NT'06 Conference Report

Overview

Currently, "carbon nanotubes" are recognized as the leading materials, widely studied in various fields from fundamental science areas to applications. Therefore, it attracts the world's attention to create the new innovative technology.

"1st International Conference on the Science and Application of Nanotubes" was held in 1999 in Michigan State University, U.S.A. It was founded by Prof. Tomanek of Michigan State University to exchange scientific and technological information and enhance the development of overall studies of nanotube areas. 2nd International Conference was held in 2001(NT'01) in Potsdam, Germany. The number of participants was 300 and almost twice as many as its expected number. The Conference has been continued by strong requests from various fields. NT'02 was held in Boston University. NT'03 was in Seoul University, Korea, and NT'04 in San Luis Potosi attracted more than 300 participants. Last year, 2005, 500 scientists attended successfully at NT'05 in Gothenburg, Sweden. NT'06 was held at Nagano, Japan. More than 600 participants from 27 countries and areas are gathered.

Purposes /Contents

This conference has been at the forefront of applied science and provided the opportunities for scientists to present the most recent up to date studies of nanotubes. The additional purposes of the conference are: 1) to exchange the information with eminent scientists and determine the direction of ones' studies; 2) to foster young scientists for the future development in this field.

NT'06 started on 18th (Sun.) of June with the tutorial sessions by Prof. M.S. Dresselhaus of MIT and four other leading experts on nanotube studies (J.E. Fischer, E. Kauppinen, M. Terrones, and D. Tomanek). The conference was held from 19th (Mon.) till 23rd (Fri.) of June, and had 29 oral presentations (5 keynote talks, 15 invited talks, 1 special talk, and 8 contributed talks) and poster sessions in 5 specific areas. Here and there, lively debates were observed throughout the conference.

The total number of abstracts was as many as 457, and 8 oral presentations elected of posters were also highly praised by participants.

The fields of expertise of the conference were:

1 Synthesis of nanotubes, development of their purification, and structure controls
2 Electro-optic characteristics of nanotubes
3 Characteristics and applications of nanotube, composite materials
4 New dimensions of nanotube, functions and applications
5 Analysis techniques of nanotubes

In addition, 8 companies set up the booths to exhibit the advanced technologies. Their leading techniques received the participants' interests and attentions. These opportunities provided us the key toward the coalition of academic areas and industries on fundamental science and applications.

Results

The followings are the results of NT'06 conference:

- The conference could provide the opportunities for scientists to present their leading studies, and have debates on Nanotubes. The materials have been expected to be developed rapidly and widely applied in this 21st century. It helped to ensure the orientations and motivations of future studies and enhance international collaboration and applied studies.
- The conference could indicate the high achievement on our studies to the world. It also enhanced the international exchanges and helped to found the international study bases.
- The conference set out to open widely toward the society. As a result, it increased public awareness and Nagano's local hospitalities.
- The conference provided the newly developed information of fundamental sciences to the industries of local areas and nationwide. It also helped to create new industries of nanotubes.
- The conference presented the leading nanotube studies in fundamental and applied areas

in this country. The results of those studies truly appealed to worldwide scientists and industry fields.
- "Environment, energy, and telecommunication" are the key elements of technology in 21st century. Nanotubes are common materials among those 3 fields. The conference enhanced such abilities of nanotubes.
- The conference could give the opportunities to discuss the toxic potentials of nanotubes. It aimed to make a social agreement on this material.

Company exhibitions

Eight companies (GSI Creos Corporation, Shimadzu Corporation, JEOL Ltd., BEL Japan, Inc., MEFS & Showa Denko K.K., RF Co. Ltd., Cybernetsystems, Co. Ltd., Nanocyl S.A.) exhibited throughout the conference.

Conclusions

Carbon nanotube is one of the most expecting materials on fundamental and applied sciences. NT'06 Conference could provide the opportunities for worldwide scientists to present their studies and give debates on their expertise. It enhanced the efficiency of participants' further studies. It also gave momentum to international collaborative projects and applied studies by showing a clear direction and a motivation on this issue. The conference helped for those scientists to show their accomplishments to the industrial world as well as other scientists. The eminent scientists and young researchers were able to exchange their opinions throughout the conference. These opportunities might enhance the worldwide cooperative studies and developments in the future.

Overall environment of the conference was satisfactory to the participants and enhanced the lively debates between well-known scientists and young researchers until the midnight (around 22:00 pm). The conference can contribute to the international developments of nanotubes. Therefore, NT'06 conference was praised as one of the high class of international conferences by participants and received lots of appreciations from them. The next conference, NT'07, will be held in Brazil.

Though it is the end of the report, to show our appreciations to various organizations and companies. The co-chair M. Endo, S. Iijima, D. Tomanek, and local organizer H. Nakamura would like to show our hearty thanks for all participants and the staff, who cooperated, of Endo Laboratory.