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Japan Society for the Promotion of Science

Quarterly

TOPICS

Interview with Mr. Fumiyasu Hirashita on Interim Report on Strategic Promotion of International Science and Technology Collaboration

In August of this year, the Committee on International Affairs of MEXT's Council for Science and Technology (chaired by Dr. Setsuho Ikehata, president, Tokyo University of Foreign Studies) compiled and issued an interim report on "strategic promotion of international S&T collaboration." The committee comprised experts from the corporate, academic and governmental sectors, all of whom were well-versed in international relations. JSPS president Prof. Motoyuki Ono served as one of the committee members. Over a 5-month period from March 2004, the committee met eight times.

Mr. Fumiyasu Hirashita

Detailed information on the committee's interim report is available on the following MEXT website:
http://www.mext.go.jp/english/kagaku/index.htm

We discussed the interim report with Mr. Fumiyasu Hirashita, director, International Science and Technology Affairs Division, Ministry of Education, Culture, Sports, Science and Technology (MEXT), asking him the following questions.

Could you tell us about the background that led to the preparation of the report?

About a year and a half had passed since the first Committee on International Affairs had compiled its report on "a policy for international promotion of science and technology activities." During the interim, MEXT had been working steadfastly to implement the committee's recommendations. At the same time, however, changes continued to take place in the environment surrounding international competition, including an intensification of competition for knowledge assets in the form of human resources and state-of-the-art technology. The second Committee on International Affairs was convened to reconsider factors covered in their first report in light of these changes in the international milieu and to make recommendations directed toward strengthening international collaboration. Their report would undergird the conceptual framework of the next Science and Technology Basic Plan.

What sort of recommendations did the committee make?

"Internationalization" of the S&T domain is now a phenomenon taken for granted. Rather than stressing mere internationalization, their recommendations, therefore, place weight on "strategizing" the process. They assigned priority to the following four undertakings.

(1) A strategic approach needs to be formulated. In doing so, a study and analysis should be made of international trends; Japan's own strengths and capabilities, accurately assessed; and a long-term vision established. Then, a three-prong collaborative approach, comprising "collaboration with competition," "cooperation," and "assistance," should be formulated and applied differentially based on such factors as the target field and counterpart country.

(2) In the Asian region, partnerships should be strengthened especially with China and South Korea. After issuing its report, the Committee on International Affairs established a Japan-China-Korea working group, which is deliberating in greater depth concrete cooperative measures among the three countries.

(3) Outstanding researchers must be fostered, secured and networked. Of particular importance will be creating more opportunities for talented researchers to get together for intellectual exchanges.

(4) To strengthen the international infrastructure for S&T collaboration, greater support needs to be given to institutional exchanges that give expression to the special attributes of participating universities.

Based on the interim report, what new policies are being considered?

The ministry's budget request for FY 2005 includes a 4-component policy package: building an infrastructure for international S&T collaboration, fostering and securing international research personnel, strengthening partnerships within Asia, and strategic promotion of international S&T collaboration. In terms of new programs, we are considering starting an "Asia Core Network" and other programs in JSPS.

What do you consider the relationship to be between the interim report and the next S&T Basic Plan?

To be candid, the present Basic Plan does not fully enough incorporate an international strategy. Therefore, the Cabinet Office and MEXT have started to work on formulating a new basic policy. I expect the interim report by the Committee on International Affairs to be instrumental in advancing the discussion on an international S&T strategy and to be reflected in the drafting of the new S&T Basic Plan.

Note: The "Science and Technology Basic Plan" is established by the Cabinet Office based on deliberations by its Council for Science and Technology Policy. Given a 10-year perspective, the Plan is implemented in 5-year periods, setting guidelines for the comprehensive and systematic implementation of Japan's overall S&T promotion policy. The current Second S&T Basic Plan covers the period from 2001 through 2005. The budget allocation for implementing this Plan totals ¥24 trillion. It has four priority areas: life sciences, info-communications, environment, and nanotechnology and materials.

Strategic Promotion of International Science and Technology Collaboration
Interim Report Overview
Council for Science and Technology
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

The Committee on International Affairs of MEXT's Council for Science and Technology (headed by Dr. Setsuho Ikehata, president, Tokyo University of Foreign Studies) held deliberations on the state of scientific research in the international domain, where competition for "knowledge" assets, such as personnel and technology, is intensifying. The Committee compiled its conclusions into an interim report, which set forth a policy oriented to drafting Japan's next Science and Technology Basic Plan. It advocates taking a step beyond "internationalization" of S&T and academic pursuits toward "strategic promotion of international S&T collaboration." The report's contents are outlined below.

I. Changes in the International Environment

The report begins with an analysis of trends in the international arena surrounding Japan's science and technology.

(1) Era of intense international competition for knowledge assets

Amidst globalization, countries are vying with each other to create breakthrough technologies and new industries. Concerned about a brain drain, each country is also competing to secure outstanding research personnel.

(2) Increasing number of common global issues

As international competition intensifies, a rapid increase in the world's population is giving rise to a burgeoning number of new global issues whose solution requires mankind's cooperation.

(3) Demands for international collaboration based on S&T advances

Concurrently, international collaboration is indispensable to advancing science and technology. Given the growing scale of basic research projects and the rising cost of R&D, international research collaboration, including burden sharing, becomes all the more necessary.

(4) Advent of regional cooperation and Asia's rise

Concomitant with globalization, EU membership is expanding, while other regional alliances, including economic partnerships, are being formed. Having experienced strong economic growth, the Asian region is expected to yield a large market for goods and services. Nevertheless, there are still some areas within Asia that require international cooperation and assistance.

II. Challenges Facing Japan

Given the changing international environment outlined above, the following were identified as challenges to address in pursuing international collaboration by way of Japan's S&T activities.

(1) S&T in socioeconomic development

Through international collaboration with scientifically advanced nations of the West, Japan can sustainably develop its own leading-edge science and technology, and use the fruits thereof to advance socioeconomic development in Japan.

(2) Addressing common global issues

Japan should exercise leadership in addressing issues of common human interests, such as solving global scale problems or building a safe, secure global society.

(3) Strengthening ties within Asia

Japan should strengthen its partnerships with other Asian countries, not from the vantage point of an advanced nation but as a fellow member of the region. As such, Japan should work to realize an Asia that gives rich expression to its own originality.

(4) Creating a research environment attractive to outstanding Japanese and foreign researchers

Japan should build a vibrant research environment, one that attracts researchers, technology and other intellectual assets from around the world. Japan's incorporated universities, research institutions and local municipalities are expected to utilize their unique characteristics and strengths in carrying out attractive international collaborations.

III. Policy for Strategically Promoting International S&T Collaboration

To meet these challenges facing Japan, a policy framework that moves the conventional concept of "internationalization" toward "strategic promotion of international collaboration" needs to be developed. Based on it, effort should be made to strengthen the international collaboration infrastructure that supports both exchanges within the Asian region and solutions to international competition for human resources. To this end, the following high-priority measures should be undertaken.

(1) Taking a strategic approach to international collaboration

In promoting international S&T collaboration, first priority must be placed on devising a strategic approach. This requires a thorough study and analysis of the targets of international collaboration—i.e., regions, policies, and research fields—as well as an accurate assessment of Japan's capabilities. Long-term vistas for Japanese collaboration also need to be conceptualized. In addition, a differentiation must be established, based on the target field, counterpart country and other factors, as to the employment of "collaboration with competition," "cooperation," or "assistance." These operative concepts of collaboration are defined as follows:

1) "Collaboration with competition" presupposes a competitive relationship, and is a typical form of collaboration with Europe and the US. When competing to advance cutting-edge science and technology or to create new industries, taking into account the present or a future perception of international competitive relations, effort should be made to create a collaborative infrastructure through a shared investment of personnel and resources and to set international technical standards, among other mutual undertakings.

2) "Cooperation" is not premised upon a competitive relationship but is used to create complementary ties with partner countries. With regard to issues of common regional or global interest, Japan uses its S&T capacity and research assets in cooperation with other countries, forming a mutually beneficial relationship based upon equal partnership.

3) "Assistance" is premised upon Japan's technical superiority vis-à-vis the counterpart country, and envisions a future transition to "cooperation." This approach is targeted primarily to developing countries. For example, assistance is carried out when Japan's S&T level is appreciably higher than that of the other country and a common mid-to-long-term global issue is to be addressed with it or when the goal is to foster people in the partner country who may help invigorate Japan's research environment in the future.

(2) Building partnerships in Asia

With a focus on solving common regional issues and contributing to socioeconomic development, Japan should work with other Asian countries not only from the perspective of "assistance" but also from that of "cooperation" as equal partners. Taking a stratified approach adjusted to the various stages of development in the region, Japan should strengthen its partnerships with China and South Korea, which have achieved significant progress in S&T development and economic growth over recent years, while pushing forward its support for ASEAN countries, which are expected to develop in the future, based on a long-term perspective.

(3) Fostering and securing international research personnel and building networks among them

To secure high-quality research personnel, several steps must be taken: Among them, research and living environments must be created that are attractive to outstanding Japanese and foreign researchers; intellectual contact among outstanding researchers from Japan and other countries should be spurred by creating opportunities for them to meet and inspire each other; networks for ongoing exchange need to be built among research personnel; excellent foreign researchers should be invited to work in Japan; and programs should be expanded for sending young Japanese researchers abroad.

(4) Strengthening the infrastructure for international collaboration

To support the above initiatives, it will be necessary to strengthen the infrastructure of international collaboration by creating attractive research and living environments that conform to high international standards and by promoting research exchange using as hubs the oversea bases of Japanese institutions. It will be especially important to promote internationally implemented institutional exchanges that accentuate the unique attributes of universities, which play a central role in Japan's S&T system.

To Past and Present JSPS Fellows:

We are in the process of updating our mailing list. If you have changed your address or would like to add your name to the *JSPS Quarterly* mailing list, please mail your full name and address (including country) to JSPS Fellows Plaza, 6 Ichibancho, Chiyoda-ku, Tokyo 102-8471 or fax it to us at +81-3-3263-1854. Please indicate whether you are a current or former JSPS Fellow.

2004 Recipient Chosen for International Prize for Biology

This year's Prize was awarded to Prof. Thomas Cavalier-Smith. On 9 September, the Committee on the International Prize for Biology (chaired by Dr. Saburo Nagakura, president of The Japan Academy) selected Prof. Cavalier-Smith as the 2004 Prize recipient based on the recommendation of the Prize's selection committee. The specialization of the Prize rotates annually, with this year's being "Systematic Biology and Taxonomy."

Achievements Recognized by the Award

Prof. Cavalier-Smith has published many works which organize and systematize the classification of the living world, taking a bold yet detailed approach on the basis of his special expertise in cell biology, electron microscopy, and molecular biology, backed by his knowledge of the latest developments in every field of biological science. Focusing on the evolution of cells by endosymbiosis, he has helped create a more natural classification system, primarily by proposing the "six kingdom theory," which added the kingdom Chromista to the five kingdoms (the Monera, Protista, Plantae, Fungi, and Animalia) that had been generally accepted for some time. These many notable contributions by Prof. Cavalier-Smith make him a worthy recipient of the International Prize for Biology.

Prof. Thomas Cavalier-Smith

Position: NERC Professorial Fellow (September 1999-August 2007), Department of Zoology, University of Oxford
(From 1 October 2000 also Professor of Evolutionary Biology, University of Oxford)
Also Fellow of The Canadian Institute for Advanced Research (Evolutionary Biology Program)

Education and Career

a) Undergraduate

Gonville & Caius College, University of Cambridge, UK (1961-1964)
B.A. in Natural Sciences

b) Graduate

King's College London, University of London, UK (1964-1967)
Ph.D. in Biophysics

c) Previous employment history

1964-1967 Tutorial Student, Department of Biophysics, King's College London, University of London, UK
1967-1969 Guest Investigator (Damon Runyon Cancer Research Fellow), Department of Cell Biology, The Rockefeller University, New York, USA
1969-1982 Lecturer in Biophysics, King's College London, University of London, UK
1982-1989 Reader in Biophysics, King's College London, University of London, UK
1989-1999 Professor of Botany, The University of British Columbia, Vancouver, BC, Canada

Sketch of Prof. Cavalier-Smith's Research Work

Since the earliest days of taxonomy, which forms the basis for the study of biological diversity, in addition to the need to accurately describe each of the myriad forms of life (said to number several million species, or more), an issue of key importance has been how to divide organisms into major subgroups. The division of all organisms into "animals" and "plants" probably came about spontaneously, before the advent of taxonomy; as the biological sciences developed, other categories of life such as fungi, protists, and bacteria were generally recognized as independent subdivisions, and by the 1970s and 1980s, the "five kingdom theory" was widely accepted. This explained the evolution of life on the basis of a classification into the kingdom Monera, containing bacteria with no nucleus (prokaryotes), the kingdoms Plantae, Animalia, and Fungi, containing multicellular eukaryotes (organisms composed of cells with nuclei), and the kingdom Protista, which forms a link between the latter and the prokaryotes. This system came under challenge, however, because the phylogenetically very heterogeneous nature of the kingdom Protista was not consistent with current principles of taxonomy based on phylogeny. In 1981, Prof. Cavalier-Smith postulated that only those groups of organisms which acquired chloroplasts by "primary endosymbiosis" and which have a double chloroplast envelope, namely, the three plant divisions Chlorophyta, Rhodophyta, and Glaucophyta, should constitute the true plant kingdom. He proposed classifying as a sixth kingdom, independent of the plants, those algae whose chloroplasts, acquired by "secondary endosymbiosis," possess three or four bounding membranes; this new kingdom is

known as the Chromista. Prof. Cavalier-Smith's "six kingdom theory" was far more reflective of phylogenetic relationships than earlier theories, and today it has the support of many researchers. He later proposed combining the Chromista and the Alveolata, which include dinoflagellates, to form a new category known as chromalveolates. He also suggested that the endosymbiotic acquisition of chloroplasts was a single event in the case of primary endosymbiosis, and also a single event in each of chlorophytan and rhodophytan lineages in the case of secondary endosymbiosis.

With his coworkers, Prof. Cavalier-Smith has also investigated the origin of eukaryotes, focusing on the structural evolution of genes as well as molecular phylogenetic analysis, and has developed a model of unprecedented simplicity to trace the stages of cellular evolution from prokaryotes to eukaryotes. In particular, he has concluded that, while archaebacteria have a great many characters in common with eukaryotes, the two are sister groups rather than representing an evolutionary pathway from the archaebacteria to the eukaryotes.

Through this work, which marks a very significant advance in our understanding of the evolution and diversity of life, Prof. Cavalier-Smith has made a major contribution with far-reaching implications for research in many areas of biology.

International Prize for Biology—Background and Procedure

The endowment for the International Prize for Biology was established in 1985 in commemoration of Emperor Showa's 60th year of reign and in recognition of his long years of devotion to biological research. The Prize's purpose is to encourage and promote research in fields spanning the entire domain of biological sciences. Each year, the Prize is awarded in a chosen field to a world-renown scientist who has made superlative contributions to the advancement of biology.

Selection of the recipient is conducted by the Committee on the International Prize for Biology. Established under it is a selection committee, chaired this year by Dr. Kiyoshi Aoki, professor emeritus, Sophia University, and comprising 18 other members including four from overseas. This committee sends out requests for candidate nominations to academic institutions and individual researchers specializing in the year's subject field of biology. Altogether, these constitute some 1,800 mailing addresses both in Japan and abroad. Carefully deliberating the nominated candidates, the selection committee chooses, as a rule, one to recommend as the year's prize recipient. (This year saw 52 nominations received for candidates hailing from 16 countries, or 38 nominees after adjustment was made for duplications.) Then, based on the selection committee's recommendation, the Committee on the International Prize for Biology makes the final decision as to the year's Prize recipient.

JSPS serves as the executive secretariat of the Committee on the International Prize for Biology. The Prize's endowment is established within JSPS, which applies contributions from corporations and individual donors to the Committee's operation.

Ceremony and Symposium

A ceremony to award the Prize to Prof. Cavalier-Smith was held at The Japan Academy, located in Tokyo's Ueno Park, on 29 November. To celebrate Prof. Cavalier-Smith's receipt of the Prize, a commemorative international symposium was held on 30 November-1 December at The Japan Academy.

At the ceremony, a certificate, medal, imperial gift, and the prize of 10-million yen were presented to Prof. Cavalier-Smith. Both the ceremony and the accompanying reception party were attended by Their Majesties Emperor Akihito and Empress Michiko.

Events

San Francisco Office

JSPS/CJS Joint Colloquium
"The 'Globalization' of Japanese Studies; Southeast Asian Perspectives"
University of California, Berkeley, 18-19 March 2005

Recruitments

For FY 2005
JSPS Postdoctoral Fellowships (Short-term) for North American and European Researchers
Application deadline from host institution to JSPS: 7-10 February 2005
JSPS Postdoctoral Fellowships for Foreign Researchers (Standard)
JSPS Invitation Fellowships for Research in Japan (Short-term)
Application deadline from host institution to JSPS: 9-13 May 2005

For details, ask a prospective host researcher or visit our website.

Publications

Doppler-Free High Resolution Spectral Atlas of Iodine Molecule 15000 to 19000 cm^{-1}
By Hajime Katô et al., Kobe University; four volumes (4,000 pages with CD-ROM); ¥60,000 [about $580] plus delivery. For details and ordering, see: www.jsps.go.jp/english/e-rftf/gaiyo/gaiyo_publication.html

Life in Japan for Foreign Researchers 2002
The handbook contains useful information on living, working, housing, banking, medical services, etc; 230 pages in English & Japanese; ¥1,680 [about $16] plus delivery. For details, ask Maruzen bookstore: fax +81-3-3272-0693 or email e-shop@maruzen.co.jp

MoU Signed with Russian Foundation for Basic Research

Culminating negotiations between JSPS and the Russian Foundation for Basic Research (RFBR) on formulating the contents of a memorandum of understanding on research cooperation, Prof. Vladislav Khomich, RFBR's president, and Dr. Vladimir Khromov, director of RFBR's International Relations Department, came to Japan to hold the MoU signing ceremony. At the Palace Hotel in Tokyo on 28 September, the groundbreaking MoU was signed by Prof. Khomich and JSPS president Prof. Motoyuki Ono. Joint research, along with workshops and other activities, will be supported under the MoU. A call for joint research proposals is scheduled to be issued at the beginning of 2005.

Attending the signing ceremony as an observer was Mr. Naoki Murata, deputy director general of Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology.

Prof. Khomich of RFBR (left) and Prof. Ono of JSPS

Small Seminar Held Under 21st Century COE Program

On 7 October, JSPS's London Office and the University of Cambridge sponsored a small-scale seminar titled "Neural Models of Cell Signalling, Proliferation and Differentiation." Held at Pembroke College, the seminar was organized by a Cambridge research group led by Prof. William A. Harris of the university's Department of Anatomy. From Japan, life science research groups of Akita and Kumamoto Universities were invited to participate in the seminar. These two universities have received grants under the 21st Century COE Program to establish research hubs within their life science graduate departments, and carry out cutting-edge research of a high global standard.

Discussion in the Nihon Room

The seminar began with introductions of the research work being pursued at Akita and Kumamoto Universities delivered by the leaders of the two groups: Prof. Nobuya Inagaki and Prof. Tetsuya Taga. The body of the seminar comprised three successive sessions on "Early Neural Induction," "Stem Cells and Cell Determination," and "Cell Signalling." Each featured presentations from leading researchers of the three universities, followed by probing discussions and vigorous exchanges on the current progress, research issues and future direction of each group's work on the subject.

The seminar gave the researchers from the Japanese universities an opportunity to introduce cutting-edge work being carried out under the 21st Century COE Program to their colleagues in the UK. At the same time, it offered the researchers from the UK a chance to share their pioneering work, spawning a synergy among the participants of the two countries.

It is expected that future seminars like this one held in the UK will both spread information on and deepen interest in state-of-the-art research being advanced in Japan.

Large-scale Symposium on University Research Held in Glasgow

Over a 2-day period from 10-11 September, a large-scale symposium, co-sponsored by JSPS's London Office and the University of Glasgow, was held on the theme "Governing University Research: Historical and Comparative

Perspectives." Overarching a discussion on how research should be handled in higher educational institutions, the symposium was carried out in the following four sessions:

(1) Historical overview: Universities as institutions of research and innovation in industrialised countries
(2) Learning by example: University-government relationships and university research in the postwar period
(3) Learning by example: University-industry relationships and impact on university research
(4) Learning by example: Contemporary models for reform

In these sessions, 16 experts from Japan, the UK, the US and Germany delivered presentations and engaged the participants in lively discussions. In conclusion, Prof. Richard Trainor, principal, King's College London, University of London, led the participants in a wrap up and assessment of the event.

Given the in-depth content of both the presentations and discussions, most of the participants said that taking part in the symposium was very meaningful to them. With the discussions being multinational in content, the research theme of this symposium was able to capture and distill a wide range of perspectives.

Participants at University of Glasgow

Fourth Science Forum Held by Stockholm Office

On 13 October, JSPS's Stockholm Office held its fourth Science Forum at The Nobel Forum of the co-sponsoring Karolinska Institute (KI). Beginning in 2001 and held every autumn, this series of fora is the centerpiece activity of the Stockholm Office. One of the forum's main objectives is to widely familiarize Swedish and other Nordic scientists with top-level research being conducted in Japan, while exploring directions in which the region is advancing leading-edge research in the subject field. In Sweden, as well as Japan, the government has assigned high funding priority to research in the life sciences. As this is a field of paramount interest to both countries, the subtitle "Frontiers in Life Sciences" was attached to the forum's name from last year.

This year's forum opened with remarks from Stockholm Office director Dr. Tsuneko Okazaki. She was followed by Dr. Maria Wästfelt, the coordinator for KI-Japan Cooperation at the Karolinska Institute, who described a number of scientific exchanges being conducted between KI and Japan. Ending the opening session, JSPS international program director Ms. Yuko Furukawa gave a talk elaborating recent developments at JSPS. This morning session was attended by Mr. Seiichiro Otsuka, Japanese Ambassador to Sweden.

Participants listening to lecture

Four sessions were then held, each comprising presentations by a leading Japanese and Swedish researcher. They were as follows:

(1) Immunology: Prof. Tasuku Honjo, Kyoto University, and Prof. Hans-Gustaf Ljunggren, KI
(2) Innate Immunity: Prof. Shizuo Akira, Osaka University, and Prof. Ylva Engström, Stockholm University
(3) Genomics: Prof. Nobuyoshi Shimizu, Keio University, and Prof. Christer Betsholtz, KI
(4) Neurogeneration: Prof. Hajime Fujisawa, Nagoya University, and Dr. Johan Ericson, KI

Their abstracts can be found on the following website:
http://www.jsps-sto.com/websites/jsps-stocom/filbank/booklet_sf04.pdf

The lively exchange of questions and answers that followed each presentation carried over into the coffee and lunch breaks, where huddling around the lecturers, the participants engaged them in animated conversation. Sitting together around the table over dinner that evening, the lecturers and participants cultivated friendship ties in a relaxed atmosphere.

At the end of the proceedings, an eagerness was expressed to expand the Office's menu of activities revolving around the Science Forum, and appreciation was extended to the Karolinska Institute for assisting in the selection of the lecturers and providing the fine venue for the event.

Bonn Office Holds JSPS Abend

On 1 September, the JSPS Abend was held at the historical International Club "La Redoute" in Bonn, Germany. The Abend, commonly called "summer festival," is held by JSPS's Bonn Office every year in August or September. In essence, it constitutes the Bonn Office's annual meeting, attended by representatives of Alexander von Humboldt Foundation (AvH), German Academic Exchange Service (DAAD), German Research Foundation (DFG) as well as other science promotion and academic institutions in the Bonn vicinity. This year's event assembled some 100 people, who used the occasion to engage in collegial talk and renew friendship ties.

The Abend opened with an address from Bonn Office director Prof. Yasuo Tanaka, who reported on the office's activities over the past year and outlined its coming slate of programs. He extended a word of gratitude to the attendees for the cooperation their organizations have so generously provided the Bonn Office. Following him, JSPS executive director Mr. Isao Kiso offered remarks in which he expressed delight over progress being made in the new collaborative initiatives spawned by the agreement signed last year by the heads of the two nations to strengthen bilateral scientific cooperation. He also announced that Mr. Sho Hagio, the Office's deputy director, would after having served three years in the post be retuning to JSPS's headquarters in Tokyo, and introduced his successor, Mr. Kazunori Higuchi. Then, Dr. Takahiro Shinyo, consul general of Japan in Duesseldorf, added his remarks and posed a toast to ever growing exchange between Japan and German.

After these messages, the attendants enjoyed free conversation among each other and the Office staff. The program ended with farewell remarks by Mr. Hagio, who looked back over the Office's fruitful initiatives and thanked the attendees for the both the cooperation and opportunities they had given him.

Prof. Tanaka giving opening remarks

JSPS Alumni Association Launched in the US

On 25 September, a meeting was convened of the preparatory committee's executive board to formally establish the US JSPS Fellows Alumni Association.

On 13 March, 34 former JSPS fellows had met to set up the preparatory committee for establishing an alumni association in the United States. At that meeting, they divided the US into five regions and elected a representative from each. These five people formed the executive board of the preparatory committee. From among them were elected the board's chair and vice-chair.

This time, a quorum of four board members met at JSPS's Washington Office. At the meeting, opening remarks were delivered by the chair Dr. Blanca Chattin-Kacouris and a welcome message was given by newly appointed Washington Office director Prof. Akira Masaike. A discussion followed on the formulation of the alumni group's new articles of association.

The Washington Office had prepared a draft of the articles of association and previously circulated it to the board members, who in turn forwarded the draft and an inquiry to former fellows in their respective regions. The members, then, brought the results of those inquiries with them to the September preparatory meeting. At the meeting, they engaged in a lively exchange of views on the content and wording of each article. Through this earnest discussion, which ended up extending the scheduled meeting time, a consensus was ultimately reached. The articles of association established the name of the association, its objects, its nation-wide organization, membership eligibility, and executive committee composition. It also mandated that the executive board of the preparatory committee would, without alteration, be the executive committee of the association upon its inauguration.

As the new executive committee, the members then turned their attention to organizing a symposium to kick off

the new association's menu of activities. It was decided to get started with preparations for holding the symposium within the year and to invite a guest speaker from Japan to address it.

Finally, a ceremony, held in the presence of Prof. Masaike, formally established the US JSPS Fellows Alumni Association through the signing by the executive committee members of its just-agreed-upon articles of association.

This meeting, held from beginning to end in a spirited yet amicable atmosphere, was also attended by the staffs of JSPS's Washington and San Francisco Offices.

The members of the association's executive committee are as follows:

- Dr. Blanca Chattin-Kacouris (chair, Midwest)
- Dr. Wael Zatar, West Virginia University Institute of Technology (vice-chair, Southeast)

Signing ceremony

- Dr. Rezwanul Wahid, University of Maryland, Baltimore (Northeast)
- Dr. Daniel Weeks, Los Alamos National Laboratory (Southwest)
- Dr. Roger M. Jones, Stanford Linear Accelerator Center (West)

Workshop Features NIH Program Officer

On 29 October, Dr. Aron Primack delivered a lecture at JSPS on "Program Officer-directed Application Review Systems." Attending were mainly program officers in the Medical, Dental and Pharmaceutical Sciences Group of JSPS's Research Center for Science Systems. The Center is currently building its own PO system, the use of which is a fairly new phenomenon in Japan.


Dr. Primack delivers lecture

Dr. Primack is a program officer at the National Institutes of Health (NIH), which is the core agency for funding a wide spectrum of medical research in the United States. The system NIH uses for determining research priorities, disseminating information on them, and funding projects is managed by program officers.

Dr. Primack talked about the concept and operation of this system and how it is implemented at NIH. While in Japan, he also delivered lectures at Kyoto University, Kyushu University and The University of Tokyo during the short period of 26-28 October.

Eminent JSPS Fellow Wins Nobel Prize

Prof. Aaron Ciechanover, who was granted a FY2003 JSPS Award for Eminent Scientists, has won a 2004 Nobel Prize in Chemistry. Prof. Ciechanover, who hails from Israel, received the Prize for his pioneering work in biochemistry, especially on the physiology and pathology of the ubiquitin-proteolytic pathway.

Hosted by Osaka City University, Prof. Ciechanover received the JSPS Award that covers a period of three years, during which he can make multiple visits to Japan. In his FY2003 visit, Prof. Ciechanover carried out research activities, delivered lectures at scientific societies, and conducted seminars at Osaka City University, Kyoto University, Osaka Bioscience Institute, The Tokyo Metropolitan Institute of Medical Science, and The Institute of Physical and Chemical Research (RIKEN).

Events Held in Asian Countries

RONPAKU Medals Ceremony Held in Indonesia

On 7 September, the Indonesian Institute of Sciences (LIPI) held a medals ceremony in Jakarta for graduating RONPAKU fellows. Eight former fellows who had obtained their dissertation PhDs from Japanese universities during the period of FY 2000-2002 were presented RONPAKU Medals by LIPI chairman Prof. Umar Anggara Jenie. In the afternoon, each of the fellows delivered a presentation on his/her doctoral theme.

JSPS launched the RONPAKU Program with LIPI in 1978. Since then, 21 LIPI fellows have earned their PhDs under the program.

RONPAKU graduates

Asian Science Seminar Held at Kyushu University

On 12-22 October, an Asian Science Seminar, sponsored by JSPS and the Faculty of Agriculture, Kyushu University, was held on the University's campus. Titled "Biological Control of Agricultural Pests in Asia—Theory and Practice," the seminar brought together young researchers from Asia under a curriculum designed to give them the latest information on theory and practice in biological pest control. Its ultimate purpose was to propagate technologies for pest control and prevention that are friendly to the natural environments of Asian countries, while raising the level of research in related fields.

Training session

The opening session was attended by JSPS inspector general Dr. Hirochika Inoue, whose remarks emphasized the importance of fostering young researchers—the main focus of Asian Science Seminars.

Participating in the seminar were some 30 young researchers from Korea, China, Vietnam, Cambodia and other Asian countries, who engaged in an active exchange of views and information with the faculty of lecturers and expanded the working network among themselves. Not limited to lectures, the seminar also featured hands-on exercises and observations of test sites. This interactive, multi-pronged approach produced a good set of desired results.

Asian Science Seminar Held in Seoul

On 24-27 October, the 2004 KOSEF-JSPS Asian Science Seminar on "Development of Mucosal Vaccines—From Basic Research to Clinical Application" was held at the International Vaccine Institute (IVI) in Seoul, Korea. The seminar was cosponsored by JSPS, the Korea Science and Engineering Foundation (KOSEF), The Institute of

Medical Science, The University of Tokyo (IMSUT), and IVI (an international agency of the World Health Organization).

The development of mucosal vaccines is a new field of research, which has only begun to gain recognition over the last few years. Assembling young researchers in this budding field, the seminar sought to create a vestibule for expanded collaboration and exchange among them.

Seminar participants

Core University Program

Kyoto University-LIPI Seminar Held under Core University Program

On 17-19 September, an international wood science symposium was held under the core university project in wood sciences between the Research Institute for Sustainable Humanosphere, Kyoto University, and the Research and Development Unit for Biomaterials, Indonesian Institute of Sciences (LIPI). This was the fifth in this series of seminars started in 1996, with alternating venues between Japan and Indonesia. Titled "Sustainable Production and Effective Utilization of Tropical Forest Resources," this seminar was held at Kyoto University.

Lecture hall scene

With each successive seminar, both the number of participants and paper presenters have increased. More than 250 researchers from not only Japan and Indonesia but also other Southeast Asian countries attended this year's event. At it, oral and poster presentations were delivered and a talk was given by Mr. Hiromichi Endo, head of JSPS's Asian Program Division, on JSPS's menu of international cooperative programs.

Core University Seminar Held between Kyoto University and Thai Counterparts

On 6-8 October, the Center for Southeast Asian Studies at Kyoto University held a seminar in collaboration with Thammasat and Chulalongkorn Universities under a core university project entitled "Perspectives of Flows, Middle Class, and State and Market for Asia." Among the 29 projects being conducted under the Core University Program, this is the only one to focus on a field of the social sciences.

Venued at Kyoto University, the seminar opened with remarks by Prof. Takashi Shiraishi, the coordinator on the Kyoto University side, who described the results of the project to date and the objectives still to be achieved. Following him, Mr. Hiromichi Endo, head of the Asian Program Division, explained JSPS's international exchange programs placing particular emphasis on the outlook for the Core University Program.

Mr. Endo describing JSPS program

The 3-day seminar was divided into six panel sessions, each energized with stimulating presentations and active discussions.

Series: Research and Life in Japan by a JSPS Fellow (3)

Dr. Sophie Sakka is presently conducting research in Japan as a JSPS postdoctoral fellow. In 2002, she obtained her doctorate in robotics from University Pierre et Marie Curie (Paris 6) in France. From November 2003, she began her research in Japan under the fellowship at the Intelligent Systems Research Institute (IS) of the National Institute of Advanced Industrial Science and Technology (AIST).

In December 2003, IS and le Département des Sciences et Technologies de l'Information et de la Communication (STIC) of le Centre National de la Recherche Scientifique (CNRS) established a joint research laboratory, named IS/AIST-STIC/CNRS Joint Japanese-French Robotics Laboratory (JRL). Dr. Sakka's host researcher, Dr. Kazuhito Yokoi, is one of JRL's co-directors on the Japan side. Of Dr. Sakka he said, "Bringing a different background to our lab, she engenders new perspectives and stimulates our work with an injection of new blood."

What are you researching in Japan and what are your research achievements under the JSPS fellowship so far?

My research is on enhancing the autonomy of humanoid robots by developing new pattern generation systems. I am concentrating on making the robot jump in a human way. To do this, I am writing a model for the inertia contribution of each member of the robot's "body" needed to perform a jump. At the moment of landing, the impact between the feet and the ground must also be reduced so as to enable the use of such movement on a real robotic platform (HRP-2). At the laboratory, I am doing mainly modelization (mathematical) work and simulation using a simulator developed by AIST researchers. The experimental phase will be coming soon. So far during my stay in Japan, I have written four papers on my current and previous research: one for a journal and three for international conferences. I hope to have enough time while in Japan to finish my work on humanoid jumping.

With HRP-2

Dr. Sophie Sakka

Why did you choose Japan to pursue your research?

Japan seemed to be the best destination for robotics research in terms of its research environment. Geographically, Japan was only a point on a map before I came here. Culturally, I knew virtually nothing about Japan. Scientifically, Japan is quite famous by virtue of international publications and international conferences. My director in France has close professional relations with Japanese researchers and has developed many projects with them. Therefore, Japan was an ideal place for me to go and advance my research.

What do you do outside your research work?

I enjoy doing paragliding, diving, sailing or other outdoor activities as often as possible. I went to Ogasawara to dive with two other JSPS fellows, who have now left Japan. I am also interested in Japanese traditional culture, such as mythology, the tea ceremony and Kabuki. Unfortunately, however, Japanese culture is not so easy to comprehend if you lack the language skills. So I started to attend a Japanese language class. To keep myself highly motivated in studying Japanese, I will soon take a language proficiency level test.

Do you have any advice about living and doing research in Japan for those who may be thinking about coming here under a JSPS fellowship?

It would be ideal if you could start learning the language and obtain some real clues about the culture before coming. When here, meet and talk with Japanese people as much as possible. Before coming to Japan, I am afraid I was too busy to seek out information on Japan. I should have read "Life in Japan for Foreign Researchers," which JSPS published and sent to me in France. After arriving, however, I attended a 3-day orientation held by JSPS, which was useful as I was able to learn what and how other overseas fellows like me are researching in Japan.

Former JSPS Fellow Gives Lecture to Japanese High School Students

On 8 September, a former JSPS fellow, Dr. Neil Thomas, gave a lecture on molecular motors at Shizuoka Prefectural Iwata Minami High School. He did this under a program titled "Science in the Classroom" conducted by the British Council.
(See http://www.britishcouncil.org/japan-science-high-school-science)

The program is designed to provide Japanese high school students with the latest information on a variety of current topics being addressed by UK researchers. Showcasing UK's research initiatives, the program seeks to stimulate the Japanese students' enthusiasm for science, while raising their awareness of and interest in the United Kingdom.

Former JSPS fellows are among those who have participated in this program. In this case, Dr. Thomas of The University of Birmingham gave the students a vivid picture of why molecular motors are an exciting and important topic of study. Their school, Iwata Minami High School, also participates in the Super Science High School Program conducted by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Dr. Thomas using a diagram to answer student questions

Dr. Thomas began his lecture with a brief introduction of The University of Birmingham and the city of Birmingham. Starting with the pioneering achievements of James Watt in inventing the steam engine, he went on to demonstrate the mechanics of molecular motors using as examples a variety of movements in living systems from cells to animal muscles. He showed how molecular motors and steam engines are cyclic machines, both governed by laws of thermodynamics.

Although the content of his lecture was somewhat advanced for the high school students to completely comprehend, Dr. Thomas's lively presentation and imaginative materials, including plenty of photos and graphic images, excited the students' interest while exposing them to firsthand information on the state-of-the-art research activities.

Dr. Thomas's lecture materials

Dr. Thomas giving lecture

Asked the reason why he decided to participate in the program, Dr. Thomas replied: "It's also good for students to see that there are important unsolved problems in science, which they may be able to tackle as the future generation of scientists. My research field of molecular motors is well suited for this. It's an exciting topic, where physics meets biology. Science students cover basic physics and cell biology as quite separate subjects in their school work. To understand molecular motors, we cross the traditional boundary between the two sciences and use physics to study fundamental problems in biology. It's also a field where both Japanese and British scientists have made important contributions.... So, I hoped to stimulate young minds and to promote Anglo-Japanese cooperation."

Judging from their animated expressions and active participation in the Q&A session, the students certainly did derive intellectual stimulus from Dr. Thomas's lecture. Dr. Thomas's excellent contribution to Japanese education was greatly appreciated both by the students, school, and JSPS.

Sharing Dr. Thomas's view that it is an excellent idea for high school students to be able to hear from a variety of front-running scientists, JSPS is now in the process of launching a new program under which JSPS fellows will be provided opportunities to participate in educational activities at Japanese high schools located within the vicinity of their host institutions.

JSPS hopes that this program will not only serve to inspire and motivate Japanese students in their studies, but will also allow JSPS fellows to deepen their involvement in the community while strengthen their Japanese ties by playing a hands-on role in Japanese education and conversing with students who will go on to shoulder Japan's future.

(In our interview with him, Dr. Thomas related many of his experiences while giving seminars to Japanese students. For the full story, please visit JSPS's alumni website: http://www.jsps.go.jp/english/e-fellow/alumni/alumni_e.html)

Recent Visitors to JSPS (August-October 2004)

Prof. Louis J. Ignarro, from UCLA School of Medicine in the US, was invited to Japan by Nagoya University under the JSPS Award for Eminent Scientists. Prof. Ignarro won the 1998 Nobel Prize in Physiology or Medicine.

On 14 October, he paid a courtesy visit to JSPS president Prof. Motoyuki Ono. This was Prof. Ignarro's fifth trip to Japan under the JSPS program. In each of them, he gave lectures and offered research guidance at Japanese universities. This time, he focused his efforts on Nagoya University, while working lectures at The University of Tokyo and Kumamoto University into his busy schedule.

From left: Dr. Toshio Hayashi, Prof. Louis J. Ignarro, Prof. Motoyuki Ono, Mr. Takashi Kiyoura

For further information on JSPS's organization and programs, please visit our website [www.jsps.go.jp/english/index.html], 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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Crowing 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.