

S&T Highlights from East Asia and Pacific

July 2009

NSF Tokyo Regional Office

Japan

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Japan

1. **[International Biology Olympiad]** The 20th International Biology Olympiad was held July 12-19 in Tsukuba, with 221 high school students from 60 countries and territories competing. For the first time, Japan was the host nation. Twenty three (23) Gold Medals, 46 Silver Medals and 68 Bronze Medals were awarded to the students based on their performance in theoretical and practical tests. The Olympiad is intended to increase high school students' interest in biology, develop their scientific ability and foster future biologists. The scale of the International Biology Olympiad has expanded considerably since its first event with just six participants in Czechoslovakia in 1990. (Summary translation of the 20th International Biology Olympiad WEB)

2. **[African Agriculture]** Japan and Brazil will collaborate in helping expand agricultural production and improve food self-sufficiency in Mozambique. The successful outcome of the Japan-Brazil cooperation in developing Cerrado, an arid region in Brazil, into one of the largest grain-growing regions in the world has prompted this decision. Japan and Brazil will send a survey team to Mozambique in September 2009 to narrow-down specific foci for the project. (Summary translation of an article in Yomiuri Newspaper – 7/16/09)

3. [Patented Technologies] 'Patent Result' (a patent survey company in Japan) has rank-ordered Japanese research institutions by the number of 'valuable patents' (evaluated not only by validity, but also by reference frequency) produced in 2008. Seven of the top 20 institutions were universities compared with the two in 2007, meaning that universities are making efforts to obtain useful patents. The top 20 institutions are: AIST (National Institute of Advanced Industrial S&T), JST (Japan S&T Agency), NIMS (National Institute of Materials Science), Keio University, NAFRO (National Agriculture and Food Research Organization), RTRI (Railway Technical Research Institute), JAEA (Japan Atomic Energy Agency), NICT (National Institute of Information and Communications Technology), RIKEN, JAXA (Japan Aerospace Exploration Agency), Nagoya University, JAIST (Japan Advanced Institute of S&T), Okayama University, Yamaguchi University, Tokyo Institute of Technology, and Kyoto University. (Summary translation of an article in Nihon Keizai Newspaper – 7/13/09)

4. [Next-generation Supercomputer] RIKEN's revised plan for developing Japan's next-generation supercomputer has been approved by the MEXT (Ministry of Education, S&T) Supercomputer Working Group. The plan was revised following the withdrawal of Hitachi and NEC from this project. The revised plan maintains the original objective of creating the world's fastest supercomputer by 2012, with the ability to do 10^{16} calculations per second. ¥ 35.5 billion (~\$355 million) has been invested in developing this supercomputer technology since JFY2006, and ¥19 billion (~\$190 million) is budgeted for JFY2009. (Summary translation of an article in Asahi Newspaper – 7/18/09)

5. [Japanese Space Module Completed] The assembly of the Japanese experimental module 'Kibo', Japan's first manned space facility, has been completed. The ¥760-billion (~\$7.6 billion) enterprise that has taken 24 years, starting in 1984, ended on July 19. More than 100 experiments on life and materials sciences to be conducted by university, industry, government, and other organizations are already on the waiting list for completion by mid-2010. Zero-gravity permits the production of high-grade pharmaceuticals, and is expected to lead to more efficient ways of developing new medicines and materials. (Summary of an article in Nihon Keizai Newspaper – 7/20/09)

6. [Highest Patent Income] The total patent income of 1,112 Japanese higher education institutions in JFY 2008 amounted to about ¥ 990 million (~\$9.9 million). Although this is a record high, being 27 percent more than the income generated in JFY

2007, this amount is small compared with universities in the U.S. In the U.S., a single university may earn more than ¥10 billion (~\$100 million) per year from patents. Tokyo University earned the most from patents, followed by Nagoya University and Nihon University. (Summary translation of an article in Nihon Keizai Newspaper – 7/28/09)

7. [World's Thinnest Sticking Plaster] Waseda University Prof. Shinji Takeoka and his team have developed the world's thinnest sticking plaster. Like plaster wrap, the plaster clings to the body, including organs, matching the unevenness of the surface. The plaster is made of materials such as crab shell pats and kelp that minimize adverse effects on the human body. The thickness of the plaster varies from several tens to a thousand nanometers. A test on canine lungs demonstrates that the plaster is not torn by expansion or contraction. (Summary of an article in Japan Times – 7/12/09)

8. [565 Applications received for \$2.7 B Fund] The Cabinet Office received 565 applications for the FIRST (Funding Program for World-leading Innovative R&D on Science and Technology) a ¥270 billion (~\$2.7 billion) 5-year program, by the first deadline of July 24 (second deadline was July 31). The proposals will be reviewed in one month to be shortlisted to 30 at the end of August 2009. The breakdown of the applicants is 428 from universities, 69 from national research institutions, and 43 from companies. The research themes include environment, regenerative medicine, rare metals, materials technologies, super-sonic airplane, and energy-saving electric circuit. (Summary translation of an article in Nihon Keizai Newspaper – 7/30/09) [[NSF Tokyo Office will report on the result in a report memorandum.](#)]

9. [International Cosmos Prize] Dr. Gretchen C. Daily, Professor, Stanford University, will receive the 17th International Cosmos Prize 2009. She was selected from 146 nominations from 24 countries. Established by the 'Commemorative Foundation for the International Garden and Greenery Exposition held in Osaka in 1990,' the prize includes a \$400,000 award and has annually been given since 1993 to those who made outstanding contributions to promote harmony between nature and mankind. The award ceremony will be held in November in Osaka. (Summary translation of the International Cosmos Prize Homepage)

10. [New Funding Opportunities and Awards from MEXT (Ministry of Education, Science and Technology), JSPS (Japan Society for the Promotion of Science), JST (Japan Science and Technology Agency), and NEDO (New Energy and Industrial

Technology Development Organization)]

MEXT has selected 13 universities for **the Global 30** (universities that make extraordinary efforts in Internationalization) program. This is a 5-year program with each university receiving ¥200-400 million (~\$2-4 million) per year. It is not yet known when the remaining 17 awards will be solicited.

JSPS has announced a ¥30 billion (~\$0.3 billion) program to send 15,000-30,000 young Japanese researchers abroad in the 5-year period from 2009-2013. The program consists of two sub-programs: one to send individual young researchers and the other to send groups of young researchers abroad. [[NSF Tokyo Office will report details of this program in a Report Memorandum.](#)]