

# The 2006 International Micromachine/Nanotech Symposium: Report

The International Micromachine/Nanotech Symposium (Micro/Nano 2006) and Micromachine Exhibition were held in 2006 as a combined event for the first time at the Tokyo International Forum (Yurakucho, Tokyo) and other venues.

The MEMS Standards Internationalization Workshop, MEMS Forum, the 12<sup>th</sup> International Micromachine/Nanotech Symposium, and Report on MEMS-ONE Project Achievements were all held over the three days (November 6-9) of the Micro/Nano 2006, attendance at each event surpassing expectations. The Micromachine Exhibition was held over two days, November 7-9, with the record attendance surpassing the

previous record by 2,638 (9,098→11,736) visitors. The 10<sup>th</sup> Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS2006) was also held concurrently (November 5-9, 2006) and the synergistic effect of this event also contributed to the tremendous success of Micro/Nano 2006. Detailed reports of each of these events follow. The organizers wish to express their deep gratitude to all those who cooperated or assisted in the organization and holding of Micro/Nano 2006.

(2006 International Micromachine/Nanotech Symposium and Micromachine Exhibition Secretariat)

## The 2nd Workshop on Characterization of Materials for MEMS/MST Devices

Used in many fields from sensors to man-machine interface and medicine, the automobile industry to IT and AV, MEMS has become a leading growth industry on a worldwide scale, yet the MEMS industry has almost no universal standards, a fact which is a significant impediment to industrial expansion.

A workshop was thus held on November 6, 2006, at the Mitsubishi Building in Tokyo with the purpose of having invited researchers – world leaders in the MEMS field whose research had produced outstanding results – speak on the very latest MEMS-related micro/nano technologies and evaluation as well as to provide a forum for the exchange of opinion and deepening of mutual understanding between countries with respect to the formulation of international standards.

The workshop began with an opening address by Organizing Committee Chairman Higo (Professor, Tokyo Institute of Technology). This was followed by a total of eight presentations – Europe (3), North America (2), Korea (2), Japan (1) - divided into two sections, “Frontline of MEMS Devices” and “MEMS Evaluation Methods and Standardization”. The presentations were listened to by a closely attentive audience of approximately 80 participants comprising representatives or associates of businesses, universities, and research institutions. In order of presentation, the speakers were as follows.

### “Frontline of MEMS Devices”

- Professor Park, Kyunpook National University, Korea
- Professor Hierold, ETH Zurich, Switzerland
- Professor Brugger, EPFL, Switzerland

### “MEMS Evaluation Methods and Standardization”

- Dr Huh, KRISS (Korea Research Institute of Standards and Science), Korea
- Professor Paul, University of Freiburg, Germany
- Professor Muhlstein, Pennsylvania State University, USA
- Professor Takashima, Kumamoto University, Japan
- Professor Ritchie, University of California, Berkeley, USA

Bringing together leading researchers whose work focuses mainly on the characterization of materials for MEMS/MST devices, this workshop provided many valuable opportunities; the opportunity to exchange opinions about standardization with the two researchers from Korea was particularly meaningful from the standpoint of developing an international network in the future.

The fact that we were able to gain the understanding of the American participants with regard to Japan's promotion of standardization efforts was also a significant move forward, providing an important pointer for international standardization activities in the future.



Photograph 1: Workshop in progress



Photograph 2: Workshop speakers and participants

## The 17<sup>th</sup> Micromachine Exhibition Concludes in Success

The 17<sup>th</sup> Micromachine was held over three days, from November 7 to 9, 2006, at Tokyo International Forum (Yurakucho, Tokyo); blessed with a great venue and excellent weather, the exhibition was a resounding success.

The theme for this year's exhibition was “International Tradeshow for Micro/MEMS and Nanobio Technologies”.

In addition to 13 of supporting Micromachine Center member organizations and 8 associate members of the MEMS Council, willing and generous cooperation in the arrangement of exhibits was also provided by private businesses, organizations, universities, and independent public organizations. A record total of 313 displays (429 booths) were exhibited by businesses, organizations, universities, and research institutions; 19 enterprises from abroad also presented exhibits.

A record attendance of more than 11,736 people was achieved over the three days of the exhibition, making the event a runaway success. Next year the exhibition will be held at Tokyo Big Sight.

The 18<sup>th</sup> Micromachine/MEMS Exhibition will be held at Tokyo Big Sight (Ariake, Tokyo) from July 25 (Wed.) to 27 (Fri.), 2007.

