

Report on the 66th Fall Meeting (2005) of The Japan Society of Applied Physics

Hideomi Ohnishi*

Chairman, Annual Meeting Planning and Operation Committee

The 66th Annual JSAP Meeting was held over five days, from September 7 (Wednesday) to 11 (Sunday) at the University of Tokushima Josanjima Campus (in Tokushima City). The organizers were expecting to see an increase in the number of participants, partly because this is the first Annual Meeting to be held in the Shikoku Region of Japan. Some of the transportation routes were shut down on Sept. 6, the day before the Meeting, due to the effects of typhoon No. 14, and there were some cancellations on the first day, for both speakers and participants. The weather was good for most of the rest of the week, however, and the meeting was brought to a successful conclusion, with no major incidents. We would like to thank all of the members of the Local Executive Committee for their selfless efforts, but particularly Professor Masuo Fukui of the University of Tokushima, who acted as Chairman of the Local Executive Committee, and the Vice Chairman, Prof. Nobuo Nishida, as well as Prof. Yasuo Ohno, Prof. Shiro Sakai, and Professors Masanobu Haraguchi and Kikuo Tominaga, who were in charge of administration for the Local Executive Committee. We also received invaluable assistance from University of Tokushima President Toshihiro Aono; Prof. Yoneo Yano, Head of the Faculty of Engineering; Prof. Makoto Wada, Head of the Faculty of Integrated Arts and Sciences; Tadashi Matsuka, Head of Administration in the Faculty of Engineering; Shigeki Mori, Head of Administration in the Faculty of Integrated Arts and Sciences; Prof. Hiroshi Kobayashi (Tokushima Bunri University); Prof. Yoshihiro Shintani (Director, The University of the Air, Tokushima Learning Center); and numerous other university administration officials. We would like to take this opportunity to express our deep appreciation for their efforts.

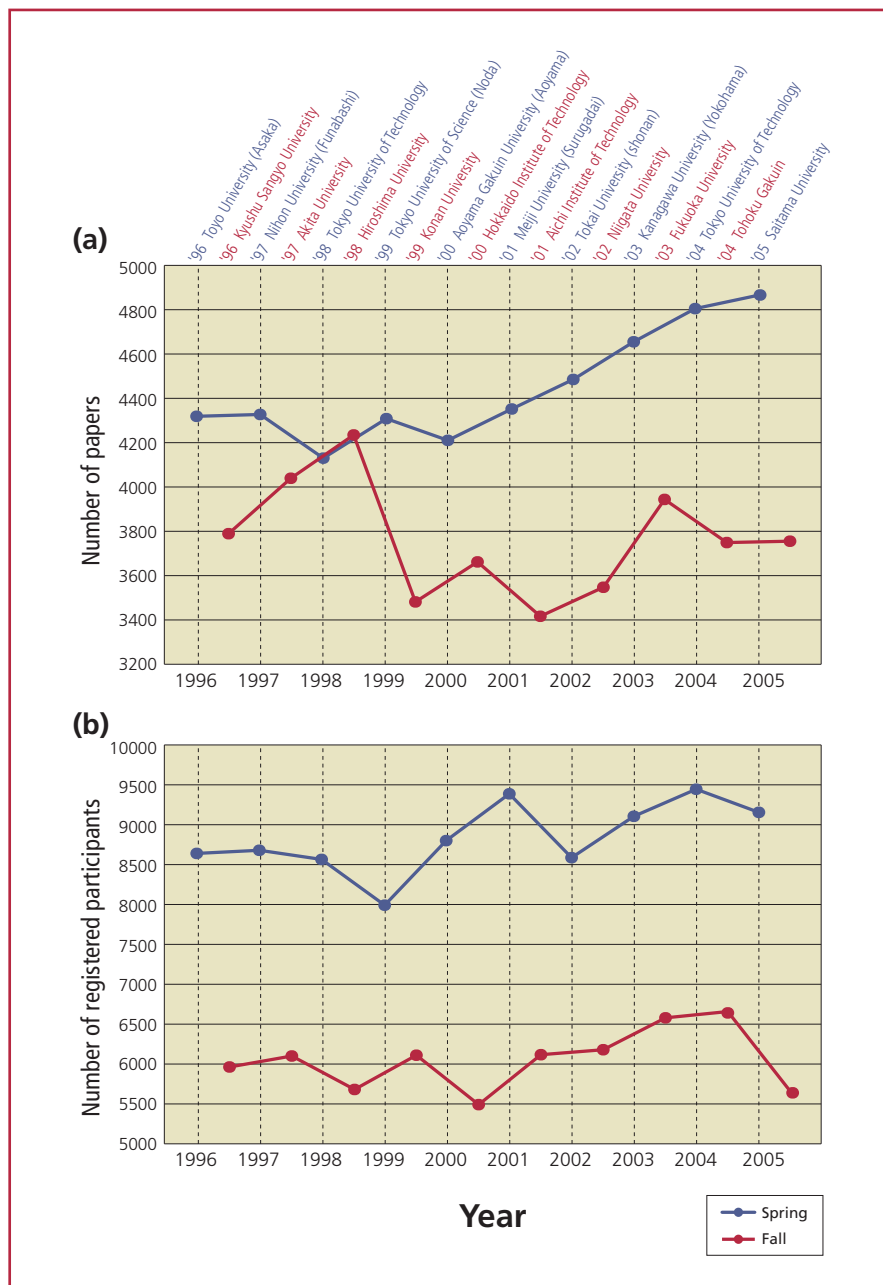


Fig. 1 Annual movement in (a) Number of papers and (b) number of registered participants (The number of presentations for the Fall 2005 meeting represents the number of applications.)

*Faculty of Engineering, Ehime University

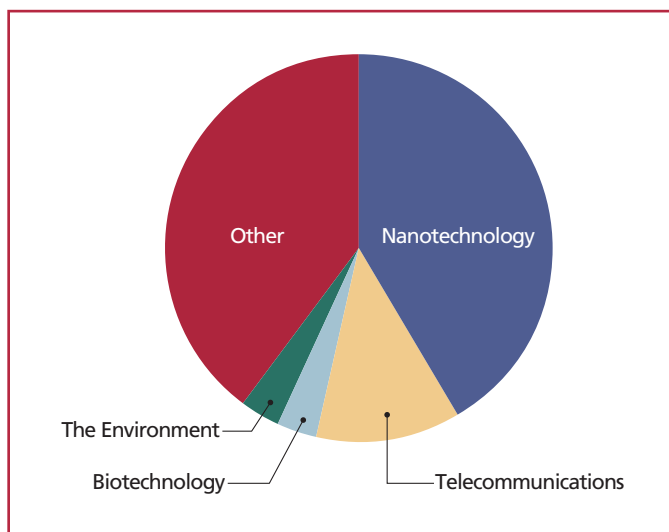


Fig. 2 Presentations related to four key fields

At this Meeting, there were a total of 3,763 presentations of research results, including 3,334 regular lectures and 422 symposiums and other topical sessions (calculated in 15-minute segments, representing the same time allocated to regular lectures). Incidentally, there were a total of 3,763 presentations at the Meeting (Tohoku Chapter) held at Tohoku Gakuin University last fall, including 3,372 regular lectures and 384 symposiums and other topical sessions. Following are the numbers of presentations in each Main Classification, including the relevant joint sessions. (The two figures indicate this year's Meeting in Tokushima and last fall's meeting in Tohoku.) Radiation and Plasma: 195/186; Measurement and Control: 42/36; Optics: 159/126; Quantum Electronics: 298/295; Optoelectronics: 153/167; Thin films and surfaces: 395/429; Beam applications: 257/236; Applied Materials: 131/137; Superconductivity: 99/175; Organic Molecular Electronics and Bioelectronics: 417/401; Semiconductors A: 333/375; Semiconductors B: 352/329; Crystal Engineering: 365/347; Amorphous materials and micro-crystals: 59/61; and General applied physics: 79/74.

On the first day of the Meeting, 108 presentations were cancelled in the morning, and 31 were cancelled in the afternoon. As a result of the harsh weather brought on by the typhoon, participants were slow to arrive on the morning of the first day, but at the lectures from that afternoon onward, it was business as usual, and there were many active discussions at the 32 lecture venues and poster sessions. The number of regular lectures declined from last fall, but this was supplemented to some degree by presentations from graduate students. Meanwhile, the number of symposiums and other topical sessions was up. Recently, there has been an overall trend in which the number of presentations at the fall meetings has remained constant, while the number at spring meetings has increased slightly. Figure 1(a) and (b) shows the yearly trends in the number of presentations and participants. There are a number of reasons for the changes in the number of registered participants, including the Meeting location and dates, and conflicts with other international conferences. Despite the unexpected arrival of the typhoon this year, the Meeting welcomed 5,635 registered participants. When we received papers in electronic format, we requested that the presenters indicate which of four key fields that paper was most closely related to. The results, as shown in Fig. 2, are as follows: Nanotechnology: 1,383; Telecommunications: 402; Biotechnology: 111; and the



Environment: 111. Thus, one of the most notable features of JSAP is that papers related to Nanotechnology accounted for more than 41% of the total, and that the papers are distributed across a wide range of classifications.

During this year's meeting, the "18th Scientist Awards for the Presentation of an Excellent Paper" were presented to 41 individuals selected through a careful screening process from among 659 of the 4,157 regular lectures presented at the Spring 2005 meeting by young researchers aged 33 years and under, for which applications had been received in advance. Chairman Hiroyuki Sakaki presented the awards along with a commemorative gift, praising these young researchers for their achievements and offering words of encouragement for their future endeavors. Special lectures commemorating the Scientist Award recipients were held at the respective sessions. Special lectures were also held to commemorate the 3rd Plasma Electronics Award, the 3rd Organic Molecular Electronics and Bioelectronics Category Subcommittee Award, and the 27th Japan Society of Applied Physics Paper Award. One of the most notable of these lectures was a presentation conducted by Dr. M. Asif Khan, of the University of South Carolina Research Group, who received the JJAP Paper Award as part of the Japan Society of Applied Physics Paper Awards. This lecture represents a major step forward in the internationalization of JSAP.

During this five-day period, two special events were held at the Tokushima City hotel that acted as the venue for the Meeting: the 37th JSAP School A, entitled "Semiconductors that create the 21st Century — Nitrides that Create the Future," and the a special lecture commemorating the World Year of Physics, entitled "The Challenge of Applied Physics: From foundations to applications — the researchers who create the future." At the School, instructors presented broad and deep discussions regarding Nitride research in Japan, ranging from the history of this research to practical devices. The special lectures were open to members of the regional community, targeting adults as well as high school and university students. First, Prof. Kenjiro Oura offered an outline of the special lectures and the intent of the event as a whole, and talked about the relationship between Tokushima and Albert Einstein. Chairman Hiroyuki Sakaki provided a review of the contributions that Japanese researchers and engineers have made to semiconductor research, in a lecture entitled "Using physics to open up the

future for people and the Earth — A focus on semiconductor research and device applications." In a lecture entitled "Searching for the Ideal Blue Light Emitting Device: My Nitride Research," Prof. Isamu Akasaki talked about the background and results of research devoted to GaN, and about the importance of never giving up. Mr. Yutaka Tasaki, Vice President of Nichia Corp., gave an impassioned speech on the importance of the "spirit of challenge" from a corporate perspective, under the title of "Bringing light from Shikoku to the World — the road to the creation of the LED Business." These presentations received an excellent response from the general listeners in the audience, who were heard to say, "They speak directly to young people — it was an extremely meaningful event." According to a report by Dr. Yoshiki Naoi from the Local Executive Committee, the school had about 500 participants — higher than any similar event held in the past — and the special lectures welcomed more than 600 participants, of which almost 100 were high school students or members of the general public. We would like to offer our sincere thanks to all those who were involved in holding this Meeting in various capacities.

Starting from this year's Autumn meeting, advance participant registrations and reservations for the Digest could be made via the Internet. The number of Digests is limited (No. 0 and Nos. 1-3), so we ask for your kind cooperation in making reservations whenever possible. At the both the Spring and Fall meetings this year, PC presentations were made on a trial basis at all of the lecture venues. We encountered fewer technical problems (e.g., with PC connections) than in the past, and we are planning to fully implement these PC presentations starting from the Spring 2006 Meeting. We expect that this will make the presentations even more effective, for example with greater slide clarity and the use of video contents, and we look forward to seeing many interesting and meaningful lectures next year.

JSAP INTERNATIONAL