μTAS 2002

μTAS2002 (The 6th Micro Total Analysis Systems 2002 Symposium) was held at Nara New Public Hall in Nara, Japan, from November 3 to 7, 2002.

Fig. 1 Nara New Public Hall

This was the sixth holding of the international conference, which began in 1994 as a small-scale workshop held in Enschende, Netherlands. Initially the conference was held in alternate years, but after the year 2000 the conference was switched to an annual format in order to accommodate the increase in participants. The number of participants at μTAS 2002 exceeded 700.

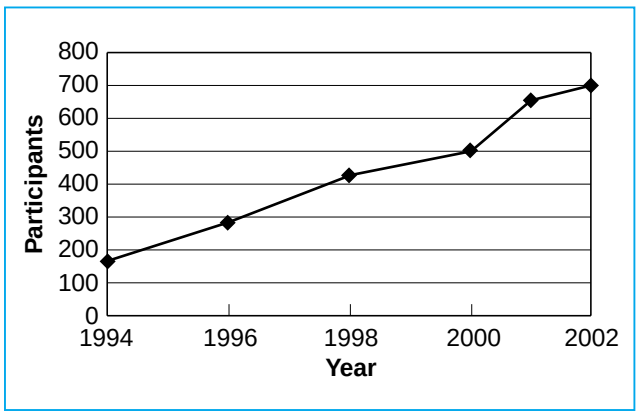

Fig. 2 Trends in participation

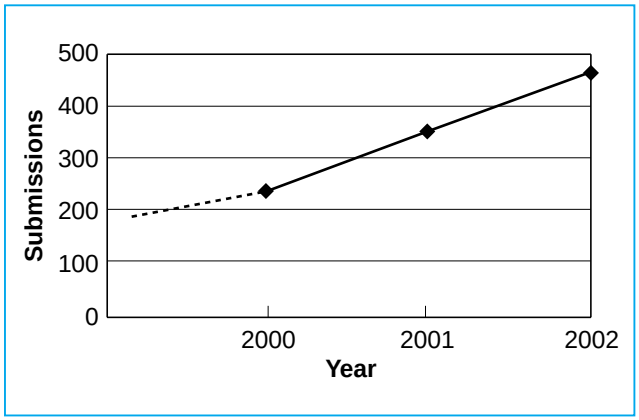

Fig. 3 Trends in abstract submissions

Since an increase in the number of abstract submissions accompanied this increase in participation, speeches were held in parallel sessions, using the same format employed in the previous year. As a result of the increase in poster presentations, 66 oral presentations and 257 poster presentations were selected from among 460 submissions, equivalent to an approximate 70% acceptance ratio. Since μTAS is limited in its fields and has a higher acceptance ratio than that for MEMS, transducers, and the like, the international conference is thought to be an excellent opportunity to learn about the latest trends in the field. However, while the conference provides many advantages, such as the possibility to hear explanations of poster exhibits firsthand from the researchers, this conferences was mildly disappointing in that the posters had to be replaced daily due to the limited exhibition space and visitors could not view posters at after hours, as is possible overseas when the conferences are held at hotels, for example.

The percentages of presentations broken down by region were 40% from the U.S., 24% from Europe, and 36% from Asia. This distribution was more balanced than the previous year, when North America accounted for approximately half of the presentations, due to the effects of the simultaneous terrorist attacks.

In the early 90s, the application of a sensing technology using capillary electrophoretic separation and fluorescent light in on-chip DNA analysis set the stage for developments that put μTAS research in the spotlight. As with last year, there was an astounding number of presentations on DNA, proteins, cells, and other matter that originates in organisms. Further, presentations emphasizing applications of MEMS devices were more numerous than those on devices themselves, such as micropumps.

These trends showed an increase in studies on performance enhancements in more practical areas of DNA analysis and an increase in cases using actual samples rather than reference materials and alternate materials. The study trends also revealed a shift from DNA and proteins to cells. One presentation commented on the production of chips used for hemanalysis that are developed from layers of plastic molded components. There appears to be a lot of activity in the formation of nanostructures through a combination of disposable chips and surface modification, polymer materials and their processing techniques, and device development.

Next year the conference site will shift back to America. μTAS 2003 is scheduled to be held in Squaw Valley, California, from October 5 to 9, 2003.