

## The 2<sup>nd</sup> Workshop on Standardization for Micromachines / MST / MEMS in Tokyo

In addition to performing advanced research, Micromachine Center is working to achieve international standardization. So far the Micromachine Center has been studied in two areas: One is to establish unified technical terminology able to commonly use among various fields, because the micromachine is multidisciplinary system. And the other is "Standardization of measurement and evaluation methods of Micromachine" to compare the functions of newly developed micro-devices. Micromachine Center summarized these studies in technical reports. And the Center aims to propose these reports as international standard to international organization as contributions from Japan to the world. For achieving these and the international harmonization, Micromachine Center established on-line International Standardization Forum that exchanges opinions over the inter-net and is operating since 1998. The Forum occasionally hold face-to-face meeting such as the 2<sup>nd</sup> Workshop on Standardization held recently in Tokyo.

The 2<sup>nd</sup> Workshop on Standardization for Micromachine / MST / MEMS was held at Tokyo Metropolitan Small Business Promotion Agency on July 23, 2002, with Hisayoshi Sato, Professor of Chuo University, serving as chairperson.

The 2<sup>nd</sup> Workshop was scheduled to be held in Washington D.C. in October 2001, according to the agreement at the 1st Workshop on Standardization held in London in March 2001. However, this Workshop was postponed due to the terrorist attacks that occurred in New York and Washington D.C. on September 11, just prior to this date. It was decided that the 2nd Workshop on Standardization would be held in Tokyo in conjunction with presentations regarding RRT (Round Robin Test) on thin film specimens, which is planning to propose to international organization as world standards by Micromachine Center. Thirteen people, including four from overseas, joined in this workshop.

During the morning session, the workshop reviewed activities following the 1<sup>st</sup> Workshop, including standardization activities in the U.S., Germany, and Japan, and discussed future activities leading up to the 3rd Workshop. Dr. Kuniki Owada, joined as a special participant in this workshop, reported that a technical report issued by the Micromachine Center in 1998 called "Technical Terms in Micromachine Technology" (220 words) had been proposed to the IEC/TC47. Serving as a member of the IEC/TC47/WG4, Dr. Owada had worked on this proposal under commission by the Japanese Industrial Standards Committee. Takashima, Associate professor of Tokyo Institute of Technology, presented the development of a fatigue testing machine and results of fatigue tests conducted on cantilever type specimens. The Micromachine Center has proposed this machine to the METI as an item for standardization to follow the thin film tensile tests.

In the afternoon session they had presentations and discussions on RRT performed under the NEDO project called "standardization of evaluation method of properties for micromachine materials" which developed original testing machines for thin film materials and standard specimen of these materials ended in March last year.

A total of twenty-four people participated, including above workshop members and representatives from three universities, three makers, and the National Institute of AIST (Advanced Industrial Science and Technology) who involved in RRT, as well as the Japanese Standards Association, which is preparing international standardization of RRT. The participants agreed to support activities related to IEC terminology and to support such projects as world RRT proposed by U.S. delegate on thin film residual stress tests. They concluded to hold the 3<sup>rd</sup> Workshop on Standardization at NIST in Washington, U.S.A. in March 2003.



**The 2<sup>nd</sup> Workshop on Standardization for Micromachine/MST/MEMS**

