

Dissemination and Publicity Projects

1. International Robot Exhibition 2009

The International Robot Exhibition 2009 organized by the Japan Robot Association and Nikkan Kogyo Shimbun, Ltd. was held November 25–28 at Tokyo Big Sight. The Micromachine Center (MMC) participated in the exhibition to introduce MEMS technology and the Center's activities.

In order to illustrate MEMS technology to both people involved in robotics and the general public, the MMC set up a trial corner for visitors to experience motion sensing. Here, an accelerometer and a gyroscope (angular velocity sensor), practical examples of MEMS-based sensors, were incorporated in a game controller. With many children and adults took turns trying out the controller throughout the exhibition, the trial corner helped illustrate how MEMS devices are already working for us in our everyday lives, as reflected in the expression "MEMS in your pocket."

In addition, the MMC booth featured presentations on the MEMS Mall, a service for introducing MEMS products over the Internet, and examples of practical applications produced from the METI's Micromachine Project, which laid the foundation for Japan's micromachine and MEMS technology in the 1990s. Both presentations were well received. We also announced the upcoming event MicroNano 2010 to be held July 28–30, 2010. The event, which is being sponsored by the MMC, will include ROBOTECH, Exhibition on Service Robot Manufacturing Technologies that is to be held concurrently with the Exhibition Micromachine/MEMS.



The MMC booth



The MEMS trial corner

2. The 2nd MemsONE Technology Forum in Tokyo

On November 27, 2009, the 2nd MemsONE Technology Forum in Tokyo was held at the MMC's Techno Salon. In an effort to publicize MemsONE to a wider group of people, the name of the forum was changed this year from the MemsONE User's Group so as to accept not only users, but also anyone interested in MemsONE, and participation in the forum was free. This year's event attracted a total of twenty people, including speakers, users, and the general public and created a hot discussion.

The following is a list of the lectures given at the 2nd MemsONE Technology Forum in Tokyo.

Special Lecture I : "R&D on microdevices for applications in regenerative medicine"; Hidetoshi Kotera, professor at Kyoto University

Special Lecture II : "An introduction to the MEMS Equivalent Circuit Generator"; Gen Hashiguchi, professor at Shizuoka University

Case Studies I : "Applying MemsONE circuit analysis to the design of a rotary stepper motor"; Junji Sone, associate professor at Tokyo Polytechnic University

Case Studies II : "Advanced mesh generating techniques with MemsONE"; Yukihisa Maeda, UEL Corporation

Demonstration on the features of version 3.0: the MemsONE Support Center



Prof. Kotera of Kyoto University



Prof. Hashiguchi of Shizuoka University

3. Publicizing MemsONE Nationwide

Previously, the MMC has disseminated information on MemsONE through exhibits, lectures, seminars, and workshops primarily in metropolitan areas. However, recently we began expanding our PR efforts through personnel training projects being conducted throughout Japan.

The MMC manned an exhibit at the 13th Tohoku CAE Konwakai held October 16 in Miyako City, Iwate. MemsONE was also used as the teaching material in intensive analytical courses held concurrently with the Forum for CAE engineers. To read more about the CAE Konwakai, please go to the Web site <http://www.cae21.org/>.

As part of the "Personnel training program for pioneering new innovative projects related to micro/nano mass production and applied device fabrication," a personnel training project conducted in 2009 through industry-academia collaboration, the National Institute of Advanced Industrial Science and Technology (AIST) organized a personnel training workshop entitled "MEMS design and simulation techniques." The workshop was held at Techno Plaza Okaya in Okaya City, Nagano on October 26 and featured MemsONE as the training material.

Announcing the release of MemsONE Version 3.0!!
More friendly (boundary element method and shape-defining function)
More powerfully (mesh generator, mask CAD)
Improved material and knowledge databases
See <http://www.mmc.or.jp/mems-one/> for more information.