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### SPECIAL ISSUE

Including rapid communications, original articles and a special section with papers from the Seventeenth International Conference on Surface Modification of Materials by Ion Beams (SMMIB), 13-17 September 2011, Harbin, China

#### Guest Editors:

Paul K Chu, Koumei Baba, Wolfgang Ensinger, Ruriko Hatada and Xiubo Tian

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0042-207X(201303)89:1-Y

ISSN 0042-207X  
89 1-284 (2013)

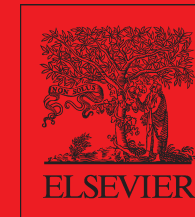
Printed by Henry Ling, The Dorset Press, Dorchester, UK.

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ELSEVIER

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Vacuum Vol. 89 (2013) 1-284



Volume 89

March 2013

ISSN 0042-207X

# VACUUM

## Rapid Communication in Vacuum, Plasma, Surface and Materials Science

### SPECIAL ISSUE

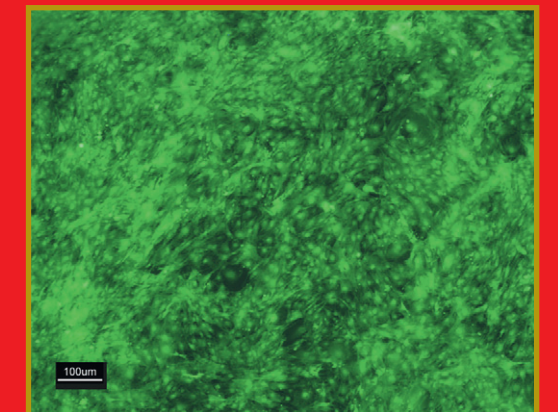
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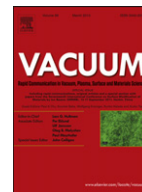
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# Vacuum

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## Editorial

The 17th International Conference on Surface Modification of Materials by Ion Beams (SMMIB) was held from September 13 to 17, 2011 in Harbin, China. More than 160 delegates from around the world attended the event and 198 papers were given, including 88 oral presentations and 110 posters. Plenary talks were given by Profs. B. Rauschenbach, Keming Wang, and J. Musil. 104 full manuscripts were submitted and after rigorous peer reviewing, this special volume of Vacuum publishes 42 accepted papers.

SMMIB is a recognized conference related to ion beam applications. The first conference was started in 1975 in England and recent SMMIB conferences were held in USA (1997), Beijing (1999), Germany (2001), USA (2003), Turkey (2005), India (2007), and Japan (2009). The aim of the conference is to bring together physicists, chemists, professors, and engineers from academic institutes and industries interested in both fundamental and applied applications using ion beams and related techniques. Emerging research areas have been extended and include biomaterials, new energy materials and environment-friendly materials. The topics of SMMIB2011 include new phenomena and mechanisms induced by ion beams, new hardware and sources for bombardment effects induced by plasmas or ion beams, materials processing using ion beams and plasmas, techniques and instrumentation related to

SMMIB, bio-medical and industrial applications of SMMIB, properties and structure characterization, modelling, simulation and theory related to SMMIB, high power pulsed magnetron sputtering (HPPMS), new functional coatings including DLC, hard coatings, and related areas.

General sponsorship of the conference was provided by State Key Laboratory of Advanced Welding & Joining, Harbin Institute of Technology. Many people contributed to the success of the conference including members of the international committee and local organization committee. The next SMMIB conference will be organized by Prof. Ahmet Oztarhan and held in Turkey in 2013.

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