



# JSPS QUARTERLY

JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

■ FEATURE

Tenth Award of JSPS Prize

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# Tenth Award of JSPS Prize

On 10 February, a ceremony was held to award the tenth JSPS Prize. Selected were 25 talented young researchers with excellent records of scientific inquiry and exceptional promise to be trailblazers of scientific research in Japan. The ceremony for the FY2013 Prize was held at the Japan Academy in the presence of Their Imperial Highnesses Prince and Princess Akishino.

## Selection of JSPS Prize Awardees

JSPS sent out requests for Prize nominations to 3,609 Japanese research institutions and academic societies, from which it received 245 in April. Adding the carryovers from the prior year, 383 nominees were screened by the researchers of JSPS's Research Center for Science Systems. Based on the results, the JSPS Prize Selection Committee, chaired by Dr. Ryoji Noyori (2001 Nobel laureate in chemistry) and comprising 13 members, made the final decision on the 25 awardees.

## Award Ceremony

The ceremony for awarding the JSPS Prize was held in conjunction with the awarding of the Japan Academy Medal. At the ceremony on 10 February, JSPS president Dr. Yuichiro Anzai offered an opening message, followed by a report on the selection process from Dr. Noyori. Then, Dr. Anzai presented the 25



Their Imperial Highnesses Prince and Princess Akishino and JSPS Prize awardees

recipients with a certificate of merit, a medal, and a purse of ¥1.1 million.

A tandem ceremony was held to confer the Japan Academy Medal on six of the JSPS Prize recipients. First, Japan Academy president Dr. Takashi Sugimura delivered welcoming remarks, after which Prof. Koichiro Tsunewaki, chairman of the Academy's selection committee, explained the vetting process. Then, Dr. Sugimura presented the medal and a commemorative gift to each of the awardees.

Prince Akishino offered remarks and Mr. Yoshitaka Sakurada, Senior Vice Minister

of Education, Culture, Sports, Science and Technology, gave a congratulatory message on behalf of the Minister. To conclude the meeting, a message of appreciation from the Prize recipients was delivered by Dr. Jin Sato, associate professor, Institute for Advanced Studies on Asia, the University of Tokyo.

After the ceremony, a celebration party was held. Attended by Prince and Princess Akishino, the Prize recipients, their guests, and the ceremony attendees, an atmosphere conducive to pleasant conversation was enjoyed by all.

## Report and Greetings on Occasion of the 10<sup>th</sup> JSPS Prize Award Ceremony Dr. Ryoji Noyori, Chair of the JSPS Prize Committee

*As chair of the JSPS Prize Selection Committee, I wish to describe the selection process for the tenth annual JSPS Prize and to offer some words of encouragement to the young recipients.*

*This year, the Committee received 383 nominations from universities, research institutes and related academic societies. After a preliminary review by JSPS's Research Center for Science Systems, a 13-member selection committee made the final selections. The 25 awardees were chosen through a meticulous and rigorous process that evaluated the nominees from various angles including the originality of their research and their potential for future progress. Only one out of every 15.3 nominees was selected, which bespeaks the*

*competitiveness of the Prize.*

*JSPS Prize Recipients, I wish to extend to both you and the colleagues who support your work a most hearty word of congratulations.*

*I have long been a member of the research community. My modest achievements owe greatly to the guidance I received from my mentors and seniors and to the support and cooperation given me by my family and friends. I was also encouraged by the awards that I received while still a young researcher. The eminent Swiss chemist, Prof. Dr. Albert Eschenmoser, whom I greatly esteem, once said to the effect, "that receiving awards is very gratifying, but making the scientific discoveries that*

*earned them is even more wonderful." Receiving a scientific award is different than winning a medal in a competitive sporting event, because it testifies to the depth and diversity of values held by the recipient.*

*Today we are overcome by global issues such as climate change that transcend national borders. It is the role of science to solve or mitigate these problems. To all of you splendid researchers, on this occasion of the JSPS Prize, I hope you will draw upon your latent potential and abilities, and in advancing your research, you will walk hand in hand with the people of the world. I have great expectations for your future activities.*

## Tenth (FY2013) JSPS Prize Awardees

Integrated Disciplines		
<b>Takayuki Ito</b>	Associate Professor, Graduate School of Engineering, Nagoya Institute of Technology	"Study on Theories and Applications of Automated Negotiating Mechanisms"
<b>Yukiyasu Kamitani</b>	Head of Department of Neuroinformatics, Brain Information Communication Research Laboratory Group, Advanced Telecommunications Research Institute International	"Development of Brain Decoding Methods"
<b>Masataka Goto</b>	Prime Senior Researcher, Information Technology Research Institute, National Institute of Advanced Industrial Science and Technology	"Pioneering Work on Understanding of Music and Speech by Computers and Its Interface Application"
Humanities and Social Sciences		
<b>Jin Sato</b>	Associate Professor, Institute for Advanced Studies on Asia, The University of Tokyo	"International Policy Studies Based on Perceptions and Distribution of National Resources"
<b>Ippei Shimamura</b>	Associate Professor, School of Human Cultures, The University of Shiga Prefecture	"Studies on Ethnicities and Nationalism in Modern Mongolia"
<b>Kengo Soga</b>	Professor, Graduate School of Law, Kobe University	"Theoretical and Statistical Analysis on the Bureaucracy in Contemporary Democracies"
<b>Tomoyuki Nakajima</b>	Professor, the Institute of Economic Research, Kyoto University	"Welfare Analysis of Macroeconomic Policy"
<b>Yasuhiko Murakami</b>	Associate Professor, Graduate School of Human Sciences, Osaka University	"Phenomenology of Medical Praxis"
Mathematics; Physical Sciences; Chemistry; Engineering Sciences		
<b>Kenichiro Itami</b>	Director/Professor, Institute of Transformative Bio-Molecules, Nagoya University	"Development and Applications of Precise and Rapid Synthetic Methods for Arene-Assembled Molecules"
<b>Satoshi Ide</b>	Professor, Graduate School of Science, The University of Tokyo	"Physics on Earthquake Generation Applicable from Micro to Giant Scales"
<b>Tetsuya Uda</b>	Associate Professor, Graduate School of Engineering, Kyoto University	"Study on Materials Processing Based on the Thermodynamics Properties"
<b>Shin-Ichi Ohta</b>	Associate Professor, Graduate School of Science, Kyoto University	"Geometric Analysis on Metric Measure Spaces"
<b>Kenichi Okada</b>	Associate Professor, Graduate School of Engineering, Tokyo Institute of Technology	"Reconfigurable Analog Integrated Circuit Design"
<b>Akimitsu Okamoto</b>	Professor, Research Center for Advanced Science and Technology, The University of Tokyo	"Building of the High-performance Chemistry-based System for Monitoring of Nucleic Acid Functions"
<b>Hiroshi Kageyama</b>	Professor, Graduate School of Engineering, Kyoto University	"Development of Functional Transition Metal Oxides by Low-Temperature Synthetic Methods"
<b>Yukio Kawano</b>	Associate Professor, Quantum Nanoelectronics Research Center, Tokyo Institute of Technology	"Study on Terahertz Imaging Technologies and Their Use in Solid State Physics"
<b>Takashi Kimura</b>	Professor, Graduate School of Sciences, Kyushu University	"Development of Innovative Manipulation Method for Pure Spin Current and Their Application for Nano-Scaled Spin Devices"
<b>Kensuke Kobayashi</b>	Professor, Graduate School of Science, Osaka University	"Experimental Study on Many-body Effects and Nonequilibrium Fluctuations in Solid-state Quantum Devices"
Biological Sciences; Agricultural Sciences; Medical, Dental, Pharmaceutical Sciences		
<b>Fumihiko Ishikawa</b>	Group Director, Laboratory for Human Disease Models, Center for Integrative Medical Sciences and Chief Scientist, RIKEN	"Development of Humanized Mouse System Enabling In Vivo Investigation of Human Leukemia and Therapeutic Approach"
<b>Hideki Innan</b>	Associate Professor, School of Advanced Sciences, the Graduate University for Advanced Studies	"Theoretical Elucidation of the Mechanisms of Evolution with Genomic Sequence Data"
<b>Yasuo Ohnishi</b>	Professor, Graduate School of Agricultural and Life Sciences, The University of Tokyo	"Studies on Regulation of Gene Expression and Biosynthesis of Secondary Metabolites in Actinomycetes"
<b>Mitunori Saitou</b>	Professor, Graduate School of Medicine, Kyoto University	"Mechanism and Reconstitution in Vitro of Germ Cell Development in Mice"
<b>Yutaka Satou</b>	Associate Professor, Graduate School of Science, Kyoto University	"Studies of the Genome of a Chordate <i>Ciona</i> Intestinalis and Elucidation of Gene Regulatory Networks in the <i>Ciona</i> Embryo"
<b>Yasuo Tsutsumi</b>	Professor, Graduate School of Pharmaceutical Sciences, Osaka University	"Development of Innovated Drug Delivery System for Protein/Peptide Therapy"
<b>Takeharu Nagai</b>	Professor, The Institute of Scientific and Industrial Research, Osaka University	"Innovation of Bioimaging Technologies Based on Engineering Bioluminescent and Fluorescent Proteins"

Titles and affiliations current as of 1 May 2013

# Young Researchers at Vanguard of Science in Japan

## Awardees Speak about Their Work and Aspirations

### Integrated Disciplines

#### Music Information Research

Music information research will open the future up to new ways of enjoying music both in terms of music appreciation and music creation. Today, it is the fate of all music in the world to be digitized. An era in which people can listen to a large selection of their favorite music anytime and anywhere has truly arrived. In the past, it was common to listen to music in a somewhat passive manner; in the future, we will be able to enjoy music in a more active and chosen manner.

Since 1992, I and my colleagues have been working on music understanding technologies that can automatically estimate music scene descriptions, such as melody and bass lines, beat structure (beat and bar), and music structure (chorus section), in musical audio signals. The target signals are usually polyphonic sound mixtures that convey content by forming a temporal structure while multiple sounds are interrelated. It has therefore been difficult to estimate the music scene descriptions in such complex signals. This difficulty has been tackled by

novel methods based on signal processing, statistical estimation, and structural analysis considering both the frequency and temporal aspects of the signals.

We have also developed active music listening interfaces to demonstrate how end users can benefit from music understanding technologies. Active music listening aims at allowing users to better understand the music they listen to while actively influencing their listening experience. For example, our web service for active music listening, "Songle" (<http://songle.jp>), facilitates deeper understanding of music by visualizing its music scene descriptions estimated automatically. The user can actively browse a song by jumping to a chorus or repeated section during playback.

In the future, I plan to develop technologies that contribute to building a better world and making people happy, as music information research holds a key to creating a mentally rich future society.



#### Dr. Masataka Goto

2011-present: Prime Senior Researcher, National Institute of Advanced Industrial Science and Technology (AIST)  
 2009: Leader of the Media Interaction Group, AIST  
 2005: Senior Research Scientist, AIST  
 2001: Research Scientist, AIST  
 1998: Researcher, Electrotechnical Laboratory (ETL)  
 1998: Received Ph.D. from Waseda University  
 1995: JSPS Doctoral Course Fellow, Waseda University  
 1993: Graduated from Waseda University

### Humanities and Social Sciences

#### In Search for the Political Dimensions of Natural Resources

My work has focused on two dimensions of natural resources. First, I am analyzing the role of natural resources in the process of economic and political development within an Asian context. Second, I am working to elucidate various mechanisms of resource distribution for poverty alleviation such as foreign aid and property rights reform. Because natural resources tend to be viewed as materials, they have traditionally been treated within the realm of the natural and engineering sciences such as forestry and hydrology. My contribution has been to view resources as a combination of social ingenuity and natural endowment. Perhaps my persistence in pursuing this interdisciplinary challenge is the main reason I was selected for this award.

An interdisciplinary/policy-oriented approach to natural resources is, however, by no means my own invention. I learned that the Resources Council, established in Japan in 1947, had done pioneering work on a holistic approach to resources management. Japan's success in economic development

has transformed its resource structure to reliance upon imports. This transformation has had the unfortunate effect of erasing from the national memory the postwar work of the Resources Council. Part of my work has thus been to simply recover the lost legacy of that commendable past attempt at resource management in an effort to draw some lessons for the future.

There are two major projects that I wish to undertake within the next several years. One is to theorize the evolution of state-society relations with regard to natural resources in Asia. For example, "Why do some states respond faster and more effectively to certain environmental problems, while others do not?" The other is to publish an English textbook on resource politics. I hope that the next generation of scholars will join me in exploring this understudied yet exciting topic. It is an area that may determine the very survival of our civilization.



#### Dr. Jin Sato

2014: Visiting Associate Professor, Department of East Asian Studies, Princeton University  
 2010: Democracy and Development Fellow, Princeton Institute for International and Regional Studies (Fulbright Scholar)  
 2009-present: Associate Professor, Institute for Advanced Studies on Asia, The University of Tokyo  
 2000: Associate Professor, Graduate School of Frontier Sciences, The University of Tokyo  
 1998: JSPS Postdoctoral Fellow, Program in Agrarian Studies, Yale University  
 1998: Received Ph.D. from The University of Tokyo  
 1995: JSPS Doctoral Course Fellow, The University of Tokyo  
 1992: Graduated from The University of Tokyo

## Mathematics; Physical Sciences; Chemistry; Engineering Sciences

### Earthquake Source Physics, From Tiny Rock Bursts to Mega-Earthquakes

An earthquake is a seismic wave radiated from an underground frictional slip with rock fracture. While a very large earthquake, such as the 2011 Tohoku-Oki earthquake of magnitude 9, causes significant damage to society, most natural earthquakes are small ones without strong shaking. Around Japan, more than 100,000 earthquakes occur every year. Moreover, slow earthquakes, earthquake-like slip without strong shaking, have been discovered recently. Actually, Japan's landmass is being deformed almost continuously by these slow and fast (ordinary) earthquakes.

I am studying the nature of earthquakes and related phenomena through seismic data analysis and numerical modeling. As one example, our work is revealing the complex rupture process of the Tohoku-Oki earthquake using a large volume of seismic data. We carried out a similar data analysis on small events, even on a tiny rock burst of magnitude 1 in a mine. Through this work, I

have found several scaling laws that govern earthquakes of different sizes, and constructed numerical models to explain these laws. These laws and models suggest that small and large earthquakes share almost the same mechanism, making it difficult to distinguish between them at the very beginning of a fracture. Among the numerous earthquakes occurring every day, it is hard to tell which one will grow into a very large earthquake. Thus, predicting very large earthquakes is inherently difficult. Nevertheless, such physical understanding enables us to carry out a quantitative assessment on the probability of large earthquakes, which is a promising way for earthquake science to benefit society. Further development of observation systems will help to monitor underground deformation more precisely. I would like to contribute to improving probability assessment by quantifying the regional properties of earthquakes and slow deformation.



#### Dr. Satoshi Ide

2013-present: Professor, Department of Earth and Planetary Science, The University of Tokyo  
 2008: Associate Professor, Department of Earth and Planetary Science, The University of Tokyo  
 2002: Lecturer, Department of Earth and Planetary Science, The University of Tokyo  
 1997: Research Associate, Earthquake Research Institute, The University of Tokyo  
 1997: Received Ph.D. from The University of Tokyo  
 1994: JSPS Doctoral Course Fellow, The University of Tokyo  
 1992: Graduated from The University of Tokyo

### Nanophysics Crosses over Different Fields

Recent progress in nanotechnology enables us to directly control the behavior of electrons in very small circuits (nano-devices). The fact that we are now able to address the quantum mechanical nature of electrons is significant, because it offers us wonderful opportunities to deeply understand quantum mechanics and to explore novel devices based on them. The advantage of our research field, "nanophysics," lies in the controllability and versatile degrees of freedom it provides in device design.

For example, we can see an electron interfere with itself as a wave in micron-sized "electronic interferometers." On the other hand, the particle nature of electrons is accessible in "artificial atoms"; electrons are confined as a sub-micron-sized droplet allowing their number to be tuned one by one. Furthermore, we have combined these two kinds of devices into a single quantum-hybrid one, in which wave-particle duality in quantum mechanics manifests itself. Using such devices, we discovered electron transport mechanisms called Fano effect and

Fano-Kondo effect between 2001 and 2006, when nanophysics was nicely linked to conventional spectroscopy.

Since 2004, we have been especially interested in the fluctuation or noise of electric current in nano-devices. While the current simply gives us time-averaged information on the electron flow, the noise gives us more details on the electron dynamics. We have developed a very sensitive noise measurement system, and used it to study various quantum devices from the viewpoint of noise. For example, we observed how electrons are scattered by a single impurity spin. Moreover, our study achieved the first experimental proof of the quantum Fluctuation Theorem. This was a pioneering application of nanophysics to statistical physics.

Further study using nano-devices will not only unveil quantum physics in more detail, but will also open fascinating possibilities for crossing over different research fields in an otherwise impossible way.



#### Dr. Kensuke Kobayashi

2012-present: Professor, Department of Physics, Graduate School of Science, Osaka University  
 2005: Associate Professor, Institute for Chemical Research, Kyoto University  
 2004: Researcher, Laboratory for Solid State Physics, ETH Zurich  
 1999: Research Associate, The Institute for Solid State Physics, The University of Tokyo  
 1999: Received Ph.D. from The University of Tokyo  
 1998: Research Associate, Department of Physics, The University of Tokyo  
 1996: JSPS Doctoral Course Fellow, The University of Tokyo  
 1994: Graduated from The University of Tokyo

**Biological Sciences; Agricultural Sciences; Medical, Dental, Pharmaceutical Sciences****Theoretical Elucidation of Mechanisms of Evolution with Genomic Sequence Data**

Evolution occurs on two conditions: When there are genetic materials that inherit from parents to offspring, and when genetic materials change by mutation. Mutational changes potentially affect the phenotype of the host individual, on which natural selection works. As a theoretician in population genetics, my major aim is to theoretically describe this evolutionary process at the DNA level. It involves probability theory, which enables us to statistically test variable evolutionary models with genomic data. While I have worked on the development of basic models and theories on a wide range of population genetic processes, my major contribution has been to theories on duplicated genes. I successfully developed population genetic models of gene duplication, in which the effect of recombination (gene conversion) is seriously taken into account. I also provided various ideas on how to use these theories for understanding the role of gene conversion both when natural selection works for

and against it. My work is timely because the importance of gene duplication in genome evolution has become widely recognized in this new century. Particularly, the role of gene conversion has been frequently documented in recent genomic data in many species including humans, and a number of genetic diseases caused by gene conversion have also been reported. Popular examples include opsin genes and Rh blood-type genes, to which my theories were successfully applied and helped to interpret how genetic variation is maintained in these important duplicated genes. Further theoretical work with application to genomic data will provide deep insights into the role of gene duplication through genome evolution.

**Dr. Hideki Innan**

- 2006-present Associate Professor, Graduate University for Advanced Studies
- 2002: Assistant Professor, University of Texas at Houston
- 2001: Postdoc, University of Southern California
- 1999: JSPS Postdoctoral Fellow, University of Rochester
- 1999: Received Ph.D. from The University of Tokyo
- 1998: JSPS Doctoral Course Fellow, The University of Tokyo
- 1994: Graduated from Kyoto University

**Mechanism and Reconstitution In Vitro of Germ Cell Development in Mice**

The eggs and the sperm are the origin of life in multicellular organisms, and are both derived from primordial germ cells (PGCs) that appear early in embryonic development. We have been studying the mechanism of specification and development in the germ cell lineage of mice. We have identified global transcription profiles, key transcriptional regulators (BLIMP1 and PRDM14), and a signaling principle for the induction of PGC fate. Based on knowledge obtained through this embryological work, we have succeeded in inducing embryonic stem cells (ESCs) and induced pluripotent stem cells (iPSCs) into epiblast-like cells (EpiLCs) and then into PGC-like cells (PGCLCs) in culture. The PGCLCs bear transcription and epigenetic profiles highly similar to PGCs and contribute to spermatogenesis when injected into neonatal mouse testes lacking endogenous germ cells, and to oogenesis when aggregated with somatic cells from embryonic ovaries and transplanted into ovaries of immunodeficient mice. Remarkably, both sperm and oocytes derived from PGCLCs contributed to healthy and fertile offspring, demonstrat-

ing that our culture system faithfully reconstitutes PGC development. Based on this culture system, we have more recently demonstrated that three transcription factors, BLIMP1, PRDM14, and TFAP2C, are sufficient to induce germ cell fate upon EpiLCs, and that a mesodermal factor, T, is a direct upstream regulator for *Blimp1* and *Prdm14* expression in PGCs. Our work will serve as a foundation for the system analysis of germ cell development, including the mechanism of genome-wide epigenetic reprogramming and induction of meiosis, as well as for the reconstitution of the entire germ-cell development process in vitro, not only in mice but also in other mammals, including humans.

**Dr. Mitinori Saitou**

- 2011-present: ERATO Research Director, Japan Science and Technology Agency
- 2009-present: Professor, Graduate School of Medicine, Kyoto University
- 2003: Team Leader, RIKEN Center for Developmental Biology
- 1999: Research Fellow/Associate, The Gurdon Institute/University of Cambridge
- 1999: JSPS Postdoctoral Fellow, Kyoto University
- 1999: Received Ph.D. from Graduate School of Medicine, Kyoto University
- 1996: JSPS Doctoral Course Fellow, Kyoto University
- 1995: Graduated from Kyoto University

## Forum on Open Access Policies Held by Science Council of Japan

On 13 March, a forum sponsored by the Science Council of Japan (SCJ) was held on the theme "Global Open Access Policies and Japan: Implications for Scientific and Academic Collaboration." JSPS president Dr. Yuichiro Anzai delivered a plenary address at the meeting and participated in its panel discussion.

The forum assembled representatives of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), JSPS, Japan Science and Technology Agency (JST), other research-funding agencies, universities, and research institutions. They discussed the creation of a uniquely Japanese model of open access. This initiative was underscored by the fact that when it comes to the open dissemination of research results, Japan falls behind other countries in digitizing scientific journals and giving research results open access.

The meeting kicked off with a message from Dr. Makoto Asashima, chair of subcommittee on academic journal issues. He spoke about how elsewhere progress is being made much faster than in Japan on digitizing journals and putting them online and in giving research open access, with the US making obligatory open access to the results of publically funded research and the Finch Report accelerating open access in the UK. In contrast he said, the dissemination of research results in Japan is dependent on them being published in influential overseas journals, while it is increasingly difficult for Japanese researchers to read such journals

due to the steep rise in their prices.

In his plenary speech, Dr. Anzai said that, so as to be on top instead of underneath the wave of progress being made in open access to research results, JSPS is taking action to strengthen Japan's capacity to disseminate globally information on Japan's original research outcomes. At the same time, he said that JSPS is working to cultivate leading journals published in Japan. More concretely, JSPS is using its Grants-in-Aid for Scientific Research (*Kakenhi*) to initiate a new program for transitioning from support for print-medium journals to digitized, online journals and open-access start-up. He touched upon JSPS's effort to augment the budget for this *Kakenhi* category so as to provide sustainable support for open access through state-of-the-art media.

The more than 250 people who participated in the forum were stimulated and informed by its spirited panel discussion on fostering open access and leading journals in Japan.

Note: The Science Council of Japan operates under the Prime Minister. In its special capacity, SCJ represents some 840 thousand Japanese scientists working in all fields of the humanities, social sciences, life sciences, and science/engineering both in Japan and abroad.

<http://www.scj.go.jp/en/index.html>

Research Aid Division II

## Japan-India Science Council Meets in Hyderabad

On 15 March, jointly sponsored by JSPS and the India's Department of Science & Technology (DST), the Japan-India Science Council held its seventeenth meeting in Hyderabad, India. Presiding over it were the co-chairs: Prof. Atsuto Suzuki, Director General, High Energy Accelerator Research Organization (KEK), and Dr. Thirumalachari Ramasami, Secretary, DST. Including them, a total of 16 council members from the two countries attended the meeting.

At it, a review was carried out of the FY2013 activities of the Japan-India Cooperative Science Program, and the joint research projects and seminars to be implemented in FY2014 were approved. A discussion was also held on a plan for holding the next Asian Academic Seminar. FY2014 marked the first time for applications submitted for joint research projects and seminars to exceed 100, evoking a discussion on the evolving needs of researchers for Indo-Japanese scientific exchange. At this 20<sup>th</sup> year juncture of the program, it was agreed to move forward proactively in considering new forms of exchange that can be incorporated within the framework of the

Cooperative Science Program.

The next meeting of the Council is scheduled to be rotated to Japan in the first quarter of 2015.

Bilateral Cooperation Division



Japanese and Indian co-chairs

## Launch of "Top Global University Project"

On 15 April, an open call for applications was issued under the newly established "Top Global University Project."

In working toward its objective of elevating the international competitiveness of higher educational institutions in Japan, this project endeavors to forge marked advances in the internationalization of Japanese universities by linking them in cooperative relationships with outstanding universities in other countries and reforming their systems and programs. In this process, priority support is given to two types of universities: a "top type" and a "leading-global type." The former are universities that have the capacity to carry out a quality of education and research that ranks them within

the top 100 of the world's universities, while the latter are universities that possess the vision to challenge expanded horizons and the capacity to build upon the progress in campus internationalization they've made to date in driving forward the globalization of Japan's high-education community and its society as a whole. Scheduled for selection are 10 "top type" projects and 20 "leading-global type" projects.

The funding for this program is provided by MEXT, with JSPS carrying out its application-screening and project-evaluation functions.

University Cooperation Program Division

## Sixth HOPE Meeting Held



On 11-15 March, the sixth in the annual series of HOPE Meeting was held in Tokyo. More than 100 graduate students and postdoctoral researchers gathered at it from around the Asia/Pacific and African regions. They were given opportunities to join small-group discussions with Nobel laureates and other topflight researchers, whose lectures they also received. This 5-day event was organized in such a way as to help the participants, who hailed from different countries and backgrounds, get to know each other as peers, while they all were given a taste of the Japan's culture and research environment.

The *JSPS Quarterly* editorial team visited the venue on the fourth day of the meeting. Seeing the activities in full play piqued their interest in how such an intensely interactive event was organized, prompting them to ask the staff questions after the event ended.

—We've heard that it takes a year to prepare for a HOPE Meeting. Can that be right?

Yes. First, we need to set the theme of the next HOPE Meeting one year in advance so as to develop a program that sparks the interest of researchers. Based on it, we make a list of potential lecturers from among eminent scholars around the world. Then comes the most difficult task: making appointments with the Nobel laureates and other lecturers, whose time is precious and schedules are always packed. Therefore, we have to issue their invitations a year in advance.

—Why are these meetings made an interdisciplinary event?

There are a lot of meetings and symposia held in specific research fields. Up till last year, each HOPE Meeting was held in a selected domain of science. This time, we combined a few domains

under the meeting's theme to make things more challenging and stimulating for the young researchers. The program intermingles the participants in modes that allow them to discover deeply interesting aspects of each other's research specializations. This gives them a chance to broaden their horizons in ways that can expand the parameters of their own research pursuits. When engaging in discussions with the lecturers, the participants can also ask them non-technical questions in a relaxed atmosphere, seeking their advice on shared concerns such as how to go about developing their career paths.

—We saw a group of people preparing for a team presentation. Is each participant also given a chance to present their own research?

Yes. They are each given one minute to deliver a "flash talk" on poster abstracts. During a poster session, they also describe

### Outline of the 6<sup>th</sup> HOPE Meeting

#### Subject Fields

Physics, Chemistry, Physiology/Medicine and Related Fields

#### Lecturers

Prof. Makoto Kobayashi (also HOPE Meeting Jr.), 2008 Nobel Laureate in Physics

Prof. Brian P. Schmidt, 2011 Nobel Laureate in Physics

Prof. Hideki Shirakawa (HOPE Meeting Jr.), 2000 Nobel Laureate in Chemistry

Prof. Martin Chalfie (also HOPE Dialogue), 2008 Nobel Laureate in Chemistry

Prof. Ei-ichi Negishi, 2010 Nobel Laureate in Chemistry

Dr. Richard J. Roberts (also HOPE Dialogue), 1993 Nobel Laureate in Physiology or Medicine

Prof. Gunnar Öquist, Professor Emeritus, Umeå University

Dr. Suzanne Shale, Ethics Consultant, University of Oxford and King's College London

#### Participants

106 graduate students and postdoctoral researchers from 19 countries/areas in the Asia/Pacific and African regions



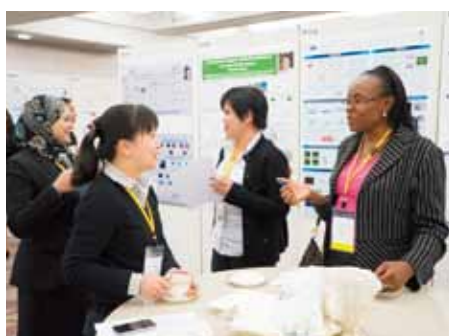
Flash talk



Lecture by Prof. Schmidt



Prof. Shirakawa in HOPE Meeting Jr.



Poster presentation



Discussing team presentation



Prof. Chalfie in HOPE Dialogue



their research to each other. To make the poster preparation more competitive, a Best Poster Presentation Award is given to five participants. The very best among them gets the HOPE Award. This year, it was given to Dr. Sean Stewart Hodgman from Australia for his presentation on ultracold atoms in optical lattices. As for the team presentations, 12 teams prepared them on the theme “Science Meets Society.” They can be creative in designing the style of their presentations: For example, one team made theirs into a mock TV show, while another put on a drama to portray the history of a scientist.

—We understand that besides the programs for young researchers, HOPE Meetings are also extended to teenage Japanese students.

That’s right. In tandem with the HOPE Meeting, we hold a

“HOPE Dialogue” for high schoolers and a “HOPE Meeting Jr.” for elementary and junior high school students. They are conducted as an outreach activity aimed at fostering science literacy in children at a young age. As the organizers of these auxiliary meetings, we are always impressed by the way the Nobel laureates go about so earnestly interacting with the young students.

—Please tell us about the next HOPE Meeting.

In each of the participating Asia/Pacific and African countries, the meeting will be announced on the websites of our overseas counterpart agencies this summer. For those interested in joining the event, please get more details on it from our webpage at <http://www.jsps.go.jp/english/e-hope/>

Research Cooperation Division

## JSPS Program Briefings Conducted in Ireland

On 26-28 February, the staff of JSPS’s London Office went to Ireland and Northern Ireland to give program briefings at Queen’s University Belfast, University of Ulster, and University College Dublin. JSPS supports these universities in conducting a wide range of research, running the gamut from fields of biomedicine, life sciences and info-technology to history and economics. Our visit with their representatives worked to expand the periphery of scientific exchange with the two countries and their research institutions.

The directors of the three universities all expressed a strong desire to accept Japanese researchers through JSPS programs and provide them with high-quality research facilities and equipment. In talking with them, they also indicated expectations that a greater number of Japanese would do research in their countries, emphasizing that the Ireland are a sweepingly English-speaking region.

Then, we visited Science Foundation Ireland in Dublin, where we engaged the staff in an exchange of views on ways to invigorate joint research between Ireland and Japan. Also affording us a chance to

meet and talk with former JSPS fellows living in the area, our visit to the two countries proved to be very fruitful.

JSPS London Office



Dr. Kozo Hiramatsu giving opening remarks at University College Dublin

### Essay by a Former Fellow

Dr. Davide Mariotti

In 2004, after receiving my PhD, I was coming out of a 2-year period spent working in industry. I was keen to get back to academia and research. Let’s even say that I was desperate, so I would have applied for any job... Yes, even a job in Japan!!

At that time, however, a job in Japan sounded a bit too “exotic” to me as I was not really interested in moving so far away from Europe—but I was eager to do research. The chance to do research in Japan came with a JSPS Postdoctoral Fellowship, which allowed me to spend two years (2007-2009) working in a vibrant research environment at the National Institute of Advanced Industrial Science and Technology (AIST) in Tsukuba. I’ve come to realise how that experience was so fundamental to the building of my career and... Yes, I enjoy living in Japan.

After finishing my JSPS Postdoctoral Fellowship, I worked in

both US and UK, during which time I returned to Japan on several occasions, twice with JSPS’s support: an Invitation Fellowship in 2010 and a Bridge Fellowship in 2012.

Now, seven years later, I am leading a young research group, the Plasma Science & Nanoscale Engineering Group at the University of Ulster (Northern Ireland). I still enjoy a very productive relationship with my Japanese colleagues; my students and postdocs regularly visit AIST to do collaborative research with them. My Japanese links have been extremely important to most of my research activities including grant applications: about 60% of my funded projects (through EPSRC, the Leverhulme Trust and the Royal Society) involve collaboration with AIST.

In 2004, I had no will to go to Japan; today, I always have many reasons to return to Japan ... one of which is good food.

You can see Dr. Mariotti’s recent research activity at [www.plasmamate.net](http://www.plasmamate.net).

## Strasbourg Office Holds Briefings at Spanish Universities

On 5-6 February, JSPS's Strasbourg Office held its very first program briefings in Spain, visiting both Autonomous University of Madrid (UAM) and Complutense University of Madrid (UCM). At UAM, the office staff first met and exchanged views with the rector and vice-rector, after which they held a meeting to introduce JSPS's programs to the faculty and students. In Madrid UAM is a unique university in that it is the only to offer a degree course in the Japanese language. Filling the room to capacity, the meeting participants listening intently to the briefing and asked volleys of questions. Following the meeting, the staff was escorted on a tour of the university's research labs and, along the way, had a chance to talk with the directors of some of UAM's attached research centers.

The next day, the staff visited Complutense University of Madrid, which established in the 13<sup>th</sup> century, is one of the oldest universities in the world. After exchanging views with the rector and vice-rector, the staff visited research labs in UCM's Faculties of Chemical Sciences and Physical Sciences before starting their briefing. In the meantime, so many people gathered to hear the briefing that the originally scheduled room had to be changed to a bigger one. The attendees showered the staff with

questions, bespeaking the high level of interest at UCM in JSPS and its programs.

These briefings served to elevate interest within Spain's academic community in JSPS, motivating more Spanish researchers to apply for and participate in its fellowship and other international programs.

JSPS Strasbourg Office



Audience at UAM briefing

## US JSPS Fellows Alumni Association Holds Forum and General Assembly

The US JSPS Fellows Alumni Association held its fourth Multidisciplinary Science Forum in tandem with its General Assembly on 21-22 February. Venued at the Old Ambassador's Residence, Embassy of Japan, the Forum was attended by about 60 members and other participants. Specialists were invited from both the US and Japan to address five sessions: Biology and Medical Sciences, Math and Physics, Chemistry, Engineering, and Social Sciences and Humanities.



Participants to the Forum

At the Forum on the 21<sup>st</sup>, invited US and Japanese researchers gave lectures and the alumni presented reports on their research and exhibited posters. Looking for new ideas that could contribute to enhancing their own research pursuits, they engaged each other in discussions that crisscrossed their various fields. Mr. Kenichiro Sasae, Ambassador Extraordinary and Plenipotentiary of Japan to the United States of America, offered remarks at the evening's dinner reception, which, giving the alumni members a good chance to strengthen their ties as friends and colleagues, closed the curtain on a very fruitful event.

The next day's General Assembly enjoyed a spirited exchange among the members on the association's operation and downstream activities. It was agreed to form a committee to carry out a membership drive and redesign the association's website toward achieving that goal. The newly elected members of the executive committee, who will serve over the next two years, were announced. Also, members who were selected to participate in the Japan-revisitation BRIDGE Fellowship reported on their research activities with Japanese counterparts.

JSPS Washington Office

## Bangladesh JSPS Alumni Association Holds Its Fifth International Symposium

On 1 March, the Bangladesh JSPS Alumni Association (BJSPSAA) convened its 5<sup>th</sup> international symposium, this time on the theme "Education for Sustainable Development." Chaired by BJSPSAA president Prof. Dr. M. Afzal Hossain, the symposium was venued at the Bangladesh Agricultural Research Council in Dhaka.

The Honorable State Minister for Science and Technology and architect Mr. Yeafesh Osman opened the symposium with remarks as its chief guest. Mr. Mike Robson, FAO Representative in Bangladesh, and Mr. Hiroyuki Minami, Minister, Embassy of Japan, also delivered messages in the opening session. A keynote speech on the symposium theme was delivered by Prof. Dr. M.A. Sattar Mandal, former Vice Chancellor of Bangladesh Agricultural University. Dr. Atiur Rahman, Governor of Bangladesh Bank offered insightful analysis and views in the technical sessions.

After the symposium, BJSPSAA's annual General Assembly was held.

The Bangladesh alumni association operates proactively and independently in carrying out its program, including holding seminars and publishing a membership directory to facilitate alumni activities

and promote interaction among the members. JSPS's Bangkok Office holds in high esteem BJSPSAA's activities and will be happy to continue supporting them.

JSPS Bangkok Office



Dr. Rahman in the tech session

## Joint Symposium Held with University of California, Berkeley

On 8 March, the JSPS San Francisco Office held a joint symposium on the theme “After 3.11: New Architecture + Engineering” with the University of California, Berkeley.

The mega-earthquake that struck northeastern Japan in 2011 provided the impetus to reconsider the structure of buildings, including, of course their earthquake proofing, but also measures to protect them against secondary disasters such as tidal waves. Evacuation sites and refuge shelters are yet another area of building construction along with post-disaster community reconstruction. Convened three years after the 2011 quake, this symposium brought experts in architecture and engineering together in a forum for sharing knowledge on the latest disaster and reconstruction-related research with an eye to finding seeds for new innovations in those fields.

Over the course of the day, top-notch researchers invited from the US and Japan gave speeches and led sessions on four themes: Disaster Preparedness + Response, Architects’ Response After 3.11, Building Structures, and Building Energy Demand + Supply. The symposium’s over 150 participants engaged the speakers and each other in a lively exchange of views.

Giving research reports from the vantage points of their various fields, the attending researchers and specialists updated each other on changes in architecture and engineering that have transpired in the

wake of the earthquake and on new trends in those technologies. The symposium showcased post-disaster reconstruction in northeastern Japan and provided overview on how scientific research is contributing to that effort. The application of this updated information should be meaningful in enhancing preparedness and response in both countries.

JSPS San Francisco Office



Prof. Steven Vogel of UC Berkeley's Center for Japanese Studies

## Two JSPS-IVA Seminars Held

Launched in Japan’s 2013 fiscal year, which runs from April through March, two JSPS-IVA Seminars were held in Stockholm. The purpose of this seminar series is to invite Japanese scientists with distinguished records of research achievements to address these seminars, which provide information that stimulates interest among Swedish researchers and business persons on what’s happening at the cutting edge of science and technology in Japan. In so doing, the lectures work to strengthen scientific collaboration between the two countries.

The first seminar, co-organized by the Royal Swedish Academy of Engineering Sciences (IVA), Sweden-Japan Foundation, and the Embassy of Japan in Sweden, was held on 20 February on the subject of high-speed railways. On the Japanese side, it featured a lecture by Prof. Seiji Iwakura of Shibaura Institute of Technology, who spoke on the theme “Lessons Learned from High Speed Rail Projects in Japan—Planning and Evaluation.” In 2017, Sweden is slated to start construction on a new high-speed rail system. Japan is expected to lend its support to that effort by sharing its experience and hi-tech knowhow in related fields with the Swedish government and

engineering community. Along these lines, a lively discussion was advance among Dr. Gunnar Malm, Director General, the Swedish Transport Administration, and a panel of frontline analysts and specialists in the area of public transportation, brought under one roof by the event.

On 3 March, the second seminar was held, with the Chemical Society of Japan as an additional co-organizer, on the subject of chemistry and drug discovery. Prof. Hiroaki Suga of the University of Tokyo spoke on the subject “Pseudo-Natural Product Synthesis and Drug Applications.” As a top-flight peptide researcher in Japan, he had established PeptiDream Inc. On the Swedish side, lectures were delivered by Professor Gunnar von Heijne of Stockholm University and Dr. Anders Ekblom, former CEO of AstraZeneca Sweden. Their presentations evoked an in-depth discussion on the potential of innovative chemistry in advancing drug discovery and what Sweden and Japan can learn from each other in this area.

JSPS Stockholm Office



Prof. Iwakura in first seminar's panel discussion



Prof. Suga giving presentation in second seminar

## Earth-Life Science Institute (ELSI), Tokyo Institute of Technology

**ELSI is the institutional child of Tokyo Tech, born on 7 December 2012. Its mission is to create a deeper understanding of the origin and evolution of life, unravelling mysteries at the root of human existence.**

Biological activity interacts with its surrounding environment, each exerting an influence on the other. In this light, ELSI has taken on the challenge of advancing research on the origin of life coupled with research on the origin of the Earth's inner core and of its early environment.

As its name "Earth-Life Science Institute" bespeaks, ELSI places emphases on both the origins of the Earth and of life. The interdisciplinary approach taken in doing this incorporates an array of scientific fields including geophysics, geology, biochemistry, molecular biology, and computer science.

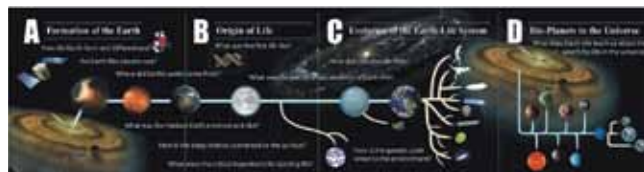
Research at ELSI aims to answer the following four questions.

- (1) How was the Earth created within the solar system? (Earth formation)
- (2) When, where, and how did initial life begin on the Earth? (Origin of life on Earth)
- (3) Subsequently, how did the Earth-life system evolve? (Early evolution)
- (4) How are extraterrestrial bio-planets formed? (Bio-planets in the universe)

ELSI has created a new research domain called "Bio-Planet Science," which, building upon answers to the first three questions, offers new insights into the search for life on other planets.



Many puzzles regarding the Earth's early environment before and after the appearance of initial life remain unsolved. In addressing them, ELSI takes a bidirectional



approach: in the top-down direction, theoretical models and simulations of the Earth's formation are used; in the bottom-up direction, the Earth's geological history is traced back.

With the top-down approach, planet-formation theory and state-of-the-art computer simulation technology are used to elucidate the origin of the Earth. Performing high pressure/temperature diamond anvil cell experiments to re-create pressure and temperature conditions at the Earth's core, attempts are made to re-create the Earth's early atmosphere and oceans that emerged from its inner core.

In the bottom-up approach, traces of the Earth's history such as 165,000 rock samples stored at Tokyo Tech are used to read changes in its environment up to 3.5 billion years ago; then, based on those findings, an estimate is made on the period before that.

From this bidirectional approach, the ELSI Model is created for elucidating the environment that bore life. With it, a bottom-up approach is used to attempt by way of experiments to actually re-create early cells. Genome research is shedding light on the relationship between specific environmental elements and the microorganism gene pool. By elucidating the environment that gave rise to initial life, it will be possible to estimate the initial genome of living things. A top-down approach is used to both experimentally and theoretically trace back the phylogenetic tree of evolution, allowing a deeper understanding of the commonotes, the common ancestors of all organisms.

In this manner, ELSI is creating its own scenario for exploring the origin of life on the Earth. ELSI's research will also contribute to the exciting search for the possibility of life beyond our Earth.

### Dr. Christine Houser



#### Profile

Research Scientist, ELSI, August 2013-present  
Project Scientist, University of California Santa Cruz, August 2009-July 2013  
Postdoctoral Fellow, University of California Santa Cruz, August 2005-August 2007  
Ph.D., Scripps Institution of Oceanography, Institute of Geophysics and Planetary Physics, University of California San Diego, 2005  
B.A. (Geophysics), Rice University, May 1999

In 2005, Dr. Houser was awarded the prestigious University of California President's Postdoctoral Fellowship which she used to broaden her studies of the Earth's interior at the University of California Santa Cruz. Though collaborations there were rewarding, she saw further research potential at Tokyo Institute of Technology while spending a month there in 2010 as a visiting professor. That stay inspired Dr. Houser to move to Japan when ELSI offered her an opportunity to become a member of its research staff.

My life in Tokyo as a researcher, wife, and mother is busy yet rewarding. As a researcher, ELSI provides me with daily interactions and chances for collaboration with the best high-pressure and -temperature mineral physicists in the world. The center's focus on the early Earth has opened up new avenues for me to apply my work using seismology to map out ancient geologic structures in the Earth's deep mantle.

I find that being at ELSI has several advantages over other research institutions in the world. Due to ELSI's unique dedication to hiring the world's best scientists from the variety of sub-disciplines represented at the center, my day is filled with multi-disciplinary discussions held over lunch, tea-time, and in study groups and seminars, all of which can lead to new ideas and possible collaborations. In addition, ELSI has a constant stream of interesting visitors from around the world, who join in our discussions and provide a flow of fresh inspiration. There are very few, if any, places in the world where interdisciplinary collaborations are not only encouraged but fully supported as a purpose for their very existence.

For more detailed information about ELSI, please visit our website: <http://www.elsi.jp/>



## Building Resilient Societies

Dr. Weena Gera



On April 28, students at Tokyo Metropolitan High School of Science and Technology welcomed Dr. Weena Gera, who hailing from the Philippines is now conducting research at the United Nations University in Tokyo. She gave the students a lecture on the theme “Building Resilient Societies.” It focused on environmental issues, especially society’s vulnerability to various disaster threats. She also discussed her interest in environmental governance as it pertains to sustainable growth and poverty reduction in developing countries.

This was Dr. Gera’s second time to give a Science Dialogue lecture. Drawing on her previous experience, she sent the students keywords in advance so that they could familiarize themselves with the terminology, and she used more visuals with simplified terms to facilitate their understanding of the topic. Starting by asking students to tell her what comes to mind when they hear the words “sustainable development,” “vulnerability,” and “resilience,” she explained their technical meaning in less complicated terms. She reassured the students by asking them “Are you okay?” every now and then with a friendly smile to make sure that they were not falling behind. This technique broke the ice with the students, who were shy in the beginning.

Her lecture moved on to point out some similarities and differences between Japan and the Philippines. Both countries, she said, are prone to natural disasters, but face different problems within their economic contexts. Learning that Japan is ranked among the countries with the highest carbon dioxide emissions, one student asked why Japan couldn’t better apply its advanced technologies to alleviate environmental degradation both at home and abroad. Overwhelmed to learn about the many environmental and social issues that exist, some students questioned where the priorities should be placed in tackling them. To all of their inquiries, Dr. Gera geared her answers in ways that would be easy for the students to understand while

also building their knowledge base.

When asked why she volunteered to give these lectures, Dr. Gera said “I joined the Science Dialogue program because I strongly believe we should invest time and effort in the education of young minds and aspiring scientists. To build resilient societies, policy makers will need to collaborate with scientists,” Dr. Gera also explained. She added, “When giving a Science Dialogue lecture, I can receive direct feedback from the young students, which reminds me of my own beginnings as a researcher. To hear them express their appreciation for the new perspectives they gained from the lecture gives me a certain sense of fulfillment. Of course, I am grateful for the opportunity to advance my research here in Japan as it has marked new milestones in my professional development. I think sharing insights with young students in Japan is a meaningful way to contribute to sustaining our cooperation and exchange.”

Most of the executive board members of the JSPS alumni association in the Philippines are women, testifying to the proactive role that female researchers play in their country. Not only is Dr. Gera one of those outstanding researchers, but her disposition is so cheerful and friendly that she captivated everyone in the lecture hall. Some of the girls continued asking her questions even after the lecture until their teacher had to remind them it was time to go.

You can find Dr. Gera’s profile at <http://ias.unu.edu/jp/people/experts/weena-gera.html>



The following fellows participated in JSPS’s Science Dialogue Program during the period from January through March 2014. For details about the program, please see its website: <http://www.jsps.go.jp/english/e-plaza/e-sdialogue/>.

Overseas Fellowship Division

Venue	Lecturer	Nationality
Aomori Prefectural Sanbongi High School	Thiago Junqueira de Castro Bezerra	Brazil
Akita Prefectural Yokote Seiryu Gakuin High School	Florian N. Peluassy	Netherlands
Fukushima Prefectural Iwaki High School	Cristina Sanchez Gomez	Spain
Junior and Senior High School at Komaba, Univ. of Tsukuba	Felix G. Marx	Austria
Niigata Municipal Bandai Senior High School	Baohai Li	China
Niigata Prefectural Kokusai Joho High School	Eva C. Wikberg	Sweden
Niigata Prefectural Takada High School	Lisa J. Maudsotter	Sweden
Fukui Prefectural Fujishima Senior High School	Linda K. Banbury	Australia
	Gudrun G. Niehues	Germany
Fukui Prefectural Koshi High School	Pei Chieng Cha	Malaysia
	Po-Chien Hsiao	Taiwan
Yamanashi Prefectural Hikawa High School	Yanyan Mulyana	Australia
Yamanashi Prefectural Tsuru High School	Noemi Basso	Italy
	Bogumil Kaczowski	Poland
	Marc A. Macchi	France
	Anupreeta S. More	India
Yamanashi Prefectural Yoshida Senior High School	Paulina M. Neisch	Poland
Gifu Prefectural Ena High School	Othman M. Benomar	France

Venue	Lecturer	Nationality
Shizuoka Kita Junior High School	Nicholas L. Payne	Australia
Shizuoka Kita High School	Lucas S. Trindade	Brazil
Aichi Prefectural Kariya High School	Magda Matouskova	Czech
Aichi Prefectural Kasugai High School	Emiliya V. Abadzheva	Bulgaria
Aichi Prefectural Okazaki Senior High School	Alexis R. Gilbert	France
Takada Senior High School	Wen-Ya Ko	Taiwan
Kyoto Prefectural Yamashiro High School	Emmanuel M. Akpabio	Nigeria
	Coline Arnaud	France
	Delia Saffian	Germany
	Hui-Ju Yang	Taiwan
Wakayama Prefectural Koyo High School	Beata A. Bober	Poland
Shimane Prefectural Hamada High School	Panagiota Tsounapi	Greece
Tokushima Prefectural Jonan High School	Atif Jamal	Pakistan
Kagawa Prefectural Takamatsu Sakurai High School	Andrey Tayduganov	Russia
Saga Prefectural Chienkan Senior High School	Baris Kahraman	Turkey
	Muhammad Wannous	Syria
	Birgit M. Tremml-Werner	Austria
Miyazaki Prefectural Miyazaki Kita High School	Pablo Solis-Fernandez	Spain

Hailing from Hungary, Dr. Akos Kopper has been conducting research with his host, Prof. Masashi Izumo in the Faculty of Economics at Kanagawa University under a JSPS postdoctoral fellowship since September 2011.

*- Please tell us about your career before you became a JSPS fellow.*

The first degree I earned was in Japanese studies from a university in Hungary. I studied not only the Japanese language but also Japan's culture and history. After that, I studied international relations for one year. Just after obtaining my master's degree, I received a Monbusho Research Scholarship from MEXT. Under it, I came to Japan and studied economics, Asia-Pacific affairs and international relations at Hitotsubashi University over a period of three years. Departing Japan, I decided to go to Germany to do my PhD work. With the creation of the EU, the meaning of citizenship and borders had changed radically within Europe. This piqued my interest in studies that over-arch borders and citizenship, so I focused my doctoral studies on questions of citizenship, sovereignty and people's relationship to the state, while experimenting with various normative models on a good/just society.

*- What are you currently researching under your JSPS fellowship?*

I'm working on questions of borders, what they mean, how their meaning changes. I'm also working on questions of citizenship, political rights, and political participation. Lately, I have turned my interest to islands, focusing on not only Japan but also Asian countries such as South Korea and Vietnam. Islands are special places: While being part of a political unit, they are also separated not only physically but also to a great extent in our imaginations.

*- How did you get to know your Japanese host researcher?*

I met my host researcher some 20 years ago when he was doing research in Hungary. At that time, I was still an undergraduate student. My Hungarian professor asked me to show Prof. Izumo around the city of Budapest. We have been in contact ever since, meeting when possible almost every year. He has been very helpful with my research, and his network of friends in Japan and South Korea has afforded me valuable advice regarding matters in those countries.

*- Besides your relationship with Prof. Izumo, did you have any other reasons for choosing Japan to do your research?*

I have stayed in Japan three times, as a tourist, student and researcher. The first time was 20 years ago; I was very young. In 1990, my father, who was doing cancer research, had a very good Japanese friend who invited him to Japan to collaborate. He brought me along with him. I became interested in Japan and liked the Japanese lifestyle, so I started

studying Japanese in Hungary. The second time, I came to Japan as a student under the Monbusho Research Scholarship. This time, I am here in Japan as a JSPS postdoctoral researcher. On each of these three occasions, Japan showed me a different face: Once as a tourist having fun, then as a student going to classes and meeting with friends in *izakaya* (taverns serving small dishes for snacking while drinking), and now a researcher spending time in libraries, conducting interviews and attending conferences. Though each of these phases has been different, I have always had a great time in Japan; and after 5 years of living here, Japan feels a bit like my second home.

*- After a total of so many years, what do you think of life in Japan—its culture and customs?*

What I like most about Japan is its mixture of the modern and traditional. In Tokyo, you find super-modern buildings. I really like the way their design incorporates the simplicity of Japanese architecture. Yet, in coexistence with the modern there is always the old, not as just relics of the past, but interwoven into people's everyday lives.

*- What is your impression of your host institution?*

I am completely satisfied with it. I have a very good relationship with my host researcher Prof. Izumo and his students. I frequently join his seminar for lunch or dinner and get to see life within a Japanese university from the inside.

*- What do you do outside your research work?*

I regularly go swimming after lunch or after working. A nice thing about Kanagawa University is that it has a swimming pool, which is located right between my office and dormitory. I also like to travel around Japan. My favorite city is Kyoto, but I have also found Hiroshima and Nagasaki to be very exciting places. Especially the latter, as Nagasaki had long been the focal point for Japan's contact with the West. In Tokyo, I like to go to "Korean town" (Shin-Okubo), as I am working on questions of immigration. There, I can advance my work by talking to people from Korea, and enjoy Korean food afterwards.

*- Generally speaking, what is your impression of Japan's research environment?*

It is nice, but maybe a bit 'closed in,' though that is difficult to judge. Living in Japan, I feel like doing more work in Japanese, reading more in Japanese, and writing more in Japanese. However, if I published my articles in Japanese, only a small community of experts will be able to read them in Europe. As I do comparative work, my aim is to reach a broad range of people who will themselves create exciting comparisons by putting their knowledge and experience—for example on immigration or border issues—into different contexts.



**Dr. Akos Kopper**

Senior Lecturer, Faculty of Social Sciences, Eötvös Loránd University (ELTE), Budapest, Hungary; Researcher, Hungarian Academy of Sciences; 2013-present  
JSPS Postdoctoral Fellow, Faculty of Economics, Kanagawa University, Japan, 2011-2013  
Part-Time Lecturer, Researcher, Faculty of Social Sciences, ELTE, Hungary, 2009-2011  
Ph.D. (Political Science), Jacobs University Bremen, 2009  
M.A. (International Relations and European Studies), Central European University, 2000  
M.A. (Japanese Studies), ELTE, Hungary, 1999

Yet, this language problem is not necessarily specific to Japan: To a great extent it is due to Western arrogance or ignorance when it comes to mastering Asian languages. English may be the *lingua franca* of these times, which paradoxically can have the effect of cloistering Western people. So all in all, we are all 'closed in,' making globalization a myth in many ways. We are hardly living in a borderless world. Borders surround us just as before, the nature of them is however different: Their location is not so obvious nor clear-cut. They are frequently not tied to physical locations—i.e. they are not like a fence that one can see and locate from a distance.

*- That said, do you think the Japanese research environment should be more internationalized?*

I think that doing so would be beneficial for the Japanese students. Today, there are some foreign students in Prof. Izumo's seminar, nevertheless the language used is always Japanese. Perhaps more classes taught in English would help students become proficient in English and be more willing to go out and explore the world in ways that can benefit both themselves and Japan. It is only by viewing one's country from a distance that a person can discern its goods and bads.

*- I've heard that it is hard to learn Japanese, please give some advice for researchers who are worried about language?*

One thing that they can do is to spend time

in big cities like Tokyo, Yokohama or Osaka, as they provide many alternatives for interesting things to do in either Japanese or English. I think it is important to try to learn at least a bit of Japanese. The research framework for JSPS fellows is well organized in a way that allows people who only speak English to do their professional work smoothly. Nevertheless, to really enjoy one's daily life in Japan and to grasp what is happening around you it's worth the effort to learn some Japanese.

**- What are your research achievements under the JSPS fellowship so far?**

So far, I have published three academic articles in English and some other papers in Hungarian about citizenship and borders. I have also given talks in numerous conferences and presented my research results. Yet, even when I leave Japan my work here will not be completed: From the collection of data, conducting interviews, presenting preliminary results at conferences, it takes a long time to get one's articles published in good journals.

**- What do you plan to do after your fellowship ends?**

I will continue my work in academia. I'm going to work at the Hungarian Academy of Sciences from October. I will participate in a big research project, which started in July 2012 on crisis and social innovation.

**- Please give some advice to young researchers who may be thinking about doing research in Japan?**

Have fun! Japan is a wonderful place to live. There are wonderful things to see, try, eat, etc. The only important thing is to leave your prejudices behind and be open to differences. It is important to have a good relationship with your host researcher and to listen to his/her advice. Japan is different in many ways, and sometimes puzzling; nevertheless, its systems are very reliable and the JSPS fellowship program is very well designed. I am really grateful that I have had the opportunity to spend two wonderful years doing research in Japan thanks to JSPS.

*When we visited Dr. Kopper, he was in the midst of talking with a student. During our interview as well, we were impressed by his accomplishment in understanding the Japanese language and culture, in ways that enable him to communicate effectively with Prof. Izumo's students. We were pleased to witness the excellent relationship that Dr. Kopper enjoys with his host researcher Prof. Izumo and his students. Today, Japanese universities are developing their own strategies to advance internationalization; unfortunately, there are still not many overseas professors and researchers on their campuses. Dr. Kopper's stay at Kanagawa University has surely afforded Prof. Izumo's students a meaningful experience and valuable opportunity to expand their horizons. We look forward to future JSPS fellows also communicating with Japanese students and young researchers. While contributing to the internationalization of the Japanese research environment, this should also enhance the fellows' enjoyment of their life in Japan.*

## Introducing Japan: Yokohama City

It takes 15 minutes to walk from Kanagawa University to the nearby train station of Hakuraku on the Toyoko (Tokyo-Yokohama) Line. Though not what you'd call picturesque, the way to the station from the university has a sort of simple mystique to it. Running between small houses, the street is dotted with old shops selling everything from vegetables to used clothes. Although hardly a touristy place, there are small hidden things that one discovers when living in the neighborhood.

There is a small restaurant serving curry, the same dish every day. It has no menu. You enter and are served the meal always made from the same Pakistani recipe. Though it is delicious, I have no clue how they stay in business. Unfortunately, my favorite small restaurant on the way to the university closed recently. It had a few chairs on the street where I could sit and drink my coffee—a bit like I would do at home or in Paris—proofing one of my new articles and watching students pass by on their way to the university. These days, my favorite place is a little restaurant selling crepe—thin pancakes with savory fillings. It has just three tables, but is a great place to relax after work.



Hakuraku shopping street

Hakuraku has, of course, everything typical of a Japanese town: numerous hair dressers, cleaners, small restaurants of all sorts, and a mishmash of convenience stores, called *combinis*, just a few minutes walk from my university's dormitory. The dorm has nice apartments for researchers on its top floor overlooking the neighborhood. Adding a little excitement to Hakuraku, there are such things as a small jazz bar near the train station, which I visited once. The station itself provides a perfect link to both the centers of Yokohama and Tokyo.

Yokohama, with its skyscrapers, vast array of stores, and the bustling Minato-Mirai shopping complex, lies just a few stations away. It offers a stark change of pace from Hakuraku, being an immaculate 21<sup>st</sup>-century metropolis. My favorite place is a restaurant in Minato-Mirai overlooking the bay. Like many things in Japan, it remains basically the same, while undergoing subtle changes: There's been a change of face in its owner during the two years since I started my research at Kanagawa University. In the other direction, the train from Hakuraku goes to Shibuya and Shinjuku at the center of Tokyo. The ride takes only about 40 minutes.



View from university cafeteria



Curry shop sign





**Cover photo:**  
The crescendo of a summer fireworks display.

## 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.

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