Report on the 51st Spring Meeting (2004) of The Japan Society of Applied Physics and Related Societies

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The 51st Spring Meeting (2004) of The Japan Society of Applied Physics and Related Societies was held over four days, from March 28 (Sun.) to March 31 (Wed.), 2004, at the Tokyo University of Technology (Hachioji, Tokyo). This Meeting was held at the Tokyo University of Technology in the spring of 1998, making this the second Meeting at the University and the first in six years. The weather over the four days of the Meeting was for the most part clear and pleasant, and the Meeting was a great success, thanks to the valuable contributions made through the efforts of President Hideo Aiso and other advisors; Prof. Isao Kurabe, Chairman of the Local Steering Committee; Prof. Yoh Mita, Prof. Hajime Yamamoto, and Deputy Secretary Kazuo Miyakoshi, all Vice-Chairman of the Steering Committee; and all of the members of the local Steering Committee. We would like to express our deep appreciation to all those involved for their valued assistance.

1 Meeting Statistics

At this Meeting, there were a total of 4,801 presentations of research results, including 4,275 regular lectures and 526 symposiums and other topical sessions (calculated in 15-minute segments, representing the same time allocated to regular lectures), with countless lively debates. Incidentally, at the Meeting held last spring at the Yokohama Campus of Kanagawa University, there were 4,072 regular lectures and 591 symposiums and other topical sessions, for a total of 4,663 presentations, so the total number of presentations increased by 138, making this the largest Meeting in the history of the Society.

At meetings of the Japan Society of Applied Physics, the number of lectures has for the most part fluctuated along with the trends in the Japanese semiconductor industry, from the period of prosperity in the 1980s to the slump of the 1990s. Looking at the trends in the number of lectures over the past three years or so, however, it would appear that the tone of recovery has become firmly established. Perhaps as a reflection of this trend, the number of registered participants also reached 9,459, a significant increase compared to the 9,117 participants at Kanagawa University last spring, surpassing the past record of 9,443 participants in 1991 (Tokai University, Konan Campus), setting a new record for the number of participants as well (refer to Fig. 1, which shows the number of lectures and the number of participants for Meetings from 1986).

At this meeting, the number of papers submitted increased in all 15 of the Main Classifications. Looking at these Main Classifications individually, there was a particularly large increase in papers on topics such as Applied Materials, Organic Molecular Electronics and Bioelectronics, Measurement and Control, Quantum Electronics, and Optoelectronics (see Table 1).

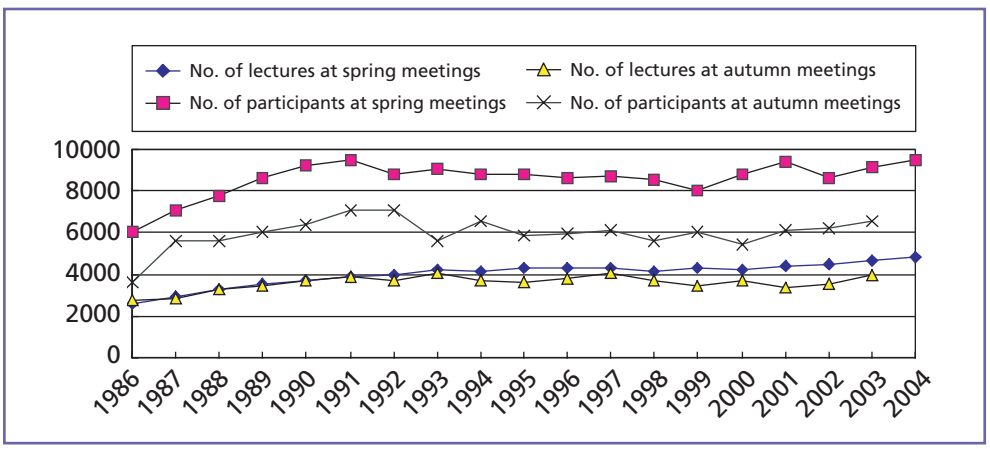

Fig. 1: Number of lectures and participants for Meetings from 1986

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In addition to the regular lectures, there were symposiums (30 themes), joint sessions (6 themes), and general lectures within classifications (2 themes). There were also a number of special lectures commemorating awards received, including the Fourth Achievement Awards (3 awards), the Fifth Optics and Quantum Electronics Achievement Award (1 award), the First Optics and Electronic Integration Technology Achievement Award (the Hayashi Award; 1 award), and the Optics Paper Award. Two "Society of Applied Physics Schools" were also held (planned by the Plasma Electronics Category Subcommittee): School A was based on the theme of "This is how inventions and discoveries came to be – Advice to Graduate Students and Young Researchers," and School B on the theme of "Plasma Sciences that support cutting-edge technologies – from Nanotechnology to Biotechnology." Both of these schools were very popular, with 269 participants attending School A and 147 participants attending School B.

The "15th Scientist Awards for the Presentation of an Excellent Paper" were also presented. A total of 36 recipients were selected through a careful screening from among 518 of the 3,590 regular lectures presented at the 2003 Autumn Academic Conference for which applications had been received in advance. Chairman Hiroyuki Sakaki presented the award certificates along with a commemorative gift, praising the accomplishments of these young researchers, and offering words of encouragement for the future.

Table 1 (a): Top 5 Main Classifications based on Rates of Average Increase for over the Past 10 Years

Main Classification No.	Name of Main Classification	Average Increase over Past 10 years
8	Applied Material Physics (215 lectures)	17.3 %
10	Molecular Electronics and Bioelectronics (526 lectures)	8.0 %
2	Measurement and Control (63 lectures)	7.9 %
4	Quantum Electronics (344 lectures)	6.5 %
5	Optoelectronics (233 lectures)	6.5 %

Figure in parentheses is the no. of lectures for spring 2004.

Table 1 (b): Top 10 Secondary Classifications based on Rates of Average Increase for over the Past 3 Years

Secondary Classification No.	Name of Secondary Classification	Average Increase over Past 3 years
10.8	Special Field A: Organic Devices (132 lectures)	42.7 %
10.9	Special Field B: Molecular and Bio Nanotechnology (62 lectures)	41.3 %
10.7	Biological, Medical Engineering and Biochips (55 lectures)	33.9 %
4.2	Photonic Nano-Structures and Relating Phenomena (90 lectures)	32.0 %
7.3	Lithography (78 lectures)	28.0 %
4.4	Ultrafast Lasers and High Field Lasers (58 lectures)	27.9 %
6.3	Oxide Electronics (77 lectures)	27.0 %
3.4	Optical Instrumentaion and Measurement (52 lectures)	19.5 %
5.4	Optical Processing (121 lectures)	19.5 %
8.5	Thermoelectric Energy Conversion (60 lectures)	19.1 %

Figure in parentheses is the no. of lectures for spring 2004.

2 Internet reception, test operations of PC Projectors during presentations, etc.

The Society is now receiving submissions of papers electronically, but starting with this Meeting, submission of papers in hard copy format had been abandoned; all papers were received electronically via the Internet. The Society began accepting some submissions for its Digest in electronic format from the call for papers for the Spring 2002 Meeting, meaning that a complete shift to electronic submissions has been achieved after only two years.

Furthermore, presentations were made using PC projectors rather than overhead projectors, on a trial basis. These trials were conducted at 15 of the 52 venues where PC projection devices had been installed, and all these presentations went very smoothly, with no major problems encountered. Based on this experience, we look forward to making a full-scale shift to presentations using PC projectors in the future.

Regarding the response to the four key fields covered by comprehensive science and technology conferences, at the time of applications for regular lectures at this Meeting, presenters were asked to participate in a voluntary survey regarding these four fields: Telecommunications (IT), Nanotechnology (NT), Biotechnology (BT), and the Environment (ET). The results of this survey showed that of the 4,275 regular lectures, we found that 580 were in the field of IT, 1,557 in the field of NT, 118 in BT, and 151 in ET. Based on these results, we determined that fields related to Nanotechnology are by far the most popular, accounting for 36% of the total, and that the presentations were distributed evenly across the categories. Despite the close relationship between NT and the Society of Applied Physics, however, some have expressed the view that "Nanotechnology lacks visibility in the Society." We thus feel that it is time to reexamine the handling of lectures in fields related to nanotechnology. We look forward to the valued cooperation and assistance of all those involved.

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