



## 1999 International Prize for Biology Awarded to Prof. Setsuro Ebashi for His Research in Animal Physiology

On September 9, the Committee on the International Prize for Biology, chaired by Dr. Yoshio Fujita, President of the Japan Academy, decided, based on the recommendation of the Prize's Selection Committee, to award Professor Setsuro Ebashi, Chairman of the Japan Academy's Section II, the 1999 International Prize for Biology. He was selected from among 56 recommendations presented by scientists and scientific organizations from Japan and abroad.

The Prize's presentation ceremony was held on November 29 at the Japan Academy in Tokyo, with Their Majesties the Emperor Akihito and the Empress Michiko in attendance. At the ceremony, Committee Chairman Dr. Yoshio Fujita presented Professor Ebashi with a medal, a prize of ten million yen, and an imperial gift. Then, Emperor Akihito delivered an Imperial Message. Congratulatory messages were also offered by Prime Minister Keizo Obuchi read by Mr. Haruo Hirano, Deputy-Director, Prime Minister's Office and by Education Minister Hirofumi Nakasone read by Mr. Teiichi Sato, Vice-Minister of Education, Science, Sports, and Culture. In acceptance of the Prize, Professor Ebashi expressed his gratitude to the Emperor and the Prize Committee.



Dr. Setsuro Ebashi (left) is presented with an imperial gift by Dr. Yoshio Fujita (right) in the presence of the Emperor and Empress.

Among the accomplishments that qualified Prof. Ebashi for this year's prize was his discovery of a "relaxing factor"- one which, in the presence of adenosine triphosphate (ATP), relaxes glycerinated muscles in rabbits. He found this factor to exist in a particulate with ATPase of Mg activate, and demonstrated that the particulate strongly takes up calcium ions in the presence of ATP and consists of a fragmented sarcoplasmic reticulum. This constituted a pioneer discovery with regard to the calcium pump of the sarcoplasmic reticulum. In subsequent research, Prof. Ebashi was able to show that for muscle contraction to occur in a crude actomyosin-ATP system requires a low



Dr. Setsuro Ebashi

### TOPICS

1999 International Prize for Biology Awarded to Prof. Setsuro Ebashi .....	1
Former JSPS Director General Osaki Awarded a U.K. Honorary Medal .....	2
FY 2000 Fellowships for Foreign Researchers .....	3
New Staff of JSPS Overseas Liaison Offices .....	3
FY 2000 Bilateral Projects and Seminars .....	4

FY 2000 Postdoctoral Fellowships for Young Japanese Researchers .....	4
The Fifth Meeting of the India -Japan Science Council in New Delhi .....	4
Asian Science Seminar on Physics in Beijing .....	5
JSPS Overseas Research Station -Report from Nairobi .....	6
1999 JSPS Party, December 10 .....	8

concentration of calcium. In pursuit of a relaxation factor, his research led him to the discovery of a new protein named troponin. A series of research activities conducted by Prof. Ebashi on troponin paved the way to the discovery of calmodulin, a calcium receptor protein, and played an instrumental role in the elucidation of the mechanism of cell internal signaling.

Professor Ebashi was born in 1922 and graduated from the University of Tokyo, where he became a researcher upon receiving his Ph.D. in 1954. He was appointed a member of the Japan Academy in 1978, and became a professor emeritus at the University of Tokyo in 1983. In the same year, he was appointed a professor at the National Institute for

Physiological Sciences, and thereafter became the Institute's Director General in 1985 and the President of the Okazaki National Institutes in 1991. In 1993, Professor Ebashi became a professor emeritus at the National Institute for Physiological Sciences. In 1995, he was appointed Chairman of the Section II of the Japan Academy.

Over his illustrious career, Professor Ebashi's elucidation of the calcium ion's role in mechanisms that regulate muscle contraction-relaxation and the other fruits of his keen observations and highly systematic research activities have contributed prolifically to the advancement of this year's prize field, animal physiology, and of biology in general.

## **Former JSPS Director General Osaki Awarded a U.K. Honorary Medal**

Former JSPS Director General Hitoshi Osaki, currently President of the Center for National University Finance, has been appointed an "Honorary Commander of the Most Excellent Order of the British Empire (CBE)." This title, established in 1917 and conferred twice a year, is an honorary award granted to individuals, including non-British, who have made a significant contribution to public service in various sectors of society.

On the evening of October 21, the award ceremony was held at the British Embassy in Tokyo. At the ceremony, Her Britannic Majesty's Ambassador Mr. Stephen Gomersall described Mr. Osaki's distinguished role in

Japan-U.K. relations, particularly in the fields of education, science and culture. This he stated included Mr. Osaki's leading role in the signing of the cooperative agreement between the U.K. Science and Engineering Council and the Ministry of Education, Science, Sports and Culture (Monbusho) during his term of office, and in the establishment of the JSPS Liaison Office in London in 1994 and support of the U.K. Festival in Japan through the hosting of a high-level U.K.-Japan symposium during his tenure in office as JSPS Director General.

In his acceptance speech, Mr. Osaki accredited the success of the various activities cited to the close cooperation he enjoyed with British counterparts. He extended his gratitude to the Ambassador for his good offices in arranging the award and ceremony, as well as to all his friends and colleagues in both the U.K. and Japan for the support and assistance they have accorded him over the years. Mr. Osaki vowed to continue his efforts to contribute to the advancement of relations between the two nations in the future as well.

Sixty distinguished Japanese guests were invited from academic circles and the Monbusho, including Dr. Akito Arima (former Minister, Monbusho), Mr. Teiichi Sato (Vice-Minister,



Mr. Hitoshi Osaki shakes hands with Her Britannic Majesty's Ambassador Mr. Stephen Gomersall. Mrs. Rii Osaki stands alongside.

Monbusho), Dr. Hiroo Imura (member, Science and Technology Council), Dr. Hiroyuki Yoshikawa (JSPS President). After a toast proposed by

Ambassador Gomersall, the attendees congratulated Mr. Osaki and celebrated his award in an atmosphere of convivial conversation.

## FY 2000 Fellowships for Foreign Researchers

During the period of September 13-17, Japanese researchers submitted to JSPS their applications through universities they have affiliated to invite foreign colleagues under four FY 2000 fellowship programs: 1) short-term invitation fellowships (first recruitment), 2) long-term invitation fellowships (once-a-year recruitment); 3) postdoctoral fellowships (first recruitment); and 4) postdoctoral fellowship (short-term fellowships) for U.S. researchers (first recruitment). The recipients have been selected by JSPS's selection committees.

- **Short-term Invitation Fellowships:** first recruitment

Altogether 180 recipients were selected out of 433 applicants. The number of awardees and applicants (in parentheses) by country are as follows: U.S. 44 (85), U.K. 16 (29), China 13 (51), Germany 12 (24), Russia 10 (19), France 9 (14), India 6 (27), and 70 (184) awardees from 31 (46) other countries.

The application deadline of the second recruitment will be on May 15-19, 2000.

- **Long-term Invitation Fellowships:** once-a-year recruitment

Seventy recipients were selected out of 241 applicants. The number of awardees and applicants (in parentheses) by countries are as follows: China 9 (47), India 9 (35), Russia 5 (14), Korea 5 (11), Bangladesh 4 (22), Egypt 4 (13), U.S. 3 (7), U.K. 3 (3), and 28 (89) awardees from 21 (41) other countries.

- **Postdoctoral Fellowships:** first recruitment

A total of 250 recipients were selected out of 995 applicants. The number of awardees and applicants (in parentheses) by country are as follows: China 104 (385), Korea 43 (171), India 30 (121), Bangladesh 9 (81), France 9 (11), Russia 6 (18), Philippines 4 (9), Canada 3 (3), Egypt 3 (25), Rumania 3 (4), Australia 2 (5), Brazil 2 (5), U.K. 2 (5), Israel 2 (2), Italy 2 (3),

Morocco 2 (2), Pakistan 2 (12), Poland 2 (8), U.S. 2 (6), and one awardee each from 18 (51) other countries out of 119 applicants.

The application deadline for the second recruitment will be on May 15-19, 2000.

- **Postdoctoral Fellowship (Short-term) for U.S. Researchers:** first recruitment

This program is aimed at providing opportunities for U.S. researchers to conduct cooperative research with leading research groups in Japanese universities and institutions. Nine researchers were selected out of 10 applicants. The application deadline of the second recruitment will be May 15-19, 2000.

- **Invitation Fellowship for Senior German Scientists:** Once-a-year recruitment

Two German Scientists were selected out of four. These candidates are subject to the approval of the Humboldt Foundation, JSPS's counterpart institution in Germany.

### New Staff of the JSPS Liaison Offices

JSPS operates overseas research stations in Cairo and Nairobi, and liaison offices in Bangkok, Bonn, London, Sao Paulo and Washington, D.C.

The current tenure of some staff members will expire next March, and new staffs have been appointed as their successors.

#### <Research Stations>

- **Cairo:** Sumiyo Tsujimura, Researcher, Kokushikan University. One year from April, 2000.
- **Nairobi:** Seiji Utsumi, Professor, Osaka University, six months from June 2000.

#### <Liaison Offices>

- **Bangkok:** Kyonosuke Hirai, Assistant, National Museum of Ethnology. One year from March, 1999.
- **Sao Paulo:** Yoshisuke Nakaoka, Professor, Hyogo Kyoiku University. One Year from March, 2000.

## FY 2000 Bilateral Projects and Seminars

JSPS have selected applications, submitted by Japanese university researchers for FY 2000 joint research projects and seminars which are to be supported jointly by JSPS's counterpart foreign institutions. The final decision is subject to the approval of respective counterpart institutions.

- **China: National Natural Science Foundation of China (NSFC)**

13 joint research projects have been selected out of 33 applications, and 7 joint seminars have been selected out of nine applications.

- **France : Centre National de la Recherche Scientifique (CNRS)**

Three joint research projects have been selected out of 14 applications, and the applied three seminars have all been selected.

- **France : National de la Sante de la Recherche Medicale (INSERM)**

Three joint research projects have been selected out of nine applications.

- **Germany: Deutsche Forschungsgemeinschaft (DFG)**

Eight joint research projects have been selected out of 35 applications, and six seminars have been selected out of 13 applications.

- **U.K.: The Royal Society (RS), The British Council (BC)**

Ten joint research projects have been selected out of 50 applications

- **European Countries:**

11 joint research projects have been selected out of 36 applications, and 8 seminars have been selected out of 19 applications.

## FY 2000 Postdoctoral Fellowships for Young Japanese Researchers

- **Fellowships for Research Abroad**

JSPS awards 2-year fellowships to promising young Japanese postdoctoral researchers for the purpose of allowing them to conduct research at foreign universities or research institutions. Applications for FY 2000 fellowships were received in May.

One hundred awardees were selected from 488 applicants at the JSPS committee's October 1 meeting. The countries visited, the number of awardees and applicants (in parentheses) are as follows: U.S. 59 (288), Germany 10 (35), U.K. 9 (43), France 5 (33), Australia 3 (15), Canada 3 (27), Netherlands 3 (8),

Switzerland 3 (16), Sweden 2 (5), Finland 1 (3), Italy 1 (1) and Spain 1 (1).

- **Research Fellowships for Young Scientists**

In response to the FY 2000 recruitment of Fellowships for Young Japanese Scientists, 11,131 applications were submitted to JSPS by June 25. Of these, 4,434 were for postdoctoral fellowships, and 6,697 for doctor course fellowships (DC1s, DC2s).

A total of 1,770 candidates (680 PDs, 1,090 DCs) were selected by the committee in September, and interviews were conducted in December.

## The Fifth Meeting of the India-Japan Science Council in New Delhi

The fifth Meeting of the India-Japan Science Council was held in New Delhi on October 18 to deliberate the implementation of the Cooperative Science Program between

JSPS and the Department of Science and Technology (DST). From the Japanese side, Prof. Saburo Nagakura (Kanagawa Academy of Science and Technology, Co-Chairman of the

Council), three Committee members and Dr. Ken Kikuchi (JSPS) attended. From the Indian side, Prof. C N R Rao (Jawaharlal Nehru Center for Advanced Scientific Research, Co-Chairman of the Council), and six Committee members attended.

At the meeting, a review of activities since the last meeting was made on joint research projects and seminars in five priority areas (Molecular Sciences, etc.) as well as JSPS fellowships (Postdoctoral Fellowships and RON-PAKU Fellowships.)

The Council approved the initiation of the new priority area of Surface and Interface, including Catalysis. Furthermore, the priority area "Advanced Materials" was retitled as



Indian delegates of the India-Japan Science Council

"Advanced Materials, including Polymers and Nanomaterials." According to the recommendation of the Council, JSPS and DST agreed to increase the program budget by 40 %.

## Asian Science Seminar Held on High-Performance Electron Storage Rings in Beijing

An Asian Science Seminar titled "Physics and Engineering of High-Performance Electron Storage Rings" was held in Beijing from November 22 to December 4 under the joint sponsorship of JSPS, the Chinese Academy of Sciences(CAS), Japan's High Energy Accelerator Research Organization (KEK), and China's Institute of High Energy Physics (INEP).

The objective of this seminar was to provide young Asian students and researchers with a basic knowledge of physics and engineering in electron storage rings used as electron-positron colliders in high-energy physics and synchrotron light sources. At present, two colliders, KEK B-factory in Japan and DEPC in China, are producing physics-related results, and many light sources are either in operation or under construction in the two countries. Scientists from other Asian countries who do not have such facilities at their disposal are interested in these operations.

The organizing committee, co-chaired by Prof. Shin-ichi Kurokawa of KEK and Dr. Zhang Chuang of INEP, prepared the seminar agenda and selected the forty-five young participating



An experiment of winding a small superconducting solenoid magnet

researchers from 10 Asian countries: Bangladesh, China, India, Indonesia, Japan, Korea, Nepal, the Philippines, Thailand and Vietnam.

The first week of the seminar, held at Xie Xin Hotel on November 22-28, was devoted to lectures on the basic science of storage rings and superconductivity. Professors from Japan, China, U.S. and U.K. delivered lectures on these subjects. In the second week of the seminar, held at INEP on November 29-December 4, the participants engaged in winding a small superconducting solenoid magnet using real superconducting wires, cooling it down, and measuring its performance.

It was considered important for the young participants to learn firsthand about superconducting technology, as it is one of the most important products of accelerator science, while at the same time being a key technology in creating storage rings. This hands-on training in superconducting technology both enhanced their knowledge of this cutting-edge technology and offered them clues on how they might advance and/or innovatively apply it in the future.

## **JSPS Research Station Nairobi – a Station for Research in the Third World**

*by Haruyuki Makishima  
Research Fellow, Station Nairobi*

On your approach to Nairobi International Airport, you may see just below you Nairobi National Park with its wild giraffes and zebras or just beyond the skyscrapers of the city's center. Among your fellow passengers, there may be diplomats or officers of the UN and other international organizations, not to mention many tourists who are coming to Kenya to see its vast "wild life" preserves.

There is considerable value in maintaining a research station in Sub-Saharan Africa, because the region has one of the world's largest caches of "unknown" elements across a spectrum of scientific fields including the humanities and social sciences as well as the natural sciences. This is why so many researchers have been attracted to the region and also why so many international research institutes have located in Nairobi.

The office of the JSPS Research Station Nairobi is a small, red-roofed house surrounded by well-kept lawns and tall Jacaranda trees, which produce vivid violet blossoms in October. Research is conducted in a converted storehouse on the premises. The house was founded by our predecessor, "Japan Institute of African Studies," in 1965, at a time when it was considerably more difficult for researchers from the Far East to travel to and work on the African continent.

The Station is located close to the Chiromo Campus and Institute of African Studies, both of the University of Nairobi, and to the National Museums of Kenya. It is also conveniently situated a few kilometers from the center of Nairobi to the northwest.

With regard to the staff, Mr. Shinsuke Sakumichi (social psychologist, Faculty of Humanities,

Hirosaki University) is assigned to the Station as a short-term (4-month) senior research fellow, and is affiliated to the Institute of African Studies, University of Nairobi. As a junior research fellow, I am assigned here for one year to direct the office's operation. The other members of the staff are Ms. Christine Mburu (secretary), Mr. Alloys Opanga (senior office assistant, driver), Mr. Mariko Opanga (office assistant, gardener), Ms. Eldda Musinde (office assistant, house keeper), and Mr. Fanuel Musinde (night watchman).

Our main function is to assist Japanese researchers coming to and carrying out research work in Kenya or East Africa. Next is our work to maintain and enhance the relationship with the Kenyan counterparts of these Japanese researchers.

Annually, we support several tens of guest researchers from Japan who seek assistance from our office, most of whom belong to research groups. As to their fields of specialization, the largest number are cultural and physical anthropologists, others include biologists, geologists, geographers, medical scientists, and linguists. We offer them such services as picking them up at the international airport, providing them with telephone, mail, facsimile and e-mail facilities, and assisting



The office of the JSPS Research Station in Nairobi



Mr. Shinsuke Sakumichi and Mr. Haruyuki Makishima (2nd and 3rd from right), and members of the Station staff.

them with their applications for research permits to the Ministry of Education of Kenya.

Presently, JSPS does not have an official counterpart institution in either Kenya or any other African country. As one of our possible collaborators in Kenya, there is the National Council of Science and Technology, which is engaged in all fields of science and technology and is working to enhance cooperation in scientific research, including the issuing of research permits to foreign researchers. Kenya needs to foster more international cooperation, especially in advanced fields of science and technologies required to improving its socio-economic infrastructure and advancing its industrialization.

Another possible collaborator is the National Museums of Kenya, originally founded by the British government as a center of natural history. It is said to be the best museum in Sub-Saharan Africa in terms of its comprehensive facilities and rich collections of biological specimens.

Additionally, the Museum's abundant collection of fossils, collected from many sites around Kenya, also makes it a center for paleoanthropological research. (For example, my Japanese paleoanthropological group, headed by Professor Hidemi Ishida of Kyoto University, has been working with the Museum for some

20 years. I personally am affiliated with the Museum, and am studying plant fossils of the late Tertiary [mainly 14 to 9 million years ago] to learn about the vegetation which affected human evolution.)

Another institution that provides affiliation to Japanese researchers, particularly in the field of cultural anthropology, is the Institute of African Studies, University of Nairobi. Our senior research fellow, Professor Sakumichi, carried out his research in affiliation with the Institute.

Tribal conflicts, which occur frequently, are a main concern when it comes to researcher safety. They sometimes disable research work in Africa, especially that of cultural anthropologists who work among pastoral peoples in rural areas. Ascertaining information on such conflicts is critical to ensuring the safety and sustainability of research activities. In this context, the Station serves informally as a salon where Japanese researchers can come and share information on their work and on conditions in the field. They also use the Station as a staging platform to prepare for long research "safaris" out of Nairobi ("Safari" means "travel" or "trip" in Swahili, which is the official and common language of both Kenya and Tanzania, and is also used in some East African countries.)

The Station has from its establishment been conducting JSPS Seminars for the purpose of promoting public relations with Japanese residents and Kenyan researchers. The seminar is multifunctional: Mainly, researchers introduce their topics and activities and, on occasion, subjects peripheral to doing research work in Africa are addressed. The next in this series of seminars will be the 137th.

A bimonthly newsletter, named "Hukutana," has been issued from last year.

Its title adopts a word from the Swahili proverb, "Milima haikutani, lakini binadamu hukutana" (Mountains never meet, but

humans do). Cover articles are written by Japanese and Kenyan researchers on their research areas or activities and other topics. The newsletter also includes information on visitors and meetings, reports on seminars,



National Museums of Kenya

self-introductions by newly arriving researchers, and office program news and announcements. It is distributed among Japanese researchers who have come to the JSPS Station in Nairobi and research institutes in Kenya, among other places.

In addition to serving as a gateway for Japanese researchers to Africa, JSPS's Nairobi Station also acts as a vestibule for African researchers who desire to conduct studies in or on Japan.

#### Correction

In the article "<Information> The Royal Society's Japan-U.K. Fellowship Package," (Page3 of Issue No. 29), the Society's web page was incorrect. The correct web page is as follows: <http://www.royalsoc.ac.uk/ies/ies.htm>

## 1999 JSPS Party, December 10

The 1999 JSPS Party was held at the Akasaka Prince Hotel in Tokyo on the evening of December 10, 1999. A total of 850 guests attended the party, including JSPS foreign fellows and their Japanese host researchers, officials of foreign missions in Tokyo, and representatives of various Japanese institutions.

JSPS President Hiroyuki Yoshikawa delivered a welcoming message, which was followed by a toast proposed by Prof. Leo Esaki, Chairman of Science and Technology Promotion Foundation of Ibaraki.

The guests enjoyed the party in a polyglot and richly cosmopolitan atmosphere.



The JSPS Newsletter is distributed free of charge to individuals and organizations interested in promotion of science. Communication concerning this publication, including requests for address corrections, should be sent to the following addresses:

#### JSPS Fellows Plaza

Jochi Kioizaka Bldg., 6-26-3, Kioicho, Chiyoda-ku, Tokyo 102-0094

Tel. +81-3-3263-1721 Fax. +81-3-3263-1854

<http://www.jsps.go.jp/>