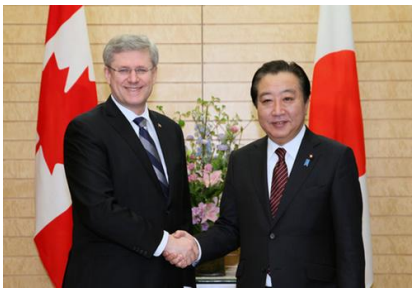
Japan Science & Technology Newsletter **April, 2012**

The Embassy of Japan presents the *Japan Science & Technology Newsletter*, a quarterly report on Japanese science and innovation highlights and news.

1. Japan-Canada S&T Cooperation

1.1 Prime Minister Noda and Prime Minister Harper recognize and announce science and technology collaborations

Following a meeting on March 25th between Japanese Prime Minister Yoshihiko Noda and Prime Minister Stephen Harper during the latter's visit to Japan, the Japan-Canada Joint Announcement of Outcomes was released including specific initiatives on science and technology cooperation; ranging from a new agreement for the Promotion of Space Cooperation between Japan and Canada, to continued collaborative efforts in science and technology research in the energy and mineral resources sectors, and to recognition of the Japan-Canada Science and Technology Cooperation Agreement's achievements, particularly in 2011 which marked the 25th anniversary of the Agreement. The specific Outcomes are;



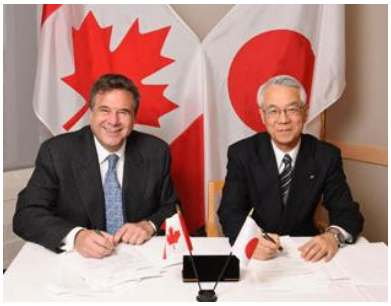
- The two leaders welcomed increased investments and business interests from Japanese companies in Canada's energy and mineral resources sector, and highlighted the great potential to further expand bilateral trade and investment to ensure stable supply of such resources through market mechanisms. Both leaders recognized the importance of accelerating their efforts to facilitate cooperation between the private sectors of the two countries including on the trade of natural gas and continuing collaboration on research and technology in these sectors.

- The two leaders recognized the significant achievements made under the Japan-Canada Science and Technology Cooperation Agreement, which marked its 25th anniversary last year, including the recent signings of a memorandum on the epigenetics of stem cells between the Canadian Institute of Health Research and Japan Science and Technology Agency (JST) and a memorandum on renewable energy and energy use between the Japan Science and Technology Agency (JST) and the Natural Sciences and Engineering Research Council of Canada (NSERC), as well as the workshops in the field of stem cell and nanotechnology held in 2011, to discuss possible research areas in both fields. The two sides shared the aspiration to maintain momentum toward the coming 12th Japan-Canada Joint Science and Technology Committee.

- Recognizing a Memorandum for Promotion of Space Cooperation to be signed in the coming days, both leaders shared the intention to further their collaboration in peaceful uses of outer space.

http://www.mofa.go.jp/region/n-america/canada/meeting1203_pm.html

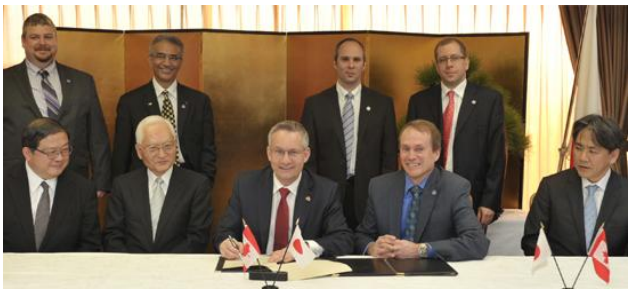
1.2 New stem cell research partnership between Japan Science and Technology Agency and Canadian Institutes of Health Research



The Japan Science and Technology Agency (JST) signs a partnership agreement with the Canadian Institutes of Health Research (CIHR) to fund joint research projects on the epigenetics of stem sells, with commitments of $8 million (¥600 million) and $6 million respectively over five years. The partnership will support as many as three research teams, with participation by both Japanese and Canadian researchers, in the ground-breaking field of the epigenetics of stem cells. The agreement, established under JST's Strategic International Collaborative Research Program and CIHR's Canadian Epigenetics, Environment and Health Research Consortium Signature Initiative, was signed by JST President, Dr. Michiharu Nakamura, and CIHR President, Dr. Alain Beaudet in Ottawa. This JST-CIHR partnership was highlighted during Prime Minister Stephen Harper's March 25th meeting with Japanese Prime Minister Yoshihiko Noda. (Jan 4)

http://www.cihr.ca/e/44667.html

1.3 Japan Aerospace Exploration Agency and the Canadian Space Agency sign Memorandum for Promotion of Space Cooperation



A Memorandum for Promotion of Space Cooperation was signed between the Japan Aerospace Exploration Agency (JAXA) and the Canadian Space Agency (CSA) in Tokyo, with Canadian Minister of International Trade Ed Fast signing on behalf of the Government of Canada. The agreement, which includes space exploration, earth observation, and science and research as main fields of collaboration, was signed, and specifically mentioned during the recent meeting of Prime Minister Stephen Harper and Prime Minister Yoshihiko Noda in Japan. (Mar 26)
http://www.international.gc.ca/media_commerce/release_photo_distribution/2012/03/26a.aspx?view=d

2. Japanese S&T

2.1 The Kavli Institute for the Physics and Mathematics of the Universe is established at the University of Tokyo

The University of Tokyo announces a US$7.5 million endowment by the Kavli Foundation for the Institute for the Physics and Mathematics of the Universe, now to be known as the Kavli Institute for the Physics and Mathematics of the Universe or Kavli IPMU, to support the Institute's study of cosmology through collaborative research by a wide range of scientists including astronomers, experimental and theoretical physicists and mathematicians. The Kavli IPMU is comprised of about 200 researchers from 15 fields, with almost half the scientists coming from outside Japan; a reflection of its focus on multi-disciplinary collaboration, and is the first of the University of Tokyo's Todai Institutes of Advanced Study (TODIAS), an initiative announced in 2011 to strengthen the university's international ties, promote world-class science, purse excellence in academics and research, and encourage academic diversity. The California-based Kavli Foundation sponsors research in the fields of astrophysics, nanoscience, neuroscience, and theoretical physics at institutes around the world, and the Kavli IPMU is the first to be established in Japan. The IPMU was established in 2007 as one of five of the Japanese government's World Premier International Research Center Initiatives (WPI). (Feb 8)
http://www.ipmu.jp/node/1231

2.2 SACLA X-Ray Free Electron Laser is fully operational at RIKEN Harima Institute, Japan.

The SACLA X-Ray Free Electron Laser (XFEL) became fully operational on March 7 at the RIKEN Harima Institute. The second X-Ray laser in the world and a joint project of RIKEN and the Japan Synchrotron Radiation Research Institute (JASRI), this ultrahigh-intensity x-ray free-electron laser light, using much shorter wavelengths and higher intensities than other lasers, allows researchers to study the structure of atoms and molecules in extreme detail and is expected to open research opportunities in medicine, drug discovery, and nanotechnology. SACLA has the capacity to deliver radiation one billion times brighter and with pulses one thousand times shorter than other existing X-ray sources, and the developed accelerator has twice the accelerating capacity of existing ones. Its undulators use in-vacuum technology that produces the XFEL with a lower energy electron beam than those used at other facilities. SACLA reached a milestone on June 7, 2011 successfully produced a wavelength of 1.2 Angstroms; a photon energy of 10 keV by increasing the electron beam density by several hundred times and with precision guidance of several micrometers. (Mar 6)
http://xfel.riken.jp/eng/

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Japan Science and Technology Agency http://www.jst.go.jp/EN/
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