

Transducers '03

Transducers '03 (The 12th International Conference on Solid-State Sensors, Actuators and Microsystems) was held from June 9 (Mon.) to 12 (Thurs.), 2003 at Boston Marriott Copley Place in Boston, Massachusetts, USA. With approximately 1,100 participants, attendance was slightly less than the 1,200 participants at Transducers '01 two years ago; nevertheless, with attendance exceeding 1,000, the conference was an overall success. The SARS scare, which broke just prior to the conference, is believed to have been one of the factors behind the drop in attendance.

A total of 486 papers were presented: 4 plenary presentations, 12 invited presentations, 199 oral presentations, and 271 poster presentations. Altogether 960 papers were submitted, making the selection rate 48%. At Transducers '01, a total of 401 papers from 856 submissions were presented, with a selection rate of 47%. Thus, as the number of papers submitted for Transducers '03 increased over those for Transducers '01, the number of presentations also increased. Moreover, the number of papers submitted for Transducers conferences has consistently increased (1997: 641, 1999: 826, 2001: 854), a trend that is indicative of the growing intensification of research in the MEMS field. Except for the plenary session held on the first day, the conference consisted of parallel sessions (four sessions conducted simultaneously), each of which was filled almost to capacity. Sessions on technologies close to commercial application were particularly popular, with standing room only for sessions on packaging and RF-MEMS.

By country, American speakers made the largest number of presentations (192), followed by Japanese (89), then German (32). The number of Korean presentations was the next highest, and the increased number of presentations by speakers from China, Taiwan, and other Asian countries and regions reflected the widespread expansion of MEMS research worldwide. By field, a large proportion of presentations concerned fluid technology. Many of the presentations on medical treatment, biotechnology, and chemistry subjects also overlapped into fluid technology, indicating the remarkable progress being made in this field. Throughout the conference overall, there was also an extremely large number of presentations concerning product development, a trend that has manifested in recent years. This trend was advanced even further at Transducers '03, with a noticeable increase in the number of presentations addressing problems, and measures for resolving these, faced in the practical application of MEMS technology to commercial production.

The conference venue, Boston, was also host to the first Transducers conference in 1981; in coming full circle over these 22 years, it feels as though we have reached a landmark. During this period, research focus has shifted from element research to product development-related research, and the number of papers presented by businesses has also increased. This conference clearly demonstrated how the industrial world and the world at large are moving significantly towards the industrialization of MEMS.

European Foundries

Between July 7 and 11, 2003, a study tour of leading foundry services in Europe was conducted in order to promote the development and expansion of a foundry service network in Japan.

The study tour consisted of visits and discussions in order to obtain information and hear workers opinions directly. While focusing on foundries, the tour also visited research institutions, design houses, and marketing consultants, taking a multidimensional approach that revealed through these various perspectives the true workings of European network services.

The study tour found that several overseas foundries have been established as spin-offs of public research institutions and have continuing strong partnerships with their parent institutions. We also discovered that the places we visited had several features in common. For example, with superior IP, the enterprises tended to choose business strategies that involved using their high added value in pursuing small to medium niche markets, and they actively welcomed investment from a variety of sources, with business already being begun along innovative themes. For tour participants, the freshness of and enthusiasm for new industries were palpable.

Furthermore, those whom we spoke to showed a high degree of interest in foundry services in Japan, expressing great expectations for the concept of a network service for the future.

(Places Visited)

- Colibrys (Foundry)
- Institute of Microtechnology, Neuchatel University (R&D)
- Yole Development (Marketing)
- CEA-LETI (R&D)
- Tronics (Foundry)
- MST-Design (Design House)



Visiting CEA-LETI (Grenoble, France)