2nd Japan-Korea-China MEMS Standardization Workshop held in Gyeongju, South Korea (June 22 - 23, 2006)

The Micromachine Center is playing a leading role in MEMS international standardization activities. As a result of the Center's activities, Japan has led other countries in promoting such standardization activities as the publication of the "MEMS Glossary," "Tension test methods for thin film materials" and "Fatigue test methods for thin film materials".* In recent years, South Korea has also begun active efforts in this area.

Japan and South Korea in particular feel that it is important to exchange views regarding MEMS standardization and seek future cooperation. As a result, last year the first Japan-Korea-China MEMS Standardization Workshop was held. The Workshop provides a forum for discussions relating to standardization proposals and the possibility of conducting joint research relating to MEMS standardization. This year the second Workshop was held June 22 - 23, 2006 in Korea and at the Concord Hotel in Gyeongju, South Korea.

Gyeongju is a historic city that served as the capital during the Silla Era. It is also famous throughout the world for its many historical treasures.

Professor Sekwang Park of Kyungpook National University, the project leader for the International Electrotechnical Commission (IEC) TC/WG4, presided over the Workshop. Seven lectures were presented on the special theme of "Thin film testing of MEMS and NEMS."

Photo 1 Concord Hotel (Gyeongju)

Unfortunately there were no attendees from China. However, seven delegate from Japan, from such organizations as the International Standardization Engineering Laboratory, Kumamoto University, Kanazawa Institute of Technology, Kyoto University, New Energy and Industrial Technology Development Organization (NEDO) and so on, were in attendance, and approximately 20 persons from South Korea attended. The attendees listened to lectures and participated in a discussion of the latest research developments and standardization in this field.

Following words of welcome from Professor Park, there were four presentations from Korean researchers. Dr. Nak-Kyu Lee of the Korea Academy of Industrial Technology (KAITECH) gave a presentation entitled "Micro Material Property Measurement Technology of Micro Thin Film Materials." Professor Chung-Seog Oh of Kumoh National Institute of Technology gave a lecture entitled "Some Efforts in Improving the Mechanical Properties Measurement Acciracy for Thin Films." Dr. Yong-Hak Huh of the Korea Research Institute of Standards and Science (KRISS) gave a presentation entitled "Measurement of Micro-tensile Properties for Thin Film Materials using Micro-ESPI Technique." Finally, Professor Jun-Hyub Park of TongMyong University gave a presentation entitled "Tensile and Fatigue Test of Thin Film by New Test Procedure."

Next, there were three presentations by Japanese researchers. First was Professor Iwaoka of Kanazawa Institute of Technology, who gave a presentation entitled "MEMS Technology Trends and Needs of MEMS Standardization for Industry." He spoke about overall technical trends relating to MEMS and, based on a comparison of the technical infrastructure for IC and MEMS, emphasized the need for a strategic standards program in the MEMS field. Next, Professor Takashima of Kumamoto University gave a presentation entitled "Round-Robin Test on Fatigue of Thin Films for MEMS Applications in Japan." He presented an overview of the round-robin fatigue tests conducted from 2003 through 2005 and talked about a draft proposal for a thin film fatigue test method to be presented to the IEC TC/WG4. Finally, Associate Professor Tsuchiya of Kyoto University gave a presentation entitled "Humidity Effect on Tensile Strength and Fatigue Properties of Single Crystal Silicon Microstructures." He spoke about the latest research into the fatigue properties of single crystal silicon microstructures.

This second Japan-Korea-China MEMS Standardization Workshop was significant in that the presentations from Japanese speakers served to showcase the outstanding and innovative nature of Japan's standardization proposals relating to MEMS material evaluation. Moreover, the Korean presentations demonstrated the great interest in Korea in both standardization in the MEMS field and research into techniques for evaluating thin film materials and underscored the intensive efforts being made in Korea with regard to standardization. At the Welcome Party held at the Gyeongju Concord Hotel following the presentations, there was a spirited exchange of perspectives and technical knowledge between the Japanese and Korean researchers. The location and other details for the next Workshop are expected to be decided this autumn.

Photo 2 Speakers and participants from Japan
Top left : Professor Iwaoka
Bottom left : Associate Professor Tsuchiya
Top right : Professor Takashima
Bottom right : Director Owada

* "MEMS Glossary" (FY2005 International Standard [IS])
"Tension test methods for thin film materials" (FY2006 International Standard [IS])
"Fatigue test methods for thin film materials" (Proposed FY2006 New Process [NP])