



Weekly Wire East Asia and Pacific National Science Foundation Tokyo Regional Office September 17, 2013

AUSTRALIA: Science, Technology, Engineering, and Mathematics (STEM)

in Australian Businesses

The Office of the Chief Scientist is conducting research to understand how STEM is used by Australian businesses. The research is to understand what skills are required by Australian businesses and whether or not these skills are readily available in the marketplace. Noting that other countries already know whether they have the right level of STEM skills for business needs, the Office of the Chief Scientist is trying to identify what skills their businesses need to be productive, innovative and competitive.

<http://www.chiefscientist.gov.au/2013/09/new-research-into-stem-skills-in-the-workforce/>

JAPAN: Cross-ministerial Strategic Innovation Promotion Program (SIP)

The Council for S&T Policy (CSTP) will launch a new cross-ministerial **S**trategic **I**nnovation **P**romotion (**SIP**) program in JFY2014. CSTP has selected 10 candidate technology fields to be funded under this program as in the table below. Upon approval of the budget (probably in March 2014), CSTP will assign a program director to each project who will be responsible for oversight. Of the Yen 51.7 billion (\$517 million) budget, Yen 500 million (\$5million) will be provided by CSTP with the rest to be shared by the S&T ministries.

Candidate technology	An example
Innovative combustion technologies	Automobile fuel efficiency
Next-generation power electronics	Energy-saving semiconductor materials
Innovative structural materials	New light and strong materials including carbon fiber
Energy transportation and storage	Efficient use of hydrogen
Next-generation marine resources survey technologies	Exploration of sea-floor hydrothermal deposit
Automatic driving system	Dodging accidents and minimizing traffic congestion
Infrastructure technologies	Check-up and repair robots and new long-life materials
Disaster prevention and mitigation	Natural disaster observation and prediction
Next-generation agriculture, forestry and fisheries technologies	Increase of crop yields by use of IT
Innovative design and production technologies	3D printers

Note: This is a summary translation of a Nikkei article - September 12, 2013 and a Cabinet Office website article – September 13, 2013

JAPAN: Innovative R&D Promotion Program

The Council for S&T Policy (CASTP) will begin a new program “**I**mpulsing **P**Aradigm **C**hange through disruptive **T**echnologies (**ImPACT**) in JFY2014 with its budget not yet determined. It will succeed the current **F**unding Program for World-leading **I**nnovative **R**&**D** on **S**cience and **T**echnology (**FIRST**) program (about \$30 million/5 years from 2009-2013/project). CSTP plans to run the program using

the DARPA system as its model, i.e., CSTP selects high-risk and high-impact projects and then selects program managers who plan, implement, and oversee the projects. Differing from the SIP above, this program covers comprehensive research stages from basic through commercialization. The details including budget, duration of the program, and the number of projects will be announced later.

Note: This is a summary translation of a Cabinet Office website article- September 13, 2013

KOREA: Encyclopedia of Systems Biology

Prof. Kwang-Hyun Cho of the Korea Advanced Institute of Science and Technology (KAIST) edited the Encyclopedia of Systems Biology that included British, German and US contributors. The 4-volumed and 3,000 paged encyclopedia resulted from a 5-year, international project comprising 28 editors and 391 systems biologists around the world.

<http://www.kaist.edu/edu.html>

SINGAPORE: Birth of Neurons

Researchers at the Genome Institute of Singapore discovered a gene that controls the generation of neurons, which is essential in understanding serious diseases of the brain, including Alzheimer's disease. The birth of neurons (neurogenesis) is a process that requires superb temporal and spatial control of hundreds of genes. The expression of these genes is controlled by regulatory networks, involving proteins, which play critical roles in establishing and maintaining the nervous system. Problems with neurogenesis are the basis for many neurological disorders.

<http://www.a-star.edu.sg/Media/News/Press-releases/articleType/ArticleView/articleId/1862.aspx>

SINGAPORE: National University of Singapore Named #1 Asian University

The National University of Singapore (NUS) has become Asia's top university for the first time, according to the World University Rankings. NUS moved up to 24th on the global list to take over the mantle from the University of Hong Kong (HKU). Overall, American universities dominated the list, occupying seven of the top 10 places. The Massachusetts Institute of Technology maintained its top spot, followed by Harvard University, the University of Cambridge, University College London and Imperial College London.

<http://www.straitstimes.com/breaking-news/singapore/story/nus-ranked-no1-asian-university-20130910>

