

## CAS-AIST-NEDO Workshop on Biomass Gasification

CAS-AIST-NEDO Workshop on Biomass Gasification was held on June 12 and 13 at Institute of Process Engineering (IPE), Chinese Academy of Sciences (CAS), in Beijing. This is the fifth of a series of workshops held to find specific collaborative tasks under the Comprehensive MOU concluded between AIST and CAS in May, 2004. The themes are all related to environment and energy because these fields are considered extremely important in constructing a sustainable recycling society, a low-carbon society which is an urgent global issue. New Energy and Industrial Technology Development Organization (NEDO), which has much to do with these themes, has also joined the other two organizations and has co-hosted the workshops.

At the workshop, technological issues and current conditions were considered concerning biomass utilization and gasification furnaces of various types such as fixed bed, fluidized bed and entrained bed. The general undertaking of each issue and projects and research topics were presented by 15 lectures and 14 poster presentations by research institutes affiliated to CAS, mainly IPE and Guangzhou Institute

of Energy Conversion (GIEC) from the Chinese side, and AIST and NEDO from the Japanese side. Lastly, there was a round table discussion on concrete research collaboration on co-gasification of biomass and coal, and environmental measures technology, and there were active discussions. On the first day, there was a lab tour of IPE, and on the second day, a tour was held to see actual example of gas supply from biomass gasification to houses in Tongzhou region near Beijing and gas supply from fermented biomass of livestock excretions. Much information was obtained on the Chinese situation concerning the relevant areas.



Participants of the Workshop

## Beginning of Collaborative Relationship with Federative Republic of Brazil on Bioethanol Production from Biomass Residue without Any Competition with Food

AIST delegates accompanied Mr. Akira Amari, then Minister of Economy, Trade and Industry (METI), on his visit to Brazil, and attended the Biomass Working Group (WG) meetings hosted by both governments. AIST also signed a collaborative research contract with the Federal University of Rio de Janeiro (UFRJ) on bioethanol production from biomass residue without any competition with food.

On July 2, 2008, a Japan-Brazil Biomass WG was held at Ministry of Development, Industry and Foreign Trade in Brasilia, the capital of the Federative Republic of Brazil. From the Japanese side, then Minister Amari, officials of METI, Mr. Masakazu Yamazaki, Vice-President of AIST and others from several businesses attended, and from the Brazilian side,

Mr. Miguel Jorge, Minister of Development, Industry and Foreign Trade, Mr. Sergio Rezende, Minister of Science and Technology, officials of Ministry of Development, Industry and Foreign Trade, Ministry of Science and Technology, and Ministry of Agriculture, Livestock and Supply, and others from UFRJ, and businesses of Brazilian Sugarcane Industry Association (UNICA) attended. Undertakings and actual state of development concerning bioethanol were discussed. Vice-President Yamazaki gave an overview of AIST, explained the biomass research development of Japan, and presented the collaborative research of ethanol production from lignocellulosic (woody) biomass to be started by AIST Biomass Technology Research Center and UFRJ.

After the WG, a collaborative research contract was signed between AIST and UFRJ. Vice-President Yamazaki from AIST and Prof. Angela Uller, Vice-President of UFRJ for Graduate Studies and Research signed in the presence of then Minister Amari and Minister Jorge. This collaborative research aims to develop novel technology for highly-efficient ethanol production from lignocellulosic biomass by combining original preprocessing technology, and enzymatic degradation and glycation technologies. By developing technology that effectively uses biomass without competing with food, contribution to the prevention of global warming is anticipated.



From left: Vice-President Uller of UFRJ for Graduate Studies and Research, Minister Jorge of Ministry of Development, Industry and Foreign Trade, then Minister Amari of METI, Vice-President Yamazaki of AIST

## Exhibition at ASEAN Science and Technology Week

The 8th ASEAN Science and Technology Week was held from July 7 to 11 at Manila, Philippines. This event is held every three years in rotation amongst ASEAN countries for the promotion of science and technology, especially for the education and popularization of scientific technology amongst the young people. Exhibitions were made by the government, businesses, and universities of the Philippines, as well as organizations of ASEAN countries, Japan, China, Korea, India, and EU.

AIST exhibited 8 posters on AIST overview, solar cells, carbon nanotubes, regenerative medicine, therapeutic robot *Paro*, biofuel, Biomass Asia, and projects of ERIA (Economic Research Institute for ASEAN and East Asia). Also there were demonstrations of *Paro*. At the opening ceremony on the first day, Ms. Gloria Macapagal-Arroyo, President of

the Philippines, as well as VIPs related to scientific technology of ASEAN countries attended. After the ceremony, Mr. Wutipong Chaisang, Minister of Science



and Technology **Paro's popularity at AIST booth** of Thailand, and other VIPs visited the AIST booth. Throughout the event, there were many visitors to the AIST booth, especially groups from local schools (junior high schools, high schools, and colleges). *Paro* attracted many people, especially school girls, and AIST was able to enhance its presence at the event.

### Cover Photos

Above: Organic thin film transistor (TFT) on a plastic sheet (p. 11)

Below: Collaborative Relationship with Brasil on Bioethanol Production from Biomass Residue (p. 19)



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