

Report of “Electro-active polymer and Its Application”, the Memorial Symposium for Collaboration between Fraunhofer IPA-AIST Kansai

Fraunhofer IPA (Fraunhofer Institute for Manufacturing Engineering and Automation) opened Fraunhofer OPER in March 2011 as a liaison office in Osaka where institutes for carbon nanotubes are gathered. AIST Kansai has 20 years experience in the research of electro-active polymer (EAP), and it is leading the world in the commercialization of ion conductive polymer actuators and the development of polymer actuators using carbon nanotubes.

Both institutions made an agreement on deepening their collaboration aiming at industrialization of EAP, and held a symposium on November 7, 2011, as one of the memorial projects to commemorate the anniversary of 150 years of Japan-German relations. At the symposium, Hans-Jörg Bullinger, President of the Fraunhofer-Gesellschaft, and AIST President Tamotsu Nomakuchi gave overviews of both institutions, and Yoshihito Osada, Leader of Molecular & Informative Life Science Unit of RIKEN gave a keynote speech titled “Artificial Muscles—Soft and Wet Engine of the Next Era—”.

Lastly, Kinji Asaka, Leader of a group at the Health

Research Institute, AIST, and Ivica Kolaric, Head of Department, Process Engineering of Functional Materials, Fraunhofer IPA, explained EAP research conducted at each institution. There were 134 participants at the symposium from not only industry but also from public research institutions and universities, and increased interest and expectations towards the research and development of EAP were shown.



AIST President Nomakuchi, and President Bullinger of the Fraunhofer-Gesellschaft

APMP 2011 Symposium

On December 6, 2011, APMP 2011 Symposium was held at the Kobe Convention Center. The Asia Pacific Metrology Programme (APMP) is a regional measurement organization in the Asia-Pacific region joined by 44 national metrology institutes and designated institutes from 29 economic blocks, acting to ensure international consistency of measurement standards.

This symposium was sponsored by the National Metrology Institute of Japan (NMIJ) of AIST and APMP with the support of the Ministry of Economy, Trade and Industry (METI), and 4 lectures were given on the theme of nanotechnology and material metrology.

At the beginning, Masayuki Yabuuchi, Director of the Intellectual Infrastructure Division, METI, Yukinobu Miki, Director of NMIJ, and Yu Yadong, Chairperson of APMP, gave opening remarks, which were followed by the lectures by Dr. Kamal Hossain of the National Physical Laboratory of the UK titled “Measurement Standards and Challenges and Strategy for Nanotechnology,” and by Dr. Daisuke Fujita of the National Institute for Material Science of Japan titled “Measurements and Analysis of Nano Materials,” in which they cross-sectionally gave future outlooks and present perspectives of this research field.

Later, Dr. Ren Lingling of the National Institute of Metrology of China gave a lecture titled “Development of the Thin Film Certified Reference Material and Single Wall Carbon Nanotube,” and Dr. Kensei Ehara of NMIJ,

AIST, gave a lecture titled “Development of Nanoparticle Standards: Current Status and Future Needs,” and they introduced latest research results in China and Japan. Chaired by Toshiyuki Fujimoto, Deputy Director of NMIJ, AIST, there were many lively questions about each lecture from the participants, and the importance of measurement standards was recognized again as the intellectual infrastructure to support the research and development of nanotechnology and material metrology.

This symposium was held by taking the opportunity when measurement standards related people from Asia-Pacific region were visiting Japan to attend the APMP general meeting and related meetings (December 4-9, Kobe Convention Center). It was open widely to the public, and 190 people participated in the symposium.



Lecture of Dr. Kamal Hossain, National Physical Laboratory, UK

The 8th Biomass Asia Workshop

The Eighth Biomass-Asia Workshop jointly organized by Vietnam Academy of Science and Technology (VAST), AIST, the New Energy Foundation (NEF) of Japan, and the Biomass Asia Research Consortium was held in Hanoi, Vietnam from November 29 to December 1, 2011. There were presentations from 7 countries including Japan and 2 international organizations and around 200 people from more than 10 countries participated (more than 60 people from Japan including 18 from AIST). The last six workshops were supported by the Special Coordination Funds for Promoting Science and Technology of Japan. However, since the seventh in 2010, the workshop has been held under an operational structure where each member takes turns in hosting the workshop. These workshops have been building a biomass-Asia network composed of 12 East Asian countries as its members. This is the second time for the workshop to be held under the new operational structure.

The opening remarks were given by the hosts, Vice President Duong Ngoc Hai of VAST, Vice-President Masakazu Yamazaki of AIST, and Chairman Takahiko Kondo of NEF followed by remarks from the representatives of the Ministry of Science and Technology of Vietnam, Embassy of Japan in Hanoi and the Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry of Japan. Following these remarks, the outlooks for the utilization of biomass energy in East Asia were presented in the keynote speeches by representatives of the Ministry of Industry and Trade of Vietnam, New Energy and Industrial Technology Development Organization of Japan, the Asian Development Bank, the

International Renewable Energy Agency, and VAST.

In addition, at 7 technical sessions and at the panel discussion, there were enthusiastic discussions concerning topics of biomass utilization technology focusing on fuel production, actual application of biomass utilization technology and the examples of the regional use of the technology in East Asian countries, fusion of the technology with environmental technology, and evaluation of sustainability of biomass use system with the project report of the Economic Research Institute for ASEAN and East Asia Project. At the panel discussion, future cooperative relations and the context of this workshop therein were also discussed.

On the last day, there was a technical tour, and the participants visited a cassava starch factory and one of the largest hydroelectric power plants in Vietnam (1 million and 92 thousand kw) in Hao Binh province, west of Hanoi. The next workshop will be held in the fall of 2012, in Japan.



Opening remarks of Vice-President Yamazaki

MOU Concluded between Geological Survey of Japan and U.S. Geological Survey

A memorandum of understanding (MOU) on research cooperation was signed by Director Tsukuda of the Geological Survey of Japan (GSJ), and Director Marcia McNutt of the U.S. Geological Survey (USGS) at the Marietta Hotel in San Francisco, USA, on December 5, 2011. The opportunity for signing the MOU was taken as the Fall Meeting of American Geophysical Union was held at a place near the hotel, and many of the geology related people from both Japan and US including Director McNutt were attending the meeting.

GSJ has been associating with USGS, and has been establishing a close collaborative relationship and exchanging personnel since the days of the former Agency of Industrial Science and Technology. From 1985 to 1999, collaborative researches of earthquakes, volcanoes, remote sensing, marine geology, and metallic ore deposits were implemented and many co-authored papers were published under a former MOU. After the establishment

of AIST, an MOU was concluded in 2002 and the research collaborations continued. As that MOU expired in 2007, both parties discussed research collaborations in the future, and agreed to conclude a new MOU.

The pillars of the MOU concluded this time are the research collaborations concerning rare earth element deposits, earthquakes and volcanoes as they are currently crucial issues, and more results are expected in the future.



Having concluded the MOU, Director Tsukuda shaking hands with Director McNutt