

JSPS QUARTERLY

JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

FEATURE

Presentation Ceremony Held for
2017 International Prize for Biology

No. 62 2017 Winter



Presentation Ceremony Held for 2017 International Prize for Biology

On 4 December, a ceremony for awarding the 33rd International Prize for Biology was held in the presence of Their Majesties the Emperor and Empress of Japan at The Japan Academy in Tokyo. The ceremony was organized by the Committee on the International Prize for Biology, chaired by Dr. Heisuke Hironaka, former chairperson of the Academy's Section II.

The ceremony opened with a message by Dr. Hironaka and a report on the selection process by Dr. Hiroo Fukuda, chair of this year's Selection Committee, after which the Prize and an Imperial gift were presented to this year's awardee, Dr. Rita Rossi Colwell, Distinguished University Professor, University of Maryland, College Park, USA. Following congratulatory remarks by Prime Minister Shinzo Abe (delivered by Mr. Yasutoshi Nishimura, Deputy Chief Cabinet Secretary) and by Ministry of Education, Culture, Sports, Science and Technology (MEXT) Minister Mr. Yoshimasa Hayashi, the ceremony concluded with an acceptance speech from Dr. Colwell.

To commemorate the awarding of this year's Prize to Dr. Colwell, a



Dr. Colwell, holding Imperial Gift with her granddaughter

commemorative symposium was held on 5-6 December in Tsukuba, co-organized by the University of Tsukuba and JSPS.

International Policy Planning Division

Excerpt from Dr. Colwell's Speech

I am deeply moved to receive an award which commemorates the 60th year of Emperor Showa's reign because this prize is a tribute to the passionate work in, and commitment to, biological research by both Emperor Showa and the present Emperor and recognition of the extent of their accomplishments.

I wish to thank all those who have made my work and career possible. This honor is theirs as well as mine. There are many fortunate events and encounters that have helped me on the long and often difficult road in research. I studied under Professor Alan Burdick, Purdue University, in his *Drosophila* genetics laboratory, providing a foundation for work in metagenomics. My studies continued at the University of Washington with Professor John Liston, in marine microbiology, a new discipline at that time. In Seattle, I had the good fortune to meet Professor Minoru Sakai and his student at the time, Dr. Takahisa Kimura, Hokkaido University, when their research ship docked in Seattle. That introduction led to lasting friendships and years of collaboration with Hokkaido University's School of Fisheries Sciences and the University of Tokyo's Atmosphere and Ocean Research Institute. A multi-year exchange program was funded by the Governments of Japan and United States which proved extremely productive. To this day, I collaborate

with Japanese colleagues and scientists from many countries of the world.

Now I am doing research on the microbiome, employing next generation DNA sequencing to detect, identify, and characterize microorganisms accurately and rapidly to species and strains, based on research tracing back to my PhD on the taxonomy of marine bacteria. This work has application in marine biology, medicine, agriculture, and the environment, including analysis of drinking water for developed and developing countries. My work on water borne diseases, namely cholera, has been deeply satisfying from both discovery of bacterial survival mechanisms and ecological principles but also direct application to human health. An effective, simple filtration method was developed, based on scientific evidence derived from basic research and has been implemented in villages of Bangladesh and remote regions of Africa.

Lastly, I wish to speak to the younger generation, especially women: follow your instincts and do what you love best and you will find success. Keep an open mind, ask questions, and believe in yourself. The future is bright, despite obstacles you may have to overcome. Stay the course. The rewards unquestionably merit the effort.



Nomination Call for 2018 International Prize for Biology

The Committee has chosen "Paleontology" as the specialization for the 2018 Prize. When making a nomination, fill in the nomination form, attach a brief statement of the nominee's achievements, and submit the form to JSPS by April 2018. For more details and the nomination form, please visit our website: <http://www.jsps.go.jp/english/e-biol>



WPI Program Takes Another Leap Forward

Two new WPI Centers added

The World Premier International Research Center Initiative (WPI Program) was launched in 2007 for the purpose of establishing “highly visible” research centers that boast an excellent research environment and very high standard of research—centers capable of attracting frontline researchers from around the world. In line with this program concept, two new WPI centers have been chosen in 2017 based on a rigorous screening process that places importance on the applicants’ effort to integrate the establishment of the new center with the reform of the host university’s research organization. The new WPI centers are the International Research Center for Neurointelligence (IRCN) at the University of Tokyo and the Nano Life Science Institute (NanoLSI) at Kanazawa University. The two centers describe their WPI research programs as follows.

International Research Center for Neurointelligence (IRCN)

Our ultimate aim is to answer the question “How does human intelligence arise?” We will approach this challenge by combining the University of Tokyo’s knowledge in life sciences, medicine, linguistics, mathematics, and information science to study neurodevelopment in the brain. Moreover, by considering the common foundations of human intelligence and AI, we will tackle one of humanity’s biggest questions: “Can the human brain understand itself?” In the longer term, we will incorporate the humanities and social sciences into our work so as to understand human intelligence on a deeper level and use that understanding to help solve problems faced by today’s society.



Dr. Takao Kurt Hensch,
Director of IRCN

Nano Life Science Institute (NanoLSI)

Our research center combines the world’s most advanced technologies in bio-scanning probe microscopy (SPM) with supramolecular chemistry in an effort to develop novel “nanoendoscopic techniques”

that will allow us to directly image, analyze, and manipulate the nanodynamics of proteins, metabolites, and nucleic acids both on the surface of and inside cells. Through the use of innovative nanoprobe techniques combined with other advanced analytical basic cellular functions (e.g., cell differentiation/proliferation, stemness, signal transduction, genome dynamics) and cancer abnormalities, we will seek to acquire a basic understanding of cancer and other life phenomena on a nano-level. To this end, we will perform detailed comparisons between the nanodynamics inside normal and cancer cells.



Dr. Takeshi Fukuma,
Director of NanoLSI

WPI Academy

A WPI Academy was newly created in FY 2017 for the purpose of accelerating and expanding the international circulation of talented researchers and to take a vanguard role in the reform and internationalization of Japan’s research environment. The initial members of the Academy are the five WPI centers selected in 2007 which have succeeded in creating excellent research environments and attaining top world-level research standards. Through its activities, the WPI Academy will develop yet-further the overall WPI Program, while proactively sharing the program’s research results. Ultimately, the Academy will work to place Japan at the pinnacle of international talent circulation.



WPI 10 Year
Commemorative Book

For further information on the WPI Program, please see the following site:

<https://www.jspss.go.jp/wpi/>

WPI Program Center

WPI centers

Two new centers

- The University of Tokyo: International Research Center for Neurointelligence (IRCN)
- Kanazawa University: Nano Life Science Institute (NanoLSI)

- Nagoya University: Institute of Transformative Bio-Molecules (ITbM)

- Kyushu University: International Institute for Carbon-Neutral Energy Research (I²CNER)

- University of Tsukuba: International Institute for Integrative Sleep Medicine (IIIS)

Five centers (WPI Academy)

- Tohoku University: Advanced Institute for Materials Research (AIMR)
- National Institute for Materials Science: International Center for Materials Nanoarchitectonics (MANA)
- The University of Tokyo: Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU)
- Kyoto University: Institute for Integrated Cell-Material Sciences (iCeMS)
- Osaka University: Immunology Frontier Research Center (IFReC)



Frontiers of Science Symposia Held with Germany, the US and Canada

In 2017, JSPS held Frontiers of Science (FoS) Symposia in two new formats. One was a trilateral Japanese-American-German FoS (JAGFoS) Symposium held in cooperation with Alexander von Humboldt Foundation (AvH) and the National Academy of Sciences (NAS) in the US. The other was a Japanese-Canadian FoS (JCFoS) Symposium, co-organized with the Royal Society of Canada (RSC) and Canadian Institute for Advanced Research (CIFAR).



JAGFoS 2017

The trilateral JAGFoS Symposium was held in Bad Neuenahr, Germany over the period of 21-24 September. Participating in it were 84 outstanding young researchers of various nationalities and diverse specialties. The symposium, which featured sessions that juxtapose seemingly unrelated fields, was designed and implemented by a planning group, co-chaired by Dr. David Fike (Washington University in St. Louis), Prof. Dariusz Zifonun (Philipps-Universität Marburg), and Dr. Atsushi Wakamiya (Kyoto University). Starting their preparations for the symposium some 15 months in advance, the planning group members from the three countries selected and invited speakers from their respective research fields.



JAGFoS 2017 poster session

In FoS symposia, the first speakers in each session are required to grasp and somehow merge the contents of cutting-edge research in the session's juxtaposed fields. It is the advancing such discussions that attempt to interweave the pieces and threads of diverse fields that makes FoS symposia an exciting and challenging experience.

On 2-5 November, the JCFoS Symposium was held at the Okinawa Institute of Science and Technology Graduate University (OIST). The co-chairs, Prof. Sara Ellison (University of Victoria) and Dr. Takashi Nakanishi (National Institute for Materials Science), piloted the event within a highly electrified atmosphere, one that engaged the 60 Canadian and Japanese participants in animated discussions on six topics including "Mapping the Cosmos" in astrophysics, "Deciphering the Origin of Life on Earth" in geoscience, and "Global Governance" in social science.



JCFoS 2017

FoS symposia are intended to accelerate the nurturing of excellent young researchers who, passionate about scientific pursuit, are eager to exchange ideas and form collegial ties across national borders and academic disciplines. The participants do this by engaging each other in discussions not only in the program and poster sessions, but also in the intervals between and after the official events over the course of the symposium.

For more information on the FoS Symposia, please visit its website. <http://www.jspss.go.jp/english/e-fos/index.html>

Research Cooperation Division



Nobel Prize Dialogue Tokyo 2018 Scheduled for March

JSPS in coordination with Nobel Media AB will hold the third Nobel Prize Dialogue in Japan on 11 March 2018. Further information on the registration procedure, program agenda and other details will be posted later on a dedicated webpage.

Nobel Prize Dialogue Tokyo 2018

Organizers: Nobel Media AB and Japan Society for the Promotion of Science

Date: Sunday, 11 March 2018

Venue: PACIFICO Yokohama, Conference Center

Theme: The Future of Food

Program: Keynote lectures, parallel discussion streams, panel discussions

Language: English (Japanese simultaneous interpretation provided)

Capacity: 1,000 people

Entrance fee: Free

Registration procedure: To be announced on the dedicated webpage around the end of January 2018

For information about the Nobel Prize Dialogue, please see:

<http://www.nobelprizedialogue.org/tokyo2018/>

Research Cooperation Division



Nobel Laureates Discussion (Nobel Prize Dialogue Tokyo 2017: February, 2017)
©Nobel Media AB/ Photo: Yuki Kato

A-HORCs Meeting and Northeastern Asian Symposium Held in Korea



A-HORCs and Northeastern Asian (NEA) Symposium Joint Reception

On 17-18 October, the 15th meeting of the Heads of Research Councils in Asia (A-HORCs) was held in Seoul, Korea, hosted by the National Research Foundation of Korea (NRF). This meeting is convened annually for the purpose of facilitating a discussion among the heads of leading science-promotion organizations in Japan, China and Korea on their countries' S&T policies and other matters of mutual interest. This year's meeting was attended by JSPS president Dr. Yuichiro Anzai, National Natural Science Foundation of China vice president Dr. Congqiang Liu, and NRF president Dr. Moo Je Cho, each of whom gave a country presentation on the theme "Policies for Encouraging Interdisciplinary Challenging Research."

In parallel with the meeting, the 19th Northeastern Asian Symposium was held on the theme "Emerging Materials Innovation." It brought together 34 researchers from A-HORC member countries who formed networks to advance the next level of international collaboration.



NRF International Forum

On 19 October after the A-HORCs meeting, an NRF International Forum was held on the theme "Regional Cooperation Strategy in Global Perspective" celebrating NRF's 40th anniversary. Attending the forum, JSPS president Dr. Anzai delivered a presentation on "International Collaboration for Global Issues."

The 16th A-HORCs meeting addressing "Challenges and Policies on Support for Basic Research (tentative)" will be held along with the 20th Northeastern Asian Symposium on "Nuclear Physics (tentative)." Hosted by JSPS, both will be held next year in Nagoya.



19th NEA Symposium

International Policy Planning Division



ASIAHORCs Meeting Held in Tokyo



On 7-8 September, the 11th meeting of the Asian Heads of Research Councils (ASIAHORCs) was held in Tokyo. Hosted this time by JSPS, the intent of the meeting was to further enrich the scientific cooperation enjoyed among countries within the Asian region.

This year's meeting brought together the heads of leading science-promotion organizations in Japan, China, India, Indonesia, Korea, the Philippines, Thailand, and Vietnam in an exchange of views on the topic "Policies for Fostering

Young Researchers." In his presentation, JSPS president Dr. Yuichiro Anzai described efforts made in Japan to create good career paths for graduate students and postdocs and strategies carried out by JSPS to foster young researchers as innovative human resources.

For information about ASIAHORCs program, please see the following website: <http://www.jspss.go.jp/english/asiahorcs/>
International Policy Planning Division

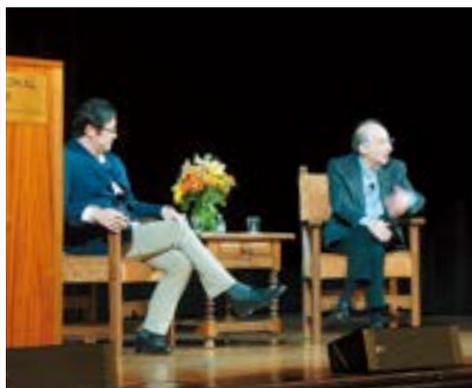


General Meeting

2017 CJS-JSPS International Symposium “Drive for the Nobel Prize”



Lecture by Dr. Kajita



Dr. Perlmutter (right)



Lecture by Dr. Lee

The JSPS San Francisco Office and the Center for Japanese Studies (CJS) at the University of California, Berkeley (UCB) held a joint symposium titled “Drive for the Nobel Prize” at the International House on October 31 and November 1.

The objective of the symposium was to discuss the influence that the Nobel Prize has on individuals, institutions and society. The symposium started with opening remarks from Dr. Carol Christ, UCB Chancellor, and Dr. Mariko Kobayashi, JSPS’s International Program Department Director. Prof. Dana Buntrock, CJS Chair, added comments that gave further context and background to the theme.

Nobel laureates, Dr. Yuan T. Lee (Chemistry, 1986), Dr. Saul Perlmutter (Physics, 2011), and Dr. Takaaki Kajita (Physics, 2015) delivered lectures on their research and the theme to more than 80 scholars. The distinguished speakers also fielded numerous

questions from the audience.

The symposium’s second day featured panel discussions on three topics: “Journalism and the Nobel Prize,” “The Nobel Prize’s Impact on Institutions,” and “The Nobel as an Incentive.” The panelists included a Nobel selection committee member, journalists from *Science*, *The New York Times*, and *Asahi Shimbun* (newspaper), officials from Japan’s MEXT, and researchers from both the US and Japan.

JSPS San Francisco will continue to support symposia like this one while maintaining its close relationship with the University of California, Berkeley.

Please visit the following website for more information about the San Francisco Office: <http://www.jspssusa-sf.org/index.php>

JSPS San Francisco Office

JSPS and CASS Hold Joint Symposium on Agriculture

On 23 August, the Chinese Academy of Social Sciences (CASS) and JSPS held a joint international symposium on the topic “Agricultural Cooperatives Amidst Transitioning Farming Communities—A Comparison between China and Japan.” These joint symposiums have been held every year since 2012 to advance research exchange between the two countries in fields of the social sciences. Chaired by JSPS alumnus Dr. Cao Bin, deputy director of the Organization and Institutional Research Office at CASS’s Rural Development Institute, the symposium attracted the participation of some 100 researchers and graduate students.

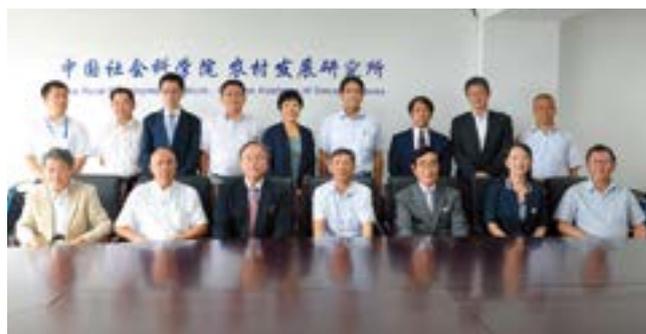
The procedures began with introductory remarks by CASS’s International Cooperation Bureau deputy director Ms. Zhou Yunfan, CASS’s Rural Development Institute director Dr. Wei Houkai, and JSPS Beijing Office director Dr. Kaoru Hirota, followed by three sessions.



Dr. Cao Bin

Entitled “A Comparison between China’s and Japan’s Agricultural Cooperatives,” the first session featured keynote lectures by CASS member Dr. Zhang Xiaoshan, who spoke on issues related to reforming the “Law of the People’s Republic of China on Specialized Farmers Cooperatives” and measures taken to solve them, and by Tokyo University of Agriculture professor

emeritus Dr. Masahiko Shiraishi, who described the current state of Japan’s multi-purpose cooperatives within a context of transitioning agricultural communities.



The second session on “Farmer Cooperatives and Agricultural Community Development” was addressed by two Japanese researchers and one Chinese researcher, who spoke about the reforms that multi-purpose cooperatives in Japan are carrying out on their own initiative in response to changes in the country’s agricultural society, and about legislation and legal reforms being enacted with regard to China’s agricultural cooperatives. The third session on “Agro-Industry Fusion and Agricultural Cooperatives” was addressed by four Japanese and two Chinese researchers, who spoke about the nature of agricultural financing accompanying the sixth-order industrialization of Japan’s agricultural business sector, and about the possibilities of creating large-scale agribusiness in China.

The spirited Q&A periods following each session spawned free discussions that transcended timelines on differences in policies and practices between China and Japan.

JSPS Beijing Office

JSPS London Supports Symposium on Magnonics



On 7-10 August, a symposium themed “Magnonics 2017” was held by the University of Oxford’s Magdalen College. It was supported in part through JSPS London’s symposium and seminar scheme.

Magnonics is the study of magnons, a quasiparticle that is a quantum of spin-wave energy in a magnetic material. As a new field in condensed matter physics, it includes research on magnetism, electronic control, and quantum matter. In addition to advancing basic research, magnonics is expected to generate technical innovations that will spawn the development of new devices. This “Magnonics Conference” was one in a series of symposiums held once every two years with a roving venue mainly around Europe. This year, the event was held in England.

Four researchers from Japan delivered presentations. They included Prof. Eiji Saitoh and Assistant Prof. Yusuke Hashimoto, who are members of the Advanced Institute for Materials Research (AIMR) at Tohoku University, which is funded as a WPI center under JSPS’s World Premier International Research Center Initiative (WPI Program). They reported on leading-edge research being advanced in their fields. While elevating yet-further Japan’s persona

in the field of magnonics, they acted to strengthen multilateral joint initiatives having the UK and Japan at their core.

With participation not limited to British researchers, the symposium brought together front-line researchers from countries around Europe who are advancing cutting-edge work in this field. They used the symposium as a platform to widely disseminate their research results and to engage each other in vigorous discussion and opinion exchanges. Among the more than 130 participants were both junior and senior researchers from not only Europe (e.g. the UK, Germany, France, Italy, Sweden, Norway, Belgium, the Netherlands, and Russia) but also from Japan, China, Kuwait, and Israel. A poster session was held in which 60 mostly young researchers presented their research. While kindling interest in magnons as an information medium of the future, the spirited discussions advanced among the participating researchers bespoke the potential for ground-breaking innovations in this field. JSPS London will be happy to continue supporting these meaningful symposiums.

Dr. Hidekazu Kurebayashi, senior lecturer at University College London, spearheaded the planning of this symposium. He was selected via a system of open recruitment under JSPS London’s symposium scheme.

For an event report giving more details on this symposium, please see the following website:

<http://www.jspss.org/event/2017/08/magnonics-2017.html>

JSPS London Office

MIRAI Seminar Held in Sweden

On 16-19 October, MIRAI Seminar Sweden 2017 was held at Lund University on the theme “Including Large-Scale Research Facilities and Their Potential for Research and Society.” At it, researchers from Sweden and Japan delivered presentations while engaging in spirited panel discussions on topics of sustainability.

This was the first seminar in a series to be held under the MIRAI project, launched based on an agreement to strengthen bilateral collaboration at the Japan/Sweden University Presidents Summit held in Tokyo in October 2015. Participating in the first day of the seminar were people from eight Japanese and seven Swedish universities, and from academic institutions, corporations, and government organizations in and outside Sweden.



The event opened with remarks from Prof. Torbjörn von Schantz, vice-chancellor of Lund University, followed by Dr. Mitsuyuki Ueda, director, International Science and Technology Affairs Division, Science and Technology Policy Bureau, MEXT, and Dr. Jonas Björck, director, Division for Research Policy, Ministry of Education and Research (MER) of the Kingdom of Sweden, who spoke about the present state of their country’s respective S&T policies. Winding up the morning session were briefings given by representatives of the two countries’ funding agencies: Dr. Tadaharu Tsumoto, director of the JSPS Stockholm Office, and Dr. Andreas Göthenberg, executive director of the Swedish Foundation for International Cooperation in Research and Higher Education (STINT).

The afternoon sessions were divided into three parallel workshops



held on themes of Ageing, Materials Science, and Sustainability, in which the participants shared the results of research being advanced on the cutting edge of each field while engaging in vigorous exchanges of views and information.

From the second day of the seminar, the members of the three workshops continued advancing their dialogues, and visits were made to the Sweden’s world-scale national laboratory MAX IV and to the European Spallation Source (ESS), where the participants observed a sampling of the country’s state-of-the-art research facilities.

The MIRAI project will continue with next year’s seminar being held in Japan and the following year’s scheduled again in Sweden.

For more information on the activities of the JSPS Stockholm Office, please see the following website: <http://www.jspss-sto.com/>

JSPS Stockholm Office

JSPS-NRCT-JAAT Symposium in Thailand Research Expo 2017



Prof. Dr. Tetsukazu Yahara

On 23-24 August, JSPS Bangkok Office, in collaboration with JSPS Alumni Association of Thailand (JAAT), organized a “JSPS-NRCT-JAAT Symposium” held as a component of Thailand Research Expo 2017, sponsored by the National Research Council of Thailand (NRCT).

At this annual Expo, many domestic and overseas research organizations set up booths and held scientific seminars. Since its launching in 2009, JSPS Bangkok Office has co-hosted with NRCT seminars to which Japanese researchers are invited. This year’s symposium took the form of a large-scale event called “JAPAN DAYS,” which commemorated the 130th anniversary of Japan-Thailand diplomatic relations. Its theme was “Shaping the Future of Academic and Scientific Collaboration between Thailand and Japan.”

In the opening ceremony, NRCT secretary-general Prof. Dr. Sirirung Songsivilai, Mr. Shiro Terashima, First Secretary, Embassy of Japan in Thailand, and Mr. Hisashi Kato, JSPS Advisor, offered welcome remarks. A keynote speech was delivered by Prof. Dr. Tetsukazu Yahara, Graduate School of Science, Kyushu University,

on the theme “Where are we from and where are we going? Perspectives for a sustainable society.” Then, a panel discussion, advanced by two speakers from each Japan and Thailand, was held on the theme “Past, present and future of academic and scientific collaboration between Thailand and Japan.”

In the morning of the symposium’s second day, a second panel discussion between Japanese and Thai researchers was conducted on the theme “Trends in research collaboration between Japanese and Thai universities.” It was followed by a session in which representatives of research funding and hub organizations introduced their various programs and activities. Briefings were given on Thailand’s Health Systems Research Institute (HSRI) and National Science and Technology Development Agency (NSTDA), ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net), Japan-ASEAN Science, Technology and Innovation Platform (JASTIP), JSPS, and Japan Science and Technology Agency (JST).

JSPS Bangkok Office director Prof. Kuniaki Yamashita concluded the event by thanking the participants, while praising all of them for their inspiring, informative and innovative contributions, adding that the “i” heading each of these words evoked in him the thought of a fitting Japanese word: “*ai*” (love).

For the symposium program and further details, please visit the Bangkok Office’s website:

http://jps-th.org/jps_en/2017/08/24/1553/

JSPS Bangkok Office

JSPS Abend Held in Germany

On 19 September, the JSPS Bonn Office held its annual activity-reporting meeting to which it invited members of JSPS’s counterpart organizations and other academic affiliates in Germany. This annual meeting is called “Abend,” which means “evening” in German. Because this year celebrates the 25th anniversary of the Bonn Office, people came from far and wide to attend the Abend. Altogether, they numbered around 80.

The meeting started off with remarks from JSPS executive director Dr. Yasuhiro Iye. Then, congratulatory messages were offered by DAAD secretary general Dr. Dorothea Rüländ, AvH secretary general Dr. Enno Aufderheide, University of Bonn rector Prof. Dr. Michael Hoch, and Mr. Ryuta Mizuuchi, Consulate General of Japan in Düsseldorf. Following them, German JSPS Club chair Prof. Dr. Heinrich Menkhaus offered a message and proposed a toast.

As is the custom in each year’s Abend, every one enjoyed the

renewing friendships and exchanging information over dinner, this time to the accompaniment of a cello and piano recital. At an interval during the meal, Dr. Masahiro Teshima, director, Max



Planck Institute for Physics, gave a dinner talk on “Very High Energy Gamma Ray Astronomy—Opening the New Window of the Universe.” The easy-to-understand way in which he described it gave everyone a nice opportunity to acquire a feel for this futuristic science. Wrapping up this year’s very successful event, JSPS Bonn Office director Prof. Dr. Keiichi Kodaira offered closing remarks.

JSPS Bonn Office

German JSPS Alumni Association Holds Meeting in Japan

On 27 September, the German JSPS Alumni Association (JSPS-Club) held its “Sixth Meeting of the JSPS-Club in Japan” at Tsukuba International Congress Center. This year’s event was held as part of the “Tsukuba Global Science Week” program, whose principal host is the University of Tsukuba.

The meeting started with a warm welcome from Prof. Dr. Kyosuke Nagata, president of University of Tsukuba. Three scientific presentations were delivered in research fields ranging from philosophical aspects of pain to energy efficiency and renewable energy. Prof. Nozomi Sato of Keio University, who had won the 2016 JSPS Alumni Club Award, added a touch of elegance to the mood of

the event by offering a musicological presentation on interpreting Bach.

Then, JSPS-Club chair Prof. Dr. Heinrich Menkhaus reported on the alumni association’s previous year’s activities and spoke about future challenges and activities, while



Prof. Dr. Keiichi Aizawa, director of the University of Tsukuba’s

Bonn Office, spoke on promoting exchange with Germany. After their presentations, there was a discussion that included the positives and challenges of universities having offices in counterpart countries.

Please see the JSPS-Club's website for more information:
<http://www.jspss-club.de/>

JSPS Fellows Plaza



JSPS Alumni Association in Australia Holds Inaugural Symposium



On 9-10 October, the JSPS Alumni Association in Australia (JSPSAAA) held an Inaugural Science Symposium in Canberra to officially celebrate its establishment.

JSPSAAA was formed through voluntary effort by researchers who had participated in JSPS programs in Japan with the backing of the Australian government. In 2013, they launched a preparatory committee, followed by the holding of a preparatory meeting in October 2016. Against this long and concerted backdrop of preparation, JSPSAAA was officially approved by JSPS in February 2017 with more than 200 charter members. It became JSPS's 18th official endorsed alumni association within a worldwide network. JSPSAAA's establishment and the implementation of its inaugural symposium were strongly supported, both operationally and financially, by the Australian Academy of Science (AAS).

The Science Symposium began with welcoming remarks offered by JSPSAAA president Dr. Graziella Caprarelli, AAS vice-president Prof. Jim Williams, JSPS International Program Department director Dr. Mariko Kobayashi, and Mr. Takashi Katae, Minister, Deputy Chief of Mission, Embassy of Japan. Plenary talks were delivered by Prof. Fumitoshi Ishino, deputy director, Tokyo Medical and Dental University,



whose research on "acquired traits in mammals" was advanced over a period of more than 10 years with an Australian partner under Australian Research Council-JSPS bilateral joint research projects, and by Prof. Graham Farquhar, distinguished professor, Australian National University, who won the 2017 Kyoto Prize for his work on "the plant-atmosphere exchange of carbon dioxide, oxygen and water vapor." During this 2-day symposium, approximately 20 speakers spoke about their cutting-edge research activities and Australia-Japan collaborations in such fields as biology, chemistry, and space science. The participants enjoyed the symposium as a fruitful opportunity to interact with each other and form collegial ties and networks.

JSPSAAA's annual general meeting was held in conjunction with the symposium.

JSPS Fellow Plaza

Reception to Celebrate the JSPSAAA's Launching

On 5 October, Australian Ambassador Mr. Richard Court held a reception at his official residence in Tokyo to celebrate the launching of JSPSAAA. It was attended by some 50 people from JSPS, MEXT, and JSPS Australian fellows. Welcoming remarks were given by Ambassador Court, after whom JSPS president Dr. Yuichiro Anzai offered reciprocal remarks, stating JSPS's appreciation for the 40 years of close collaboration enjoyed with AAS, which also supports the Australian alumni association. Likewise, JSPS strongly supports JSPSAAA, which will surely be a well-trodden bridge for scientific exchange between the two countries.



Australian Ambassador Mr. Court and JSPS President Dr. Anzai



Indian JSPS Alumni Association Holds International Conference



On 7-8 August, the Indian JSPS Alumni Association (IJAA) held its eighth international conference, this time on the theme "Crystal Ball Vision on Science and Engineering for Societal Upliftment," held at the Council of Scientific & Industrial Research's National Institute of Oceanography (CSIR-NIO) in Goa, India.

Prof. R. K. Shevgaonkar, Indian Institute of Technology (IIT) Bombay, was invited to give a presidential talk in the inaugural session, which also included remarks by distinguished guests from Japan and India. Altogether, the conference featured some 26 lectures and talks covering a wide spectrum of scientific fields. Among them, keynote addresses were delivered by Dr. Toshio Yamagata, Project Principle Scientist, Japan Agency for Marine-

Earth Science and Technology (JAMSTEC), and Prof. Devanand Shinde, Vice Chancellor, Shivaji University, Kolhapur.

The conference was also designed to encourage the active participation of young, future-generation researchers. Some 122 research posters were presented by students and young researchers. To introduce budding researchers to their international programs, 17 Japanese universities and research institutes set up exhibit booths at the venue. A session titled "Igniting Young Minds Program for School Students" was held to invite over 100 students from 10 high schools in the Goa vicinity to the conference. The students listened intently as the Japanese scientists enthusiastically talked about their research in Japan, and asked questions that impressed the speakers with the students' spirit and level of inquiry.



For more information about the Indian JSPS Alumni Association, please see its website: <http://www.indianjpspalumni.org/>

JSPS Fellows Plaza



Nepal JSPS Alumni Association Holds Symposium



On 22 September, the third symposium of the Nepal JSPS Alumni Association (NJAA) was held in Pokhara, Nepal. Themed “Role of Greenhouse Technology to Enhance the Agricultural Production in Nepal,” the symposium provided a valuable opportunity for energetic young researchers to report the results of their latest research activities.

The symposium kicked off with a keynote speech by Dr. Tadahisa Higashide, unit leader, Greenhouse Crop Physiology Unit, NARO Institute of Vegetables and Floriculture Science, who spoke on the topic “How crops change by environmental control?” He introduced Japan’s state-of-the-art farming equipment and ten of its next-generation horticultural bases while giving examples of environmental control applied to tomatoes and cucumbers.

Next, NJAA treasurer Dr. Umed Kumar Pun spoke on the theme “Status and way forward of greenhouse technology for enhancing agriculture production in Nepal,” giving examples of growing systems that use greenhouses of various types and of the cultivation of gerbera

(African daisy). Then, JSPS Bangkok Office director Prof. Kuniaki Yamashita introduced JSPS’s international programs and its record of exchange with Nepal.

Winding up the event, remarks were delivered by Mr. Sharad Chandra Shrestha, director, Regional Agriculture Directorate, Dr. Buddhi Ratna Khadge, secretary, Nepal Academy of Science and Technology (NAST), Prof. Dr. Mana Raj Kolachhapati, registrar, Agriculture and Forestry University, and NJAA president Dr. Rijan Bhakta Kayastha.

The symposium was attended by about 100 people including researchers and farming practitioners. After each presentation, young Nepalese researchers aspiring to do research in Japan asked a volley of research-related questions while the practitioners in attendance made many technical inquiries, to which NJAA members jumped in to give answers. This spirited interplay among the participants imbued the symposium with a highly electrified atmosphere.



Dr. Tadahisa Higashide

For more information about the Nepal alumni association, please see their website at [http://jpsps-th.org/jpsps_en/2017/09/22/1613/](http://jps-th.org/jpsps_en/2017/09/22/1613/)

JSPS Bangkok Office



JSPS Alumni Club in Sweden Activity Seminars



First SAC Activity Seminar of FY2017

JSPS Alumni Club in Sweden (SAC) held its first SAC Activity Seminar of FY2017 on 23-24 August at Linköping University. Organized by SAC member Prof. Heriberto Rodriguez-Martinez, the seminar was titled “Andrology: Reproduction and Health during a Man’s Lifetime.” JSPS Stockholm Office director Dr. Tadaharu

Tsumoto gave a presentation on JSPS’s activities, and specially invited speaker from Japan, Prof. Noriko Osumi, Department of Developmental Neuroscience at Tohoku University Graduate School of Medicine, joined 14 other speakers in talking about andrology from the differing aspects of their research fields, such as “Diagnostic trends in andrology,” “Epigenetics in andrology,” “Gender dysphoria,” and “The ageing male.” Approximately 40 mostly researchers attended, who asked many probing questions, animating the discussions after each presentation.

On 19 October, the second SAC Activity Seminar, titled “Smart Textiles—Technology for Medicine and Healthcare” was held at the

Swedish School of Textiles at the University of Borås. Prof. Atsushi Nishikawa, Department of Mechanical Engineering and Robotics, Faculty of Textile Science and Technology at Shinshu University, was specially invited from Japan. He was the first out of the seven speakers to address the seminar. Its organizer, SAC board member Dr. Joel Peterson opened the event, and Dr. Tsumoto gave a briefing on JSPS’s activities in the afternoon session. The seven presentations focused on how smart textiles can be used in the medical or healthcare sectors, to which approximately 90 attendees listened rivetedly, making the seminar a very fruitful event for all.



Second SAC Activity Seminar

JSPS Stockholm Office



Essay by a Former Fellow

Dr. Madan Kumar Jha

I am an Indian researcher in the field of groundwater hydrology. I was awarded a JSPS Postdoctoral Fellowship for Research in Japan with a tenure of two years from December 1997 to November 1999. My host institution was Kochi University, located on Shikoku Island, and my host professor was Dr. Yasunori Kamii. As my doctorate was from the United Graduate School of Agricultural Sciences at Ehime University in Matsuyama, Japan, I learned about the JSPS postdoctoral fellowship through my PhD supervisor. Considering the high reputation it enjoys worldwide, it was my dream to avail myself of this prestigious fellowship.

As groundwater is a hidden resource and subsurface processes are highly complex, the efficient management of freshwater resource poses a set of challenges. Lack of adequate and good-quality field data coupled with insufficient field experience and technical skill

are major obstacles to the sustainable management of treasured groundwater resources particularly in developing and underdeveloped countries. During my tenure in Japan, I had unique opportunities to carry out comprehensive field-based research in two groundwater basins where I investigated real-world water problems.

Currently, I am a full-time professor at Indian Institute of Technology (IIT) Kharagpur, located West Bengal, India. I have received several scholastic awards and honors for my research and academic works. My future plan is to contribute further to the advancement of hydrological sciences and to the sustainable management of water resources under changing climatic and socioeconomic conditions. I am a great admirer of Japan and always cherish the memories of my stay there.



Dr. Jha (left) and Dr. Kamii



Science Dialogue

Scientific Adventure of a Taiwanese Fellow in Japan

Dr. I-Hsuan Wang

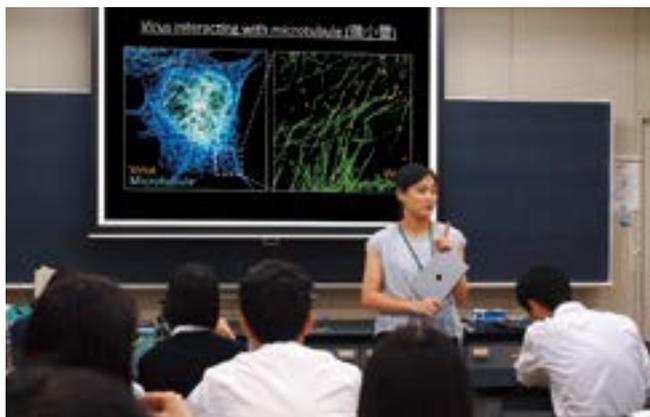


On 27 September, JSPS Fellow Dr. Wang gave a lecture to 29 students at Ichikawa Gakuen High School. Her research theme at the University of Tokyo is the genome packaging of influenza viruses. Using a rich assortment of visuals showing viral mechanisms obtained by microscopic techniques, Dr. Wang invited the students along a journey through the micro-world, explaining to them how a virologist elucidates the mechanisms of viral infections using microscopes.

“Looking into Microscope: Seeing is Believing”

With vivid pictures, Dr. Wang launched her lecture by introducing her home country, Taiwan, and briefly talking about her international research experiences in Germany and Switzerland where she completed her master’s and PhD.

Dr. Wang uses a fluorescent microscope as the main tool in doing her research. It is an optical microscope that makes it possible to observe detailed interactions between cells and viruses by labeling



them with a fluorescent protein or fluorophores. In her lecture, she showed a video and photos taken by her colleagues, demonstrating the process in which a mouse’s lung is infected by an influenza virus as seen through fluorescent microscopy. In the tissue images, each component, such as blood, neutrophils and infected cells, was colored differently so that the exact condition of mouse lung could be clearly visualized.

In the hands-on session of her lecture, Dr. Wang gave the students an opportunity to observe some samples that she had brought from her lab using a light microscope, with a camera app on a mobile phone to monitor the results. The students enjoyed capturing interesting images of magnified animal tissues and experiencing for themselves what is at the tip of the work Dr. Wang does in her lab every day.

Ending her lecture, Dr. Wang encouraged students saying, “The most important thing in research is to make careful observations and try to understand what exactly it is that you see.” Adding that, “Having questions is the first step of becoming a scientist.” She told us that she hopes that students can find things that are fun and interesting that make them happy to study and pursue.

Overseas Fellowship Division

The following fellows participated in JSPS’s Science Dialogue Program during the period from July through September 2017. For details about the program, please see its website: www.jspss.go.jp/english/e-plaza/e-sdialogue

Venue	Lecturer	Nationality	Venue	Lecturer	Nationality
	Dr. HOUWEN, A. E.	Netherlands	Yamanashi Prefectural Hikawa High School	Dr. LAVTIZAR, V.	Slovenia
Fukushima Prefectural Fukushima High School	Dr. NI LAR	Myanmar	Yamanashi Prefectural Ichikawa High School	Dr. RENTIER, C.	France
	Dr. PASTOR-GALAN, D.	Spain	Suwa Seiryō High School (Nagano)	Dr. LANGLET, D. J.	France
Ibaraki Prefectural Takezono High School	Dr. MALGRAS, V.	Canada	Aichi Prefectural Kariya Senior High School	Dr. SELVAM, K.	India
Chiba Municipal Chiba High School	Dr. NITTA, J. H.	USA	Aichi Prefectural Jishukan Senior High School	Dr. KELLER, M.	Germany
Chiba Prefectural Funabashi Senior High School	Dr. BOLD, U.	Mongolia	Shiga Prefectural Hikone Higashi High School	Dr. AWOUAFACK, M. D.	Cameroon
Ichikawa Gakuen Ichikawa Junior & Senior High School (Chiba)	Dr. WANG, I.	Taiwan	Kyoto Prefectural Jonan Ryoso High School	Dr. KHUJANAZAROV, T.	Uzbekistan
	Dr. HARVEY, P.	UK	Hyogo Prefectural Akashi Kita Senior High School	Dr. CARMEAN, C. M.	USA
Senior High School at Komaba, University of Tsukuba (Tokyo)	Dr. OVADIA, B.	France		Dr. CASTILLO, C. C.	Spain
Tokyo Metropolitan Tama High School of Science and Technology	Dr. SUNAM, R. K.	Nepal	Hyogo Prefectural Kawanishi Midoridai Senior High School	Dr. HAAPASALO, E. T.	Finland
Fukui Prefectural Fujishima Senior High School	Dr. DAMIANI, C.	Italy	Kagawa Prefectural Kanonji Daiichi High School	Dr. KAMRUZZAMAN, M.	Bangladesh
Fukui Prefectural Koshi Senior High School	Dr. FERNANDEZ-MELGAREJO, J. J.	Spain	Kagawa Prefectural Takamatsu Sakurai High School	Dr. ARZOUANIAN, D.	France
	Dr. SCOTT, J. W.	USA	Okinawa Prefectural Kyuyo Junior & Senior High School	Dr. HOFMANN, R. T.	Australia
	Dr. TSAI, C.	Taiwan			



Top Global University Project

Introducing the Participating Schools



TOYO UNIVERSITY

TOYO GLOBAL DIAMONDS: Becoming an Asian Hub University for Global Leaders

Our program provides Japanese students diverse opportunities for overseas study. It introduces a flexible international transfer system through which we are working to establish a highly internationalized hub for educational exchange. The plan seeks to position Toyo as a “Hub University in Asia” by expanding our admission of international students from Asian countries, while creating an appealing focal point in Asia that also attracts European and American students. We are establishing “TOYO” as a global brand by building a sustainable global system for advancing top-notch education and research.

Taking the Lead in Expanding Educational Opportunities as UMAP International Secretariat



Through our Toyo Global Diamonds project, Toyo University is carrying out various collaborative activities via its university networks. Our most powerful alliance is with University Mobility in Asia and the Pacific (UMAP). In January 2016, Toyo began a five-year term as the UMAP International Secretariat (UMAP IS).

With guidance rendered by the Australian Government and university administrators throughout Asia, UMAP was established in 1991 in Canberra, Australia with an aim of becoming an “Asian Erasmus.” For more than a quarter century, UMAP has been promoting the mobility of university students and staffs within the region. The mission of UMAP is to achieve better international understanding by enhancing student mobility and talent circulation through exchange programs. All accredited higher education institutions located within the region are eligible to participate in UMAP.



UMAP 25th Anniversary Symposium



UMAP Summer Program

As of 2017, UMAP comprised 13 countries/territories with full membership (among 35 eligible countries/territories) and 514 institutional members. UMAP maintains an open policy, one that welcomes any eligible university seeking to promote student mobility.

UMAP has developed the UMAP Credit Transfer Scheme (UCTS), a simple, systematic measurement tool that allows easier counting and transfer of academic credits for exchange students from UMAP-member schools. In September 2016, UMAP IS published a new UCTS Users’ Guide based on suggestions from a working group consisting of UMAP members from Philippines, Taiwan and Japan. The new Users’ Guide is now available on the UMAP website.

As the UMAP IS, Toyo is now developing new types of UMAP projects, including summer programs, internships, and service learnings in a drive to attract more students from UMAP-member schools. As these new programs are difficult for individual universities to develop, it is more efficient and feasible for university networks (consortia) like UMAP to produce them. In 2017, the UMAP Summer Program was developed and coordinated by Toyo University and Niigata University in Japan.

TOYO GLOBAL DIAMONDS website:

<http://www.toyo.ac.jp/site/tgd>

UMAP website:

<http://umap.org/>



Dr. Takashi Sekiyama

Executive Director, UMAP
International Secretariat (UMAP IS)
Associate Professor,
Toyo University

On September 6, 2017, Dr. Takashi Sekiyama, Executive Director of UMAP IS at Toyo University, along with an associate professor of the University’s Center for Global Education and Exchange, attended the 6th APEC Conference on Cooperation in Higher Education held in Vladivostok, Russia. Invited as a guest speaker, Dr. Sekiyama participated in the plenary discussion on new challenges and opportunities for higher education in the Asia-Pacific region. He spoke about the merits

of UMAP in meeting those challenges—how its programs, goals, and scholarships are helping to promote student mobility in the Asia-Pacific region. In various other venues as well, Dr. Sekiyama elaborates UMAP’s role in promoting intra-regional higher educational cooperation. With the added thrust provided by the Top Global University Project, Toyo University is working to strengthen even further educational collaboration in the Asia-Pacific.

The aim of the Top Global University Project is to enhance the international compatibility and competitiveness of higher education in Japan. It provides prioritized support for top world-class and highly innovative universities that can lead the internationalization of Japanese universities.

Top Global University Project website: <http://www.jsps.go.jp/english/e-tgu/index.html>



21st Century Asian Hub University for Creating a Sustainable Global Society

In 2014, MEXT selected Nagoya University as a Top Global University. Under this project, we are working to increase our global competitiveness in terms of both education and research while fostering a new generation of students and researchers capable of contributing to international society. To accomplish this the university is carrying out four principal strategies.

Strategy 1: Supporting World-Class Research

Through the Top Global University Project, we are establishing ourselves as one of the world's top research universities. This initiative has two main components:

- Establishing Research Hubs centered upon the WPI-Next Program.
- Supporting young researchers, female researchers, and international researchers.

Strategy 2: Developing Joint Degree Programs with Top Universities

To facilitate collaboration between our researchers and their counterparts in the top universities of other nations, we are instituting an "International Joint Education and Research Unit for the Establishment of Joint Degree Programs."

In 2014, our Graduate School of Medicine established a joint degree program with the University of Adelaide in Australia. We intend to use it as a model for expanding our partnerships with approximately 20 other research universities with which we have a history of exchange.

Strategy 3: Cultivating Global-Minded Leaders through "Global Interaction"

We encourage our students to study abroad using a two-stage process. First, any student lacking international experience may participate in a short-term overseas exchange program lasting a few days to a few weeks. Second, these students may then



apply to study for a semester or one year at a partner university. To increase the number of our international students to 3,000 by 2020, we are focused on expanding the availability of discipline-specific English-taught courses. We are also continuing to improve our "Nagoya University Program for Academic Exchange (NUPACE)," and are designing a new short-term Japanese language program, called the "Nagoya University Short-Term Japanese Language Program (NUSTEP)."

Strategy 4: Expanding Academic Network in Asia

With the cooperation of foreign governments and partner universities, rooted in our history of cultivating of human resources in various Asian countries and building networks through such activities, our Asian Satellite Campuses Institute has embarked on a new initiative. It is called the "Education Program for the Development of Core National Human Resources of Asian Nations," under which high-quality PhD programs are being carried on both our main campus and Asian satellite campuses.

The above strategies have both a global and regional reach. In carrying them out, we welcome the benefits that can derive from critical voices, so we encourage rigorous and independent evaluation by our International Advisory Board. Raising the international level of Nagoya University's education and research outputs is a challenge that we look forward to meeting as we look to the future.



Professor Nami Iwaki

Department Head of NU Study
Abroad Office
Institute of International Education &
Exchange

Nagoya University launched its NU Overseas Take-off Initiative (NU-OTI) in 2015 just after our Top Global University Project started. Our purpose for implementing this program was 1) to have our students acquire first-hand experience of going abroad, and 2) to incentivize them to venture out and encounter more of the world. My department NU Study Abroad is responsible for carrying out many of the NU-OTI programs, which target first and second-year students who will be going abroad for the first time. In many of these programs, the students can earn credits toward graduation.

A unique feature of NU-OTI that distinguishes it from other short-term programs is its requirement for the students to

engage in fieldwork. Setting a theme for their research, doing fieldwork on it prompts them to conduct interviews and visit places to gather information—all of which puts them in close contact with the local community. Another feature of the program is the unique menu of destinations offered. Not only do the students have the option to study in English-speaking countries, but they may also choose such other destinations as Indonesia, Thailand, Mongolia and Uzbekistan. All the students who have participated in this program so far have returned speaking of positive experiences. Some of them are already engaging in longer-term studies abroad. Sample of reports from returning students can be found on this website.

<http://ieec.iee.nagoya-u.ac.jp/en/>

Research and Life in Japan By a JSPS Fellow No. 44

Dr. Hannah Ruth Windley

“A Fascinating Scientific and Cultural Quest Led by a Mouse”

JSPS Postdoctoral Fellow, Forestry and Forest Products Research Institute, 2017-2019
Ph.D. (Ecology), Australian National University, Australia, 2015
Tutor and Demonstrator, Australian National University, Australia, 2010-2015



Mouse trapping

interesting ecological systems. It is one of the most diverse zoogeographical regions in the world and has more than 150 different mammal species. I wanted to do research in Japan to learn more about the country and to do important and interesting work. Continuing my work on mammal nutrition in Japan seemed like a natural progression and the JSPS fellowship was a fantastic opportunity to achieve this.

Q: Let's talk a bit more about your research, which addresses temperature in mammals' ability to detoxify naturally occurring toxins in their diets. Do you think global warming will cause a decrease in the population of mammals or will they be able to adapt?

Because of complicated multi-level ecological relationships, all species are likely to respond differently to environmental changes. The effects of climate change are difficult to predict, but diet is part of the puzzle. For example, climate change is especially significant for animals with highly specialized diets (such as the Japanese wood mouse) because they are so well adapted to one food type and it is difficult for them to switch diets if their preferred food is no longer available or becomes too toxic. We know that populations of Japanese wood mice are influenced by fluctuations in the number of acorns produced each year, with years where acorn production is low resulting in lower numbers of mice. Habitat disruption caused by climate change may

Coming to Japan from Australia, Dr. Hannah Ruth Windley is conducting research under a JSPS Postdoctoral Fellowship with her host Dr. Takuya Shimada at the Tohoku Research Center of the Forestry and Forest Products Research Institute. We asked Dr. Windley to tell us about her research activities and life in Japan.

Q: What are you currently working on under your JSPS fellowship?

I am currently researching the diet of the Japanese wood mouse. I am interested in the ability of these mice to cope with naturally occurring toxins in the food they eat, specifically tannins in acorns. Over the cooler months, acorns are the only consistent food available, so the mice have a range of mechanisms for tolerating the relatively high concentrations of tannins present in acorns. I am currently investigating how ambient temperature may affect the ability of mice to detoxify tannins. The first step in this work is to look at how liver function is influenced by changes in ambient temperature. We have found some interesting results so far!

Q: How did you get interested in your research subject?

I became interested in animal nutrition



At FFPRI

and ecology as an undergraduate student at Australian National University. I really enjoy working with animals and the combination of lab work and field work keeps it interesting. In Australia, I studied the common brushtail possum, an adorable native marsupial with a fascinating ability to select eucalyptus leaves based on nutritional quality. For me, this work highlighted the importance of diet quality for herbivores and how small changes in chemicals in leaves can have a dramatic effect on the distribution and survival of animals that eat them. This led to my PhD research, which focused on animal nutrition from a forest management perspective. In New Zealand, brushtail possums are a pest, so I worked on identifying nutritional explanations for the damage they cause to forests there. The importance of this field of research as well as the enjoyment I get from it has kept me interested for this long!

Q: Why did you choose your current institution to pursue your research?

I am currently working at the Forestry and Forest Products Research Institute (FFPRI). My host researcher, Dr. Takuya Shimada, is a world expert on the nutritional ecology of the Japanese wood mouse. I have been following his research since I was an undergraduate student. I first met Dr. Shimada when he visited Australian National University about seven years ago. We spoke briefly about his work on proteins in the saliva of herbivores that help to deactivate harmful dietary tannins. After completing my PhD, I approached him to work on a fellowship proposal. Consequentially, I joined Dr. Shimada at FFPRI, which has been a welcoming and productive place to work so far.

Q: What else motivated you to further advance your research in Japan?

Japan is a beautiful country with many

affect the production of acorns. On top of this, if ambient temperatures also influence the toxicity of the acorns that are produced, the consequences will be intensified.

Q: What influences do you think a decline in the population of mammals may have on life on the Earth including human beings?

There are countless direct and indirect effects of changes to mammal populations. Ecosystems host a delicate balance of many species and any disruption to the survival or phenology of one of these species will have consequences for many others. For example, the animals that rely on mice for food such as owls will be directly influenced by changes in mouse populations. There will ultimately be consequences for humans. For example, if acorns become too toxic to support mouse populations, we might expect to see an increase in the movement of mice over larger areas, into urban environments or farms in search of food, possibly leading to crop damage or the spread of disease.

Q: How would you like to contribute to solving issues related to mammal population through your research?

Changes to diet quality and diet choice by animals can often be the missing piece of the puzzle when it comes to predictions about

what will happen to animal populations in a changing climate. I hope that I can continue to fill some of these gaps through my research. There is clearly an increasing global need for a focus on conservation and pest management. Knowing the dietary drivers for animal populations can help us to identify species or habitats that are at risk, and to protect the environment for everyone!

Q: What do you plan to do after your fellowship ends?

I would love to continue working in Japan and I am excited to see where the fellowship leads me. I can already see ways I would like to further explore the relationship between the diet and ecology of the Japanese wood mouse beyond my two-year plan.

Q: Please give some advice for young researchers who may be thinking about doing research in Japan.

Apply for a JSPS fellowship! It is a perfect chance to experience a new culture and country while achieving your research goals! My experiences so far have been so positive, including friendly people, great resources and generous support.

During our interview with Dr. Windley, we had an interesting discussion on the effects of climate change on mammals, including humans. Her speaking about the “delicate balance among many species” and how the destruction of one can have a cascading effect on the others was suggestive of a Buddhist concept of coexistence deeply rooted in Japanese culture: That all things are not just interdependent but also inseparable. Dr. Windley is now doing her research amidst the “striking mountain” environment and “unique culture” that had previously drawn her to Japan as a tourist several times. That wanderlust still drives her to travelling around Japan, as she told us that she had already taken many Shinkansen train trips since May. When parting, Dr. Windley said that she’s “enjoying every minute” and would be off to the forest for more fieldwork the next day.



Dr. Windley's host Dr. Shimada

Introducing Japan: Morioka City, Iwate Prefecture

I am only six months in to my JSPS fellowship, but I already feel at home here in Morioka City, the capital of Iwate Prefecture. Morioka is a peaceful and attractive city, about two and



Mount Iwate



Chagu Chagu Umakko Horse Festival

a half hours north of Tokyo by Shinkansen bullet train.

The Nakatsugawa River runs through the heart of Morioka, one of three rivers that join in the center of the city. Every autumn, salmon swim up here to spawn! You can also marvel at the impressive and picturesque active volcano Mount Iwate at a height of 2,038 meters above sea level. I recently hiked to the top and it was spectacular!

Morioka Castle Ruins Park is one of my favorite places in Morioka. It is an island of tranquility, surrounded by massive stone walls in the middle of the city. It is one of the first places I take visitors. There are a few other key attractions in Morioka, including its famous *wanko soba*, a soba noodle eating challenge that involves eating as many small bowls of these delicious noodles as you can. My current record is 54! Also, luckily for me, Iwate is well known for the production of high-quality fruit and vegetables and there are daily markets in Morioka that showcase this produce.

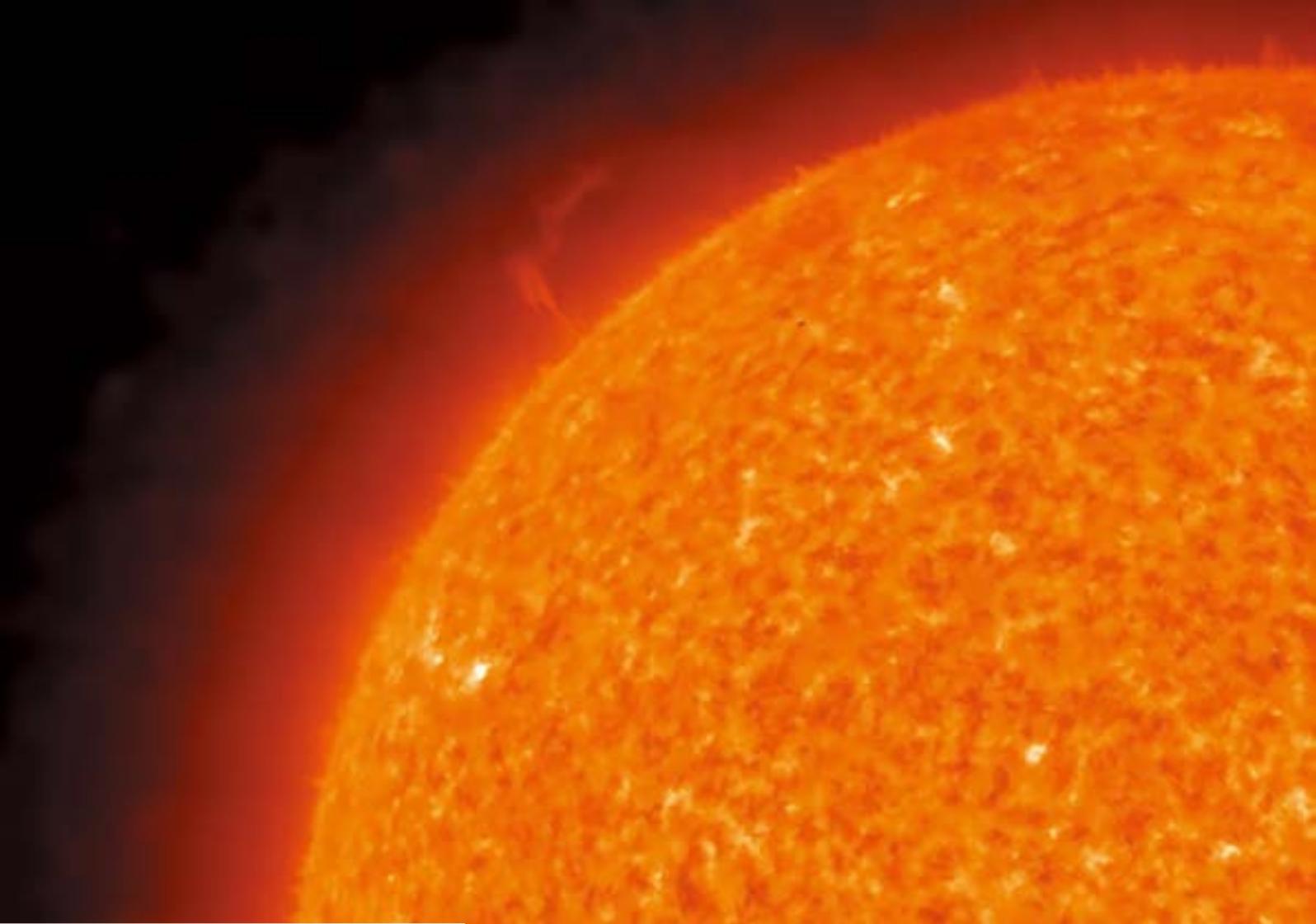
Prior to my fellowship, I had visited Japan



several times as a tourist, drawn to its striking mountains and unique culture. Living and working here is a very different experience and one I will remember forever.



At a local vegetable market



Source: NASA

The Sun

The sun goddess Amaterasu (great illuminator of the heavens) is at the center of the ancient Shinto pantheon that gave birth to the nation. Now, solar research and observation by such spaceborne platforms as Japan's SOLAR-A satellite illuminate the Land of the Rising Sun.

About JSPS

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

Crowing Rooster



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.

Contact Information quarterly@jsps.go.jp