FEATURE: Japan’s Third Science and Technology Basic Plan
On 28 March, the Japanese government launched its third comprehensive plan to systematically advance science and technology.

Each designed with a 10-year vista, these S&T Basic Plans provide concrete measures to promote science and technology over their 5-year implementation periods. Following the second plan, which ended in FY 2005, this third plan will run from FY 2006 through FY 2011. The first plan placed emphasis on strengthening support for Japanese postdoctoral researchers, introducing a program to increase their number to 10,000. The second plan called for a strategic distribution of capital investment, setting eight domains for priority R&D funding with particular focus on the four fields of life sciences, information and telecommunications, environmental sciences, and nanotechnology and materials. Building upon the results of investments made via the first and second plans, the 3rd S&T Basic Plan seeks to feed the fruits of publicly supported S&T research back into society. Its design reflects the need to foster researchers and other human resources who can produce a wide variety of high-quality research results, to cultivate a highly competitive research environment in Japan, and to advance science while continually spawning innovation. Establishing a framework for strategic government investment to meet these ends, the plan is composed in five chapters.

(1) Basic Ideas
(2) Strategic Priority Setting in S&T
(3) Reforming the S&T System
(4) S&T to be Supported by Society and the Public
(5) Role of the Council for Science and Technology Policy

Chapter 1, “Basic Ideas,” articulates the plan’s basic stance, reflecting the public’s strong expectation in the role of science and technology. Accordingly, it emphasizes gaining public support for science and technology and using the results of S&T activities to benefit society, while fostering excellent human resources and strengthening the competitive research environment. It also sets concrete policy goals with regard to what should be achieved through S&T activities funded under the scheme. Despite the stringent fiscal climate overshadowing Japan, the plan allocates ¥25 trillion (about 208 billion US dollars) in total R&D investment over its 5-year duration.

Chapter 2, “Strategic Priority Setting in S&T,” provides a two-pillar S&T investment strategy that optimizes the use of limited funds. It places priority on (1) advancing basic research and (2) conducting policy-directed research and development. Projects will be selected and funding concentrated in these two areas. To the four priority fields designated in the second basic plan, the third plan advances research in the four additional fields of energy, manufacturing technology, social infrastructure, and frontier. Funding of both curiosity-driven and policy-directed R&D projects will be allocated in such a way as to optimally achieve the plan’s stated goals. Accordingly, funding priority will be based on the following imperatives: (1) quickly meeting public needs for a safe, secure society; (2) strengthening Japan’s international S&T competitiveness; and (3) supporting Japan-led large-scale projects, particularly in areas of key technologies of national importance.

Chapter 3, “Reforming the S&T System,” provides a range of measures to advance Japan’s S&T thrust into the future, while sustaining and strengthening its international competitiveness. In this respect, it considers people to be Japan’s most important asset. Consequently, it promotes the fostering, securing and proactive utilization of human resources through a variety of means. For examples, the plan mandates opportunities for young researchers to do work independently based on their own free ideas. It seeks to invigorate the research environment through likewise supporting the autonomy of young researchers. It widens the scope of competitive grant policy to allow female researchers to suspend or extend their funded work for the purpose of childbearing and infant nursing. It also provides for talented researchers, irrespective of their nationality, to come to Japan and participate as active members of its research community.

Chapter 4, “S&T to be Supported by Society and the Public,” stresses the need for public backing, as it is not possible for S&T activities to stand aloof from society and the public. It is only with wide public support that such activities can achieve significant successes. In this vein, rules need to be established with regard life ethics and other scientific impacts on society. Concurrently, measures need to be taken to obtain the public’s understanding and support of science and technology. To this end, the plan calls for the greater dissemination of information on research and its results by both research institutions and individual researchers and for expanded opportunities for members of the public to participate in a broader range of S&T activities.

Established in 2001, the Council for Science and Technol-
ogy Policy is chaired by Japan’s prime minister and made up of the chief cabinet secretary; the ministers of State for Science and Technology Policy; Internal Affairs and Communications; Finance; Education, Culture, Sports, Science and Technology; and Economy, Trade and Industry; along with a number of executive members from academia and industry. As such, the Council acts as a command post that overarches Japan’s government ministries and agencies in prescribing national strategies—a mission it undertakes with farsighted perspectives and through a highly responsive operation.

A provisional translation of the entire 3rd S&T Basic Plan is posted on the webpage of the Cabinet Office.

Summary of Japan’s Third Science and Technology Basic Plan

This third plan for promoting science and technology was established by the Cabinet in March 2006. Its basic ideas, strategic priorities and system reforms are outlined as follows.

### Basic Ideas

#### Basic Stances

1) To gain wide support of society and the public for science and technology and to apply the results of S&T activities to the benefit of society
   - To work continuously to raise the level of science in Japan
   - Toward creating new intellectual and cultural values
   - To feed the fruits of research and development back into society and to do so through innovative means
   - Toward creating new social and economic values

2) To place emphasis on fostering human resources and developing a competitive research environment in Japan

#### Policy Goals

1) To make quantum leaps in knowledge discovery and creation
2) To achieve breakthroughs in S&T research
3) To sustain the natural environment while advancing economic development
4) To strengthen Japan’s international profile as a highly innovative nation
5) To promote lifelong health and vitality among the Japanese public
6) To make Japan a nation that can take pride in its social security and public safety

Under the Plan, the Japanese government’s R&D expenditure is expected to reach ¥25 trillion over the 5-year period. (This figure represents 1% of GDP during the period, calculated based on an expected annual nominal growth rate of 3.1%.)

### Strategic Priority Setting in S&T

#### Promotion of Basic Research

- Research based on the researchers’ own free ideas (curiosity-driven research)
  - Creating seedbeds of diversity
- Basic research aimed at government-specified future applications
  - Creating knowledge that yields wellsprings for discontinuous innovation

#### Prioritization of Policy-Directed Research and Development

- Emphasis placed on four S&T fields: life sciences; information and telecommunications; environmental sciences; and nanotechnology and materials
- Priority given to advancing four fields: energy; manufacturing technology; social infrastructure, and frontier

#### Promotion Strategies:

- Select strategically prioritized S&T activities as targets for focused investment during the plan’s period (FY 2006 through FY 2010).
- Three criteria of project selection:
  1) Needs of society and public (e.g., safety, security)
  2) Global S&T competitiveness
  3) Key technologies of national importance (e.g., supercomputers, space transport systems)

- Strengthen research in emerging and merging fields
Reforming the S&T System

1) Fostering, securing and utilizing researchers
   - Create an environment in which various kinds of researchers can actively participate
     - Support independent work of young researchers
     - Encourage active participation of female researchers
     - Promote active participation of overseas researchers
   - Strengthen the function of universities in fostering young researchers
     (Five-year action plan for promoting graduate school education and financial support for PhD students)
   - Foster human resources who are capable of meeting societal needs
   - Broaden the range of human resources who will carry out the next generation of S&T advances

2) Advance science and spur continuous innovation
   - Cultivate a competitive environment
   - Strengthen the competitiveness of universities
     (Create 30 top world-standard research hubs; revitalize regional communities through the use of local university resources; and make more effective utilization of private universities)
   - Strengthen the system for creating innovation
     (Reinforce programs for fostering and stimulating innovation; create research hubs in cutting-edge interdisciplinary fields; establish liaison frameworks)
   - Create regional innovation systems and build vibrant local communities
   - Carry out R&D in both an effective and efficient manner
     (Create a database and take other steps to check whether programs are receiving an excessive amount of overlapping funding)
   - Remove systemic and operational bottlenecks that prevent the smooth implementation of S&T activities and the dissemination of their results to society

3) Strengthen the infrastructure for S&T promotion
   - Create a research and educational infrastructure for fostering and utilizing outstanding human resources
     (Implement the Second Five-Year Program for Emergent Renovation and Building of Facilities of National Universities)
   - Move forward the construction and joint use of large-scale, cutting-edge research facilities
   - Establish an intellectual infrastructure
   - Create, protect and utilize intellectual assets

4) Strategically advance international activities
   - Systematically undertake international collaborations
   - Cooperate with Asian countries
   - Create an environment conducive to strengthening international activities, while proactively hosting talented overseas researchers

San Francisco Office
JSPS(CJ) Joint Science Colloquium
"Responses to Destruction in Japan: A Multi-Disciplinary Symposium"
University of California, Berkeley, 13-14 October 2006

2006 Osaka University Forum
"Frontier Biomedical Research and Beyond..."
University of California, San Diego, 4-5 December 2006

Washington Office
The JSPS/NIH Joint Symposium between JSPS and NIH
"Frontiers in 21st Century Biomedical Science: Highlights from Japan and the US"
Masur Auditorium, Bethesda, 6-7 November 2006

Bonn Office
The 4th Japan-Germany Colloquium 2006
"Robotics"
Hotel am Schlosspark, Ismaning, Munich, 18-20 November 2006

Strasbourg Office
The 5th JSPS Forum
"Chemistry Contributing to Society: Green Sustainable Chemistry"
University Louis Pasteur, Strasbourg, 24 November 2006

Events

Recruitments

For FY 2006
JSPS Postdoctoral Fellowship (Short-term) for North American and European Researchers
Application deadline from host institution to JSPS: 10-13 October 2006

For FY 2007
JSPS Postdoctoral Fellowship for Foreign Researchers (Standard)
JSPS Invitation Fellowship for Research in Japan (Short-term)
Application deadline from host institution to JSPS: 7-11 May 2007

For details, ask a prospective host researcher or visit our website.
New Director of Research Center for Science Systems

Dr. Yoji Totsuka, Special University Professor Emeritus, The University of Tokyo, was newly appointed on 1 July as the director of JSPS’s Research Center for Science Systems, succeeding Dr. Tasuku Honjo who resigned to accept an appointment as a regular member of Japan’s Council for Science and Technology Policy.

Before serving in his latest position as the director-general of the High Energy Accelerator Research Organization (KEK), Dr. Totsuka was the director of Tokyo University’s Institute for Cosmic Ray Research where the Kamiokande Water Cerenkov Detector and its even larger successor, Super-Kamiokande, were constructed, enabling the landmark discovery of neutrino oscillation through observations of atmospheric and solar neutrinos.

It is eagerly anticipated that Dr. Totsuka’s acute insights and guiding principles as a highly accomplished researcher and science administrator will enhance yet further the Center’s mission of designing and implementing an ever more effective research grant system.

— Research and Analysis Division

JSPS’s Restart Postdoc Fellowship

JSPS’s “Research Fellowships for Young Scientists” is Japan’s core program for fostering young Japanese researchers. The talented young researchers selected for these fellowships are given the freedom to choose their own research topics and research institutions. To allow them to concentrate on their research work, fellows are provided a monthly living allowance and a research grant. Under the program, fellowships are awarded to doctoral course (DC) students and postdoctoral (PD) researchers. From among the PD selectees, a small number of the best and brightest with the highest potential of doing research of a top world level are awarded a superlative postdoc (SPD) fellowship.

This year, JSPS added a new category to the Research Fellowships for Young Scientists program—a “restart” postdoc (RPD) fellowship. It allows excellent fellows who had to suspend their research for the purpose of childbearing or infant raising to make a smooth transition back into the laboratory. Both female researchers and male researchers with childbearing spouses are eligible for the fellowship. Over a 2-year tenure, the fellowship provides a living allowance and research grant. By allowing fellows to return to their research work, it is hoped that the RPD fellowship will be a catalyst for continued research achievements.

In Japan, many female researchers who must suspend their activities for childbearing have an unstable employment status, working in part-time or temporary postdoctoral positions. The RPD fellowship seeks out such excellent female researchers and gives them the opportunity to go back to their research activities. In this way, the RPD fellowship coincides with the philosophy of Japan’s government’s third Science and Technology Basic Plan, which mandates the “promotion of active female participation in research.”

In June, a call for RPD fellowship applications was issued for tenures starting in FY 2006 and FY 2007. Altogether, 352 applications were received, from among which 60 (30 for each year) are scheduled to be selected via a screening process of document and panel reviews.

In addition to the RPD fellowship, other JSPS fellowship programs also allow maternity leave with an eye to securing and maintaining outstanding young researchers of both genders.

— Research Fellowship Division

FY2006 Reporting Meeting for Superlative Postdoctoral Fellows

Superlative postdoctoral (SPD) fellows under JSPS’s program Research Fellowships for Young Scientists are required to provide an interim report on the progress of the research they are conducting under the fellowship. On 15 June, a meeting was convened for that purpose.

Whereas other fellows under the program must submit written reports at the end of each fiscal year, SPD fellows are required to make an oral presentation at the 2-year juncture of their tenures in addition to the annual written reports. The oral presentations are delivered in front of the frontline researchers who serve as program officers in JSPS’s Research Center for Science Systems. The object of these reporting meetings is for the fellows to describe the progress they are making in carrying out their research plans and to receive advice and guidance on how to proceed in the future. The meetings
also offer the fellows an opportunity to expand their research horizons through interaction with mentors and colleagues in other fields.

Participating in the June meeting were ten SPD fellows who either began their tenures in FY 2005 or in FY 2004 but missed the opportunity to give their oral presentations last year. The meeting opened with remarks from JSPS president Prof. Motoyuki Ono, who explained its purpose. The fellows, then, reported the results of their research to date using PowerPoint slides or other visual aids. During the ensuing Q&A sessions, researchers in other fields asked questions while specialists in the subject field offered critiques and comments—all in a relaxed atmosphere that spurred vigorous discussions which went beyond the allotted time frames.

After the presentations ended, fellows who wished them were given individual consultations with the Center’s senior program officers in their respective fields. Through them, they received expert advice on ways to advance their research along the path ahead. Following the consultations, a convivial gathering was held. Revisiting the contents of their presentations, the fellows engaged each other in discussions and exchanged views across topical lines with executives of JSPS and program officers of the Research Center for Science Systems.

— Research Fellowship Division

Gathering of JSPS Japanese Fellows Held by San Francisco Office

On 28 July, the JSPS San Francisco Office held a “Gathering of JSPS Japanese Fellows” in Berkeley, California. Its purpose was to promote trans-disciplinary exchange among Japanese researchers working in the US and to deepen a sense of colleagueship while facilitating network building among them. The Office held the first of these gatherings in 2004. This, the fifth such gathering, brought together 27 Japanese researchers. Some were fellows under JSPS’s “Postdoctoral Fellowships for Research Abroad” and “Research Fellowships for Young Scientists” programs and others were invited Japanese scientists doing research in the US.

The meeting began with remarks by San Francisco Office director Dr. Seishi Takeda. After a toast, time was given to allow the participants to engage in free conversation. The casual atmosphere made it easy for them to relax and get to know each other. The participants were then asked to introduce themselves and their research work. This added impetus to the conversation among them on such subjects as where and what they had researched and their experiences of living in the US and other countries. Following this time slot, talks were given by Prof. Katsumori Matsushima, The University of Tokyo, and Prof. Toshihiko Nishimura, deputy director, Tohoku University’s US Office, on the significance of doing research overseas and the importance of networking with Japanese colleagues. The young Japanese researchers were both motivated and encouraged by these messages based on the professors’ wealth of personal experience.

After the gathering closed with remarks by Dr. Takeda, the participants continued their lively discussions, raising expectations of contacts and networks developing among them in the future.

— JSPS San Francisco Office

Frontier Science Conference for Young Researchers Held in Sweden

On 24-29 June, the FY2006 ESF-JSPS Frontier Science Conference for Young Researchers was held on the topic “Climate Change” in Nynashamn, Sweden. This conference is organized each year by JSPS and the European Science Foundation (ESF) with a focus on fostering promising researchers from Japan and countries of Europe. The young researchers receive lectures from and hold discussions with leading international experts, giving them insights into future progress in the selected field. The event also enables the young researchers to create networks among themselves.

This year’s conference was co-chaired by Prof. Shoichiro Fukao, Research Institute for Sustainable Humanosphere, Kyoto University, and Prof. Kevin Noone, Stockholm University, addressed by 21 speakers from Japan and Europe, and attended by some 50 young researchers. A special session was also held, which featured lectures by six researchers from the Swedish Research Council.

Besides listening to the lectures by leading researchers, the young participants also made both oral and poster presentations on multiple facets of climate change, giving them chances to engage in spirited cross-disciplinary discussions among themselves and with the lecturers. Those who were judged to have given the most superb presentations received an award. Selected were Dr. Masumi Zaiki, Kobe University, Japan, and Dr. Oskar Franklin, International Institute for Applied Systems Analysis, Austria, for the best oral presentations, and Dr. Ryu Uemura, National Institute of Polar Research, Japan, and Dr. Ben Marzeion, Nansen Environmental and Remote Sensing Center, Norway for the best poster presentations. Keynote speeches given by Prof. Syukuro Manabe, Princeton University, and Prof. Guy Brasseur, The National Center for Atmospheric Research, on the final day were particularly valuable in distilling
and compiling the presentations and discussions conducted over the course of the conference.

The event also featured an excursion cruise around the Swedish archipelago, offering the participants a good opportunity to relax and strengthen their ties through pleasant conversation. The good communication enjoyed throughout the conference between the participants is expected to spur greater collaboration among young climate change researchers in Japan and Europe.

— Research Cooperation Division

**JSPS President Attends MPG’s Research Policy Symposium**

Upon invitation of the Max Planck Society (MPG), JSPS president Prof. Motoyuki Ono attended MPG’s symposium on “Perspectives of Research—Identification and Implementation of Research Topics by Organizations” held in Munich on 3-5 May. Altogether, more than forty people attended the symposium comprising five sessions and a final discussion. Reports were delivered by 22 top executives and researchers of science-promotion agencies, research institutions, private corporations and universities.

In his presentation, Prof. Ono introduced JSPS’s programs for providing research grants, fostering researchers and promoting international collaborations in light of the Japanese government’s 1st to 3rd S&T Basic Plans. He emphasized that the support system under JSPS’s Grants-in-Aid for Scientific Research allows researchers to carry out their funded work based on their own free ideas and concepts. This contribution to the discussion opened new talking points that were expanded upon by the group.

— Research Cooperation Division

**Sixth Colloquium Held by JSPS Stockholm Office**

On 2 June, the JSPS Stockholm Office held a colloquium on the topic “Frontiers in Plant Development” in cooperation with the Umeå Plant Science Centre (UPSC). By setting the context for in-depth discussions, the colloquium acted to expand working networks among the young researchers in attendance. Botanical research has traditionally been a thriving field in Sweden, while information obtained over recent years from genomic analyses has spurred milestone advances in research on plant cell development and differentiation.

The colloquium began with remarks by JSPS Stockholm Office director Prof. Tsuneko Okazaki and UPSC chairman Prof. Ove Nilsson, who thanked each other’s staffs for their cooperation and introduced their respective programs. They were followed by presentations from five Japanese researchers and six UPSC-affiliated researchers. The question and answer session was invigorated by the active participation of the young researchers. An especially large number of researchers came to hear the Japanese presentations in the afternoon.

On the next day, the Japanese participants made an observation tour of UPSC’s facilities, following which they engaged in discussions with their Swedish colleagues in follow up to the dialogue advanced at the colloquium.

The names of the presenters and their abstracts are posted on the Stockholm Office’s website at the following URL: http://www.jsps-sto.com/websites/jsps-stocom/filbank/booklet_coll0606.pdf

— JSPS Stockholm Office

**Recent Visitors to JSPS (May-July 2006)**

**Nobel Laureate Dr. Robin Warren Visits JSPS**

On 20 June, Dr. Robin Warren, emeritus professor, The University of Western Australia, visited JSPS and held an exchange of views with JSPS president Prof. Motoyuki Ono. In recognition of his discovery of the bacterium Helicobacter pylori, Dr. Warren was awarded the 2005 Nobel Prize in Physiology or Medicine.

He had come to Japan this time upon request of Oita University under the JSPS Award for Eminent Scientists. During his stay, Dr. Warren delivered a special lecture at the Japanese Society for Helicobacter Research and gave presentations at Jichi Medical University, Kyoto University and International Medical Center of Japan. He also held open fora to educate the general public on Helicobacter pylori, which infects 60 million Japanese and is known to play a causal role in such diseases as gastritis, peptic ulcers and stomach cancer.

— Overseas Fellowship Division
On 9 May, the fourth in a series of Sino-Japanese Rectors Meetings was held in Xi’an under the sponsorship of the Ministry of Education of the People’s Republic of China. Attending the Meeting on the Japanese side were JSPS president Prof. Motoyuki Ono and 18 university presidents and research institute directors. Headed by Mr. Xinxheng Zhang, Vice Minister of Education, the Chinese side included the presidents of 16 universities.

At the center of their discussions were “ways to promote partnering among Chinese and Japanese universities amidst advancing globalization and growing cooperation within the Asian region.” Prof. Ono gave a presentation on “JSPS’s New Strategies and Reforms,” in which he explained the trust of the government’s latest Science and Technology Basic Plans, and introduced JSPS’s program menu in support of universities and the present state of its collaboration with China.

Concluding statements were given by representatives of both sides. They expressed overlapping opinions that closer cooperation among institutions of higher education in China and Japan will be essential in promoting goodwill and friendship between the two countries.

Among the attendees were Nankai University president Prof. Zixin Hou and three other former JSPS fellows, bearing testimony to the significant role currently being played by JSPS alumni in China.

— Asian Program Division

Sixteenth Meeting of Korea-Japan Joint Committee for Basic Scientific Research

On 24 May, the 16th meeting of the Korea-Japan Joint Committee for Basic Scientific Research was held at the Paradise Hotel Busan, Korea. The Japanese side was chaired by Prof. Keitaro Yoshihara, fellow, Toyota Physical & Chemical Research Institute; and the Korean side by Prof. Myung-Hee Chung, Seoul National University. The joint committee has been convened every year between JSPS and the Korea Science and Engineering Foundation (KOSEF) since the two agencies signed a cooperative agreement in 1991.

In this meeting, FY2005 joint research projects and seminars were reviewed based on submitted reports, and new proposals for projects and seminars were selected for FY 2006. A spirited discussion was also had on future Japan-Korea scientific cooperation initiatives.

FY2006 selections were as follows:

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<tr>
<th>Project Type</th>
<th>Applications</th>
<th>Selections</th>
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<tr>
<td>Joint research Projects</td>
<td>77</td>
<td>31</td>
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<tr>
<td>Seminars</td>
<td>13</td>
<td>8</td>
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— Asian Program Division

Twentieth Anniversary Celebration of National Natural Science Foundation of China

On 25-27 May, a forum entitled “Science Frontiers and China’s Opportunities in the 21st Century” was held to celebrate the twentieth anniversary of NSFC’s establishment. It was attended by six Nobel laureates and several heads of science promotion agencies, including JSPS president Prof. Motoyuki Ono.

At the forum, Prof. Ono gave a presentation entitled “Science and Technology in Japan and JSPS-NSFC Collaboration,” in which he described Japan’s S&T policy and JSPS’s program for implementing it. He spoke about NSFC’s cooperation with the group Heads of Research Councils in Asia, A-HORCs, and introduced the JSPS office being established in Beijing. He also told of plans to expand A-HORCs beyond the original three countries of Japan, China and Korea, to start a new program of Asian Science Summits, and to launch an Asian version of the Lindau Meeting of Nobel Laureates and Students. He proposed augmenting the cooperative research program between JSPS and NSFC.

The forum participants visited Zhongnanhai, where they were privileged to hold a discussion on S&T policy with Chinese Premier Wen Jiabao.

— Asian Program Division
Joint Staff Meeting Held with National University of Singapore

On 14 June, a joint staff meeting was held with National University of Singapore (NUS). Coming from Singapore were Prof. Andrew Nee, director, Office of Research, NUS; Prof. Michael Khor, director, Office of Research, Nanyang Technological University; and Prof. Chew Yong Tian, deputy director, Office of Research, NUS. After paying a courtesy visit on JSPS president Prof. Motoyuki Ono, they met with the staff of JSPS’s Asian Program Division and discussed a framework for supporting bilateral research activities. The following day, the delegation met with Prof. Shiro Ishii, deputy director of JSPS’s Research Center for Science Systems, and Prof. Masayuki Numao, one of the Center’s senior program officers, whom they engaged in an active exchange of views on Japan’s research funding system.

— Asian Program Division

Science Dialogue

The following fellows participated in JSPS’s Science Dialogue Program during the period from May through July 2006. For details about the program, please see its webpage at: http://www.jsps.go.jp/english/e-plaza/e-sdialogue/

— Overseas Fellowship Division

SAITAMA
Warabi High School
Date: 11 July
Dr. Sabine Vollstedt (Germany)
Host institution: The University of Tokyo
Title: “Cutting Edge of Human Research Immunology”

YAMANASHI
Yamanashi Prefectural Tsuru High School
Date: 25 May
Dr. Rajvihar S. Rajeev (India)
Host institution: Japan Aerospace Exploration Agency
Title: “Cultural Aspects & Science and Technology Research in India, and Space Technology and Research in Japan with Special Emphasis on Research in JAXA”

Date: 22 June
Dr. Jennie Hui (Australia)
Host institution: Tokai University
Title: “Introduction to Australia and Genetics”

Date: 13 July
Dr. Magdi E. Khalil (Egypt)
Host institution: National Research Institute for Cultural Properties, Tokyo
Title: “Japanese Takamatsuzuka Tumulus and Egyptian History”

NAGANO
Nagano Prefecture Suwa Seiryu High School
Date: 27 July
Dr. Bettina E. Scheu (Germany)
Host institution: The University of Tokyo
Title: “Volcanoes in the Lab”

NARA
Nara High School
Date: 22-23 May
Dr. Fabrice Cohen (France)
Host institution: The University of Tokyo
Title: “Seeing and Exploring the Universe”

KYOTO
Senior High School Attached to Kyoto University of Education
Date: 12 July
Dr. Guillaume Louit (France)
Host institution: Osaka University
Title: “The Experience of a French Researcher in Japan, and Gold Nanoparticles Playing with Light”

Ritsumeikan Senior High School
Date: 18 July
Dr. Pablo J. Perez Goodwyn (Argentina)
Host institution: Kyoto University
Title: “Walking on Water: Let’s Learn from the Water Striders! (amenbo)”

KAGOSHIMA
Ikeda High School
Date: 10 July
Dr. Vivekanandhand Govindasami (India)
Host institution: Tokyo University of Marine Science and Technology
Title: “India at a Glance...”
JSPS Summer Program

Attended by 107 young pre- and postdoctoral researchers from the US, UK, France, Germany and Canada, the JSPS Summer Program, cosponsored by The Graduate University for Advanced Studies (Sokendai), was held over a 2-month period from 13 June to 23 August.

Featuring a research internship at a host institution, the program began with a one-week orientation held at the Shonan Village Center in the seaside resort town of Hayama. At the orientation, the fellows received special lectures, gave poster presentations, attended classes in Japanese language learning, engaged in Japanese culture activities, and experienced Japanese living through homestay with a Japanese family.

After the orientation, the young researchers went their separate ways to their respective host institutions. Their summer internships afforded them an experience upon which to consider coming back to Japan to do research at future junctures in their careers. On the day before the program ended, the participants reassembled to present reports on their summer research activities.

For more detailed information on the JSPS Summer Program, please see our website: http://www.jsps.go.jp/english/e-summer/

— Carried out by the Overseas Fellowship Division

Research Activities

The centerpiece of the JSPS Summer Program was the fellows’ internship at a host research institution, where they took part in research activities with frontline Japanese researchers in their respective fields. The following are comments offered by two of the fellows on their research experiences.

Ms. Anne Landau (PhD student, McGill University) at Juntendo University

“Thanks to JSPS, I had the opportunity to work with my host Dr. Hideki Mochizuki, who is doing some of the most exciting and promising research into neuroprotective strategies and gene therapy for Parkinson’s disease. His expertise, as well as the various models and techniques used in his laboratory, have been extremely beneficial to my research and my development as a scientist. This has been a very rewarding experience, both scientifically and culturally. I hope to establish a long-term collaboration with this fine Japanese laboratory.”

Ms. Alison Burgess (PhD student, University of Toronto) at Juntendo University

“My host, Dr. Tatsunori Seki was the first to describe the persistent expression of polysialic acid on newly generated neurons in the adult brain. While working with him under the JSPS Summer Program, I was able to gain a better understanding of the role this molecule plays in adult neurogenesis. In the lab, I have learned new techniques that will be very important in my future research as a postdoctoral fellow and scientist. Outside the lab, I have found my cultural experiences in Japan to be invaluable.”

Ms. Landau with her host Dr. Mochizuki

Ms. Burgess with her host Dr. Seki

Washington, DC

Briefing Given on JSPS Summer Program at NSF’s East Asia and Pacific Summer Institutes Orientation

The JSPS Washington Office cooperated in carrying out the National Science Foundation’s 2006 East Asia and Pacific Summer Institutes Orientation held on 27-28 March. NSF’s East Asia and Pacific Summer Institutes is similar in operation to the JSPS Summer Program. Attending the orientation were altogether about 150 graduate students who would be going from the US to summer internships in China, Korea and Australia as well as Japan. Among them, 65 would be participating in the JSPS Summer Program. This group received an extensive 2-session briefing on the program from the staff of JSPS’s headquarters and Washington Office.

On the first day of the orientation, a session was held on “logistical arrangements,” in which Dr. Junku Yuh, director of NSF’s Tokyo Regional Office, and Dr.
Akira Masaike, director of JSPS’s Washington Office, spoke about preparations, both physical and attitudinal, that need to be made in advance of doing research in Japan. Then, the Office’s deputy director Mr. Hideshi Kobayashi and JSPS Overseas Fellowship Division staff Ms. Hisae Takada explained the summer schedule, fellows’ allowances and other program-related matters, after which they answered the participants’ questions. Finally, Ms. Akiko Kakuta, section chief of the Overseas Fellowship Division, talked about the alumni program at JSPS.

The second day featured a “language and culture” session, in which Mr. Kobayashi gave a lecture on the rudiments of the Japanese language and introduced some basic phrases useful to living in Japan. Following him, Washington Office staff Mr. Thet Win gave a video-aided presentation on Japanese culture and customs as seen from the perspective of foreigners. The session was interactive: that is, the participating graduate students did not just sit quietly and listen to the lectures, but made zestful attempts to use Japanese, with the more fluent members tutoring those who were encountering the language for the first time.

The JSPS’s upcoming Summer Program and other JSPS international fellowships and activities.

Afterwards, the participants praised the pre-orientation as being very useful in that it gave them the opportunity to learn about the program directly from last year’s fellows, and it heightened their already strong motivation to spend the summer in Japan, while giving them the chance to meet each other at the preparation stage in advance of departure.

JSPS Summer Program Pre-Orientation Held in Bonn

On 12 May, the JSPS Bonn Office held a pre-orientation at the Bonn Scientific Center (Wissenschaftszentrum) for the JSPS Summer Program in Japan. This was the second year for the office to organize a pre-departure orientation for participants of the Summer Program. It was attended by six of the ten 2006 German participants. The other participants were out of the country at the time; however, two of them were able to take part in the pre-orientation held by the JSPS London Office.

The orientation started with remarks from Prof. Yasuo Tanaka, director, Bonn Office and Dr. Ursula Toyka-Foung, section head, German Academic Exchange Service (DAAD). They were followed by self-introductions from each of the participants, and a briefing by the Office staff on the Summer Program and other JSPS international fellowships and activities.

After the coffee break, two participants in last year’s Summer Program talked about their experiences. Both said how deeply impressed they were with not only their firsthand exposure to research in Japan but also their experience of living there. Speaking to the young participants about building networks after their return to Germany, JSPS Club chair Prof. Dr. Heinrich Menkhaus introduced them to the activities of the alumni association open to researchers who share the experience of participating as fellows in JSPS programs. In the ensuing Q&A session, questions were asked and an active discussion evolved on the program contents and research and life in Japan.

The participants praised the pre-orientation as being very useful in that it gave them the opportunity to learn about the program directly from last year’s fellows, and it heightened their already strong motivation to spend the summer in Japan, while giving them the chance to meet each other at the preparation stage in advance of departure.

Pre-Departure Fellowship Program Seminar and Alumni Evening in UK

On 2 June, the JSPS London Office and British Council Japan co-organized a pre-departure seminar for participants of JSPS’s upcoming Summer Program and short-term fellowship program for young researchers. Held at the Strand Palace Hotel in London, the seminar gave the participants information that will be helpful to them in doing research and living in Japan. It introduced JSPS’s programs and those of other UK-based organizations for which researchers returning from Japan are eligible to join, and described one Anglo-Japan joint research activity currently underway. Briefings were given by representatives of the JSPS London Office, British Council Japan, The Royal Society, The Daiwa Anglo-Japanese Foundation, and Centre for Global Atmospheric Modelling. A member of the UK Alumni Association also talked about her experience as a JSPS fellow in Japan.

Following the seminar, the participants repaired to the Japanese garden of the University of London’s School of Oriental and African Studies for an Alumni Fellowship Evening organized by the alumni association. The event offered an excellent opportunity for the pre-departure fellows to meet JSPS alumni, other researchers interested in Japan, and the staffs of JSPS partner agencies in the UK.

— JSPS Washington Office

— JSPS Bonn Office

— JSPS London Office
Message from Former JSPS Fellow (5)

My experiences as a JSPS Fellow

Today’s digital world with a myriad of electronic products around us, ranging from audio-visual gadgets and telecommunication devices including internet-based systems, is based on semiconductor technology. As a graduate student in semiconductor physics, state-of-the-art electronic products from Japan, which are universally trendy among all segments of society around the world, had always attracted me. My inquisitiveness to explore deeper into the amazing world of Japanese semiconductor technology research was facilitated by a JSPS postdoctoral fellowship awarded to me to work in collaboration with Prof. Hitoshi Kawaguchi at Yamagata University in 1994. Prof. Kawaguchi is a leading expert in the field of semiconductor lasers and ultrafast optoelectronics.

The JSPS fellowship not only enabled me to advance my professional career in semiconductor technology, but also provided me rich insights into traditional and modern Japanese culture that has evolved over several centuries. I feel fortuitous to have spent two years in an advanced optoelectronics research laboratory situated in the Yonezawa Valley, amidst the spellbinding beauty of the snow-clad mountains of northern Japan. The local and friendly city officials made sure that I was inducted fully into life in Japan outside the university, inviting me to stay with a family during New Years or the Obon festival in the summer, and sharing with me their social friends from outside the academic world. Besides the amazingly diverse cuisines from various provinces, I am attracted to the ski slopes and hot springs, which still bring me to Japan almost every year.

My professional experience as a JSPS fellow opened up an opportunity for me to be associated with a government-funded industrial research project at Tsukuba, where we developed the fastest all-optical switch (1 Tb/s) using next generation semiconductor technology. After working in Japan for 6 years, I relocated to Duke University in North Carolina of the United States. In 2002, I was invited to initiate a nanophotonics research program at the University of North Texas, one of the largest academic institutions in Texas. During all this time in the United States, I have always had active collaborations with my former colleagues in Japan.

Based on experiences as a JSPS fellow, I have formed strong links with Japan and JSPS. I enjoy bilateral research collaborations with several universities in Japan in the area of nanotechnology. In 2006, with the support of JSPS, I organized the first international conference on “Nanomaterials for Optoelectronics and Biotechnology” at the University of North Texas in Denton. In 2006, JSPS also awarded me a short-term invitational fellowship to initiate a bilateral nanotechnology research program with the University of Tsukuba. I greatly appreciate the significant role of the JSPS Society for the Promotion of Science in shaping up my career as an international researcher in the field semiconductor nanotechnology.

Despite common misconceptions about the language barrier in Japan, the congenial, hospitable and affable nature of Japanese people towards foreigners makes it easier to live and work in this country as compared to many other nations. The present state of research funding in most contemporary areas of science and technology makes Japan an ideal place not only to initiate a research career but also to advance research in collaboration with some of the leading experts in the world. Japan offers a very rich experience of 21st century science and technology, a heritage of traditional culture, exotic natural landscapes, and very cordial hosts for foreign scholars. For its part, JSPS plays a role unparalleled within the scientific community in fostering young researchers from an early stage of their careers and in encouraging international research and development activities among Japanese researchers and their colleagues of other countries.

Organizers of the JSPS-sponsored Nanotechnology Meeting at University of North Texas (2-3 February 2006)
The JSPS Washington Office is located in a business district in the northwest sector of the capital. It is situated on the 9th floor of an office building on the corner of K Street and 18th Street. The office can be easily accessed by subway, as it is conveniently positioned just a 5-minute walk from Farragut North Station on the Red Line and a 1-minute walk from Farragut West Station on the Orange or Blue Line. The morning-to-night hustle and bustle of people and cars energizes the office's surrounding environs.

The office was established in Washington, DC in December 1990 for the principal purpose of promoting scientific collaboration between Japan and the US. In pursuit of this objective, the office carries out the program described below.

Holding Science Symposia

These fora are held annually in Washington, DC to enhance the awareness of university educators and researchers and government administrators in the high world level of scientific research conducted in Japan, and to pave the way for new avenues of US-Japan collaboration. With the first in the series having been held in March 1996, these annual fora, centered on research fields in which Japan is making pioneering advances, feature lectures by leading Japanese researchers. The eleventh forum was held in June of this year on the theme “Supercomputer and Its Applications.” It was attended by some 150 people.

Linkage and Cooperation with US Funding Agencies

The office provides liaisons and coordination in the implementation of cooperative programs between JSPS and the National Science Foundation (NSF), the National Institutes of Health (NIH), and other US funding institutions. Whenever opportunities present themselves, the staff visit these institutions or invite their staff to come to the office for discussions on cooperative programs—e.g., on making their operation more efficient and effective and on plotting their future courses.

Supporting the US JSPS Fellows Alumni Association

In 2004, an alumni association was established in the US. Its membership comprises both American researchers and researchers from other countries who are currently doing work in the US. In both cases, they are people who have experienced research in Japan under a JSPS program. The office supports the association in ways that help it to function effectively especially in strengthening ties between American and Japanese researchers. The office is also working to create a closer relationship with Japanese researchers doing research in the US and with American researchers who wish to do research in Japan.

The cornerstone upon which the office’s program rests is building communications among researchers and people engaged in research irrespective of their nationalities. Accordingly, we invite the reader, no matter where you may reside, to drop by the office if you have an occasion to be in Washington, DC.

— JSPS Washington Office
Dr. Pablo Perez Goodwyn came to Japan from Argentina in November 2004 under a JSPS Postdoctoral Fellowship after having received his PhD in Argentina and conducting research in Germany as a postdoc. He is currently doing biomechanical research with Prof. Kenji Fujisaki at the Graduate School of Agriculture in Kyoto University.

Holding him in high esteem, Dr. Perez Goodwyn’s colleagues told us, “He’s very friendly and always easy to talk with in either English or Japanese, which he speaks very well. He’s a good natured person, so much so as to not have any noticeable flaws.”

After finishing his JSPS fellowship this year, Dr. Perez Goodwyn will stay at the same laboratory for another three years, as Prof. Fujisaki has offered him a postdoc position in a project under the 21st Century COE Program.

What are you currently researching under the JSPS fellowship?

I am researching the functional morphology and biomechanics of water striders. I use a multiple approach to study the ecology and physics of these wonderful insects. I measure the force they produce, their speed and other factors, and apply these data to answering ecological questions. Also, the morphological adaptations I find through observing these insects with an electron microscope have a potential for industrial applications, which is a field known as bionics or biomimetics.

How did you become interested in your research field?

When I was a kid, I collected bugs, paid attention to their lives, and, of course, got bitten several times. Nature, which has always attracted me, guided my career path from the beginning. My first research field was the systematics of giant water bugs, which gave me insights into functional morphology. Then, I did a postdoc in Germany at the Max Planck Institute for some years, where I learned biomechanics. At that time, considerable taxonomic, ecological and physiological research had been conducted on water striders, but little had been done on their functional morphology or biomechanics. I am now applying this knowledge and my passion for water bugs at Kyoto University.

Why did you choose Japan as the place to pursue your research? How did you get to know your Japanese host researcher?

I’ve had an interest in Japan since I was a kid. In front of my house lived a Japanese family, and the man taught me how to make very basic bonsai. Since then, I’ve always enjoyed connections with Japanese friends in Argentina. When in Germany, I was suddenly presented with an opportunity through Tuebingen University in Germany and Doshisha University in Kyoto to take a two-semester course in Japanese language and culture, one semester being in Germany and the other in Japan. Under this program, I studied Japanese culture and language for five months at Doshisha in 2003. During that stay in Kyoto, I made contact with my present host researcher, Prof. Fujisaki, whom I looked for through the Internet, and developed a joint research plan with him.

What do you consider to be the merits of conducting research in Japan?

Japan has in its culture the will to progress and improve, and this is reflected in the way science is pursued here too. The facilities, including experimental equipment, and the human resources, such as researchers and students, in Japan are among the best in the world.

You delivered a lecture under the JSPS Science Dialogue Program. What did you find participating in this program to be like?

I gave a lecture in English titled “Walking on water: let’s learn from the water striders!” to the students at Ritsumeikan High School in Kyoto under the Science Dialogue Program. I am very happy and satisfied with this program. It gave me an opportunity to make contact with high school students, and to see with my own eyes what they are like, how they think, and what they have in mind. I hope my talk motivated the students and raised their curiosity. I was pleased to see them try to interact with this researcher, as after all they are going to be researchers themselves some day. I hope the experience also helped them to lose a little bit of the fear they naturally have to speak to a foreigner!

What do you usually do outside of your research activities?

I do kyudo, Japanese archery, three times a week. I practice it very intensively, and believe that I’ve found in it a way to develop both my body and soul. I will soon take the test to earn my fourth-dan. I also like to go sightseeing, shopping and fishing and to make short trips on weekends.

Before coming to Japan, what kind of image did you have of the country? Has your perception changed?

It has indeed. I had thought the people to be more closed minded or unfriendly to foreigners. I found the reality to be different, having had so many nice experiences here. Of course not everybody but most people are friendly and without prejudice towards foreigners. I had also expected the people...
to be more conservative, but was surprised to see how deeply the globalized culture has spread among them. Everything from the language, cuisine, aesthetics, movies, and even attitude is strongly influenced by today’s popular Hollywood culture.

What advice would you give people about to begin a JSPS fellowship?

I would recommend that they enjoy their time here—not to just work like a machine for one or two years, but to take every opportunity to get to know the country and its culture. Learning Japanese language is highly recommendable if one wants to enjoy life here. Forming a group of friends is the doorway to nice experiences, and taking part in group activities, such as sports, recreation or culture, is a very convenient way to do so. So, don’t stay home at night!

Introducing Japan: Kyoto

Kyoto as seen from my perch
Dr. Pablo Perez Goodwyn

Kyoto was founded in 794, over a thousand years ago. In earlier times, Japan’s capital moved with the succeeding reigns of each emperor, finally settling in Nara for the most part of the eighth century. It’s relocation to Kyoto—or Heian-kyo (Capital of Peace and Tranquility) as it was initially called—marked the turn from the Nara to Heian Period. Modeled upon the capital Ch’ang-an of the T’ang Dynasty, Kyoto was built in checkerboard fashion. Located in a basin of surrounding mountains and between north-to-south running rivers, the capital was well protected not only geographically but by a pantheon of guardian deities enshrined in strategically placed temples around the city.

The capital’s long history was marked by numerous battles between samurai clans or warring monks who raided and torched the city’s temples and other wooden structures. Fires and other natural calamities also took their toll on the city’s buildings, which were destroyed and rebuilt over and over again. Through it all, however, Kyoto has remained a repository of Japan’s traditional culture, both tangible and intangible. Perhaps this can be credited to those guardian deities, who have remained faithfully on duty over these many centuries; and who working in mysterious ways, may have even influenced the decision to spare Kyoto of American bombing during the Second World War.

For me, walking in Kyoto is like going on a treasure hunt. In every corner, small or large, can be discovered a memorial stone or some other artifact that harkens back to an event in eras long past, each reminding you of where you stand: The Ancient Capital; Everywhere are Buddhist temples and Shinto shrines, which share the glory of the city’s sacred legacy. Among them, I am rather partial to Kiyomizu-dera, the stilted temple with a fountain of “pure water”; Heian Jingu, the shrine dedicated to Emperor Kammu who founded Heian-kyo; the zen temple Nanzenji, situated in a pine grove just east of the shrine; Higashi and Nishi Hongan-ji, two main temples of Pure Land Buddhism, both located within a short walk from Kyoto Station; and Yasaka Jinja where the famous Gion Matsuri (festival) is held.

The ambience of the old city can also be enjoyed by just taking a stroll down Pontocho or Gion is akin to a sport.

In doing their research and living in Japan, I would recommend that they take advantage of the human resources available to them, such as the university’s advisors and secretaries, laboratory pals, and of course JSPS itself. Good contacts in Japan can last forever, so it is a perfect place to make colleagues and build networks.

Interview by JSPS Fellows Plaza

Pontochō or Gion is akin to a sport. If one should get a sudden craving for the modern globalized world, fortunately or unfortunately, there are plenty of cinemas, game centers, fast food joints, bars, and even pachinko parlors to be found in town.

After living for several years here, I can say that it would take an entire lifetime to seek out all of Kyoto’s secret places, hidden as they are in every nook and cranny of this wonderfully mysterious city.

JSPS Fellows Plaza Website

JSPS Fellows Plaza is continually in the process of updating its website, which provides information for present, past and prospective JSPS fellows. Please give us a visit at:

http://www.jsps.go.jp/english/e-plaza/

You’ll find pages on “How to Apply,” “Experiences and Messages from JSPS Fellows,” “Program Guidelines,” “e-Orientation,” “Find Nearby Fellows,” “Science Dialogue,” and “Alumni Associations.” The site also carries current and back copies of our newsletter JSPS Quarterly” and the booklet Life in Japan for Foreign Researchers.

If you have any opinions or impressions you wish to share regarding our website, please contact us at the JSPS Fellows Plaza.

— JSPS Fellows Plaza
Crowning Rooster, Emblem of the Japan Society for the Promotion of Science

From days of old in Japan, it has been the belief that the vigorous cry of the rooster in the gray of the morning augurs the coming of a new and bright day. As the crowing rooster can therefore be thought of as a harbinger of the kind of new knowledge that promises a brilliant future for humankind, it was chosen as the emblem of the Japan Society for the Promotion of Science. This emblem was designed in 1938 by Professor Sanzo Wada of Tokyo Fine Arts School to depict the rooster that symbolizes the breaking dawn in a verse composed by Emperor Showa.

About JSPS

The Japan Society for the Promotion of Science (JSPS) was established as an independent administrative institution to perform the following main functions: fund scientific research, foster researchers, and promote international scientific exchange.

Request for Reader Comments

We are taking a survey with an eye to reflecting reader interests in the JSPS Quarterly. If you have an opinion of our newsletters, we would like to hear from you. We would also like to know your impressions of the JSPS Fellows Plaza webpage. Please e-mail your comments to the JSPS Fellows Plaza at fellowsplaza@jsps.go.jp or fax them to us at +81-3-3263-1854.

For further information on JSPS’s organization and programs, please visit our website [www.jsps.go.jp/english/], or mail or fax inquiries to JSPS Fellows Plaza using the address or fax number given below. JSPS Quarterly and our brochure may also be downloaded.

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