunity and will join the two scientific meetings. I am sure that there will be a large attendance at the ECM 100 as well at the correlated meetings. The contribution and the collaboration of all councillors are extremely important to warranty the success of all the actions that IUVSTA is preparing.

## IUVSTA Activities

### Executive Council Meeting ECM-99 San Diego

The [Executive Council Meeting ECM-99](#) was hosted by [American Vacuum Society](#). It was held at San Diego, California, USA, on 28<sup>th</sup> – 30<sup>th</sup> April, 2006 in association with the 2006 ICTMF meeting. We thank to AVS for perfect organization and pleasant evening.



### 2005:

**43rd IUVSTA Workshop** (Surface Science Division), "Chemical Resolution in Scanning Probe Microscopy", Zakopane, Poland, 6-10 December 2005.

[http://confer.uj.edu.pl/IUVSTA\\_Workshop/](http://confer.uj.edu.pl/IUVSTA_Workshop/)

The workshop was sponsored by the Surface Science Division of IUVSTA, Polish Vacuum Society (PTP), Polish Ministry of Research and Information Technology, and the Jagiellonian University. On behalf of the Union the Workshop was organized by Division of Nanostructures and Nanotechnology of the Polish Vacuum Society in cooperation with the Research Centre for Nanometer-scale Science and Advanced Materials (NANOSAM) at the Jagiellonian University. The Organizing Committee was chaired by Prof. Marek Szymoński.

The overall objectives of the meeting were focused on applications of scanning probe microscopy to chemical sensing with extreme spatial resolution. 12 invited lectures and 11 oral contributions were presented. A small poster session was organized and 5 posters were

presented. Three international companies presented their offers of SPM equipment and technical literature – Comef, Labsoft (representing Veeco), and Schaefer Technology. In total there were 55 participants from 8 countries.

#### 2006:

**45th IUVSTA Workshop** (Vacuum Science and Technology Division), "NEG (Non Evaporable Getter) Coating for Particle Accelerators and Vacuum Systems", Catania, Italy, 5-8 April, 2006. <http://www.aiv.it/aivevento3/index.html>

The Workshop was organized by the Italian Vacuum Association (AIV) and the Accelerator Science and Technology Center (CCLRC Daresbury laboratory, UK)

NEG films, sputter deposited onto the internal surfaces of vacuum chambers, have been proposed by CERN at the end of the 90's to substantially reduce the gas pressure in vacuum systems. They are ideal for narrow, conductance limited chambers, like Insertion Devices or particle accelerator chambers, which cannot be always efficiently pumped by ordinary means. Recent investigations have also shown that NEG coatings do present additional interesting features, like low secondary electron yield and low gas de-sorption rates under ions, electrons and photons bombardment, compared to traditional technical surfaces.

The aim of the workshop was to bring together the main researchers currently working on the development, characterisation and use of NEG coatings. The Workshop which was attended by 45 people coming from Europe, US, and Asia, resulted to be a very exciting event, which is believed to have increased the awareness on this promising technology. The Workshop programme and presentations can be found at [http://www.aiv.it/eng/scuole/neg\\_aiv.asp](http://www.aiv.it/eng/scuole/neg_aiv.asp)

**46th IUVSTA Workshop** (Surface Science Division), "Ultrafast SurfaceDynamics", Abashiri, Hokkaido, Japan, 21-25 May 2006. <http://www.nims.go.jp/ldynamics/USD/>

**48th IUVSTA Workshop** (Thin Film Division and Surface Engineering Division), "Influence of Trace Elements on the Nucleation and Growth of Thin Films", Budapest, Hungary August 26-31, 2006

The Workshop was dedicated to the memory of Prof. J. F. Poczka (1915 – 1975), who founded the research team for Thin Film Physics at the Hungarian Academy of Sciences (HAS) in 1959. He was one of the initiators of the International Committee of Thin Films and a founding members of the Editorial Board of "Thin Solid Films".

43 scientists from 13 countries attended this workshop. Prof. Peter Barna as the Chairman of the workshop had arranged an excellent scientific programme. Many of the most important problems of the field have been addressed during the workshop. It was illustrated by many examples that trace elements play an important role in nucleation and growth both from the vapour and the liquid phase. Moreover, also the structural evolution during heat treatment of materials may be strongly influenced by additives in minor concentrations, as can be seen from the successful development of highly heat-resistant nanocomposite films.

Novel methods for material characterisation being capable to identify single atoms with respect to their position and chemical nature have delivered new insight in the elementary processes of structure formation during thin film growth. Together with advanced theoretical methods new ways are now being opened up to grow thin films in a defined way. Even highly kinetically-constrained reaction paths can increasingly be applied in a controlled manner thus making the formation of new, hitherto unknown materials possible.

**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" will be held in Dubrovnik during October 22-26, 2006.

An interesting list of topics is proposed, and twelve distinguished Invited Lecturers are enlisted at the Workshop. This Programme should be highly attractive to the researchers from the Nanoscience, Thin Films, and Electronic Materials communities. <http://www.nano2006.org>

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**IUVSTA Technical Training Courses (IUVSTA-TTC)**

The 3rd IUVSTA Technical Training Course was held from June 1 - 3 at the Jagiellonian University, Kraków, Poland. The Course was organized by Prof. Marek Szymoński and had 107 Participants.

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

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**Future events****International Vacuum Congress IVC-17/ICSS-13**

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.

**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.

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**Miscellaneous****Donation**

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

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**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-100 Seoul, Korea**

The **ECM 100** will be held in Seoul, Korea at the invitation of the Korean Vacuum Society. There will be a special joint symposium with the Korean Vacuum Society from Monday to Wednesday. This will include the IUVSTA Highlights Seminars. The events will take place between Monday 18th September and Friday 22nd September, 2006, (ECM 20-22, hotel Sofitel). Web: <http://www.kvs.or.kr/~IUVSTA&ECM-100/>



The **ECM-101** will be held in Basel, Switzerland, Ramada Plaza Basel, on 16 - 18 February 2007 (must be prior 4 March).

The **ECM-102** is open for invitation by national vacuum societies.

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**List of future events****IUVSTA Science Workshops (ISW) being prepared:**

**47th IUVSTA Workshop** (Applied Surface Science Division), "Angle-Resolved XPS: The Current Status and Future Prospects for Angle-resolved XPS of Nano and Subnano Films", Riviera Maya, Mexico, March 2007. Web: <http://www.smcsyv.org.mx/arxps/>

### **IUVSTA Technical Training Courses (IUVSTA-TTC)**

The 4th IUVST-TTC will be organized by the Hungarian Vacuum Society and will take place in Budapest, from October 9 -13. Applications for 2 additional IUVSTA TTC's were received from the Chinese and the Slovak Vacuum Society.

### **Other Conferences:**

Vacuum Based Science and Technology, Darmstadt, Germany, October 10 - 13, 2006, <http://www-w2k.gsi.de/dvq-tagung-2006/>.

More on the [IUVSTA web](#).

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### **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>.

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Bulletin was published on 15 September 2006.

Edited by Christoph Eisenmenger-Sittner and Robert Redhammer.

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