JSPS-CJS Joint Symposium held at UC Berkeley

On September 26-27, JSPS San Francisco and the Center for Japanese Studies (CJS), University of California, Berkeley (UC Berkeley) held a joint symposium on the theme “Long-term Sustainability through Place-based, Small-scale Economies” on the UC Berkeley campus.

This symposium examined the importance of place-based, small-scale and diversified economies for the long-term sustainability of human societies and explored what needs to be done for promoting alternative food systems. Experts in archaeology, ethnology, agronomy from Japan and the U.S. presented their research on the past and present practice of place-based, smaller-scale food production systems, for reevaluating their advantages and limitations and exploring their future potential. The symposium also discussed the contributions the archaeology of the North Pacific could make to understand the mechanisms of long-term cultural and societal changes and to mitigate environmental issues at multiple scales.

The symposium started with opening remarks by Steven Vogel, Chair of CJS and Masayuki Izutsu, Director of JSPS San Francisco. Following the opening remarks, the scope of the symposium was presented by Junko Habu, Professor of Anthropology at UC Berkeley who also served as the coordinator of this symposium. 4 sessions took place over 2 days on the following themes: Change and continuities in socio-economic systems; linking the archaeology of small-scale societies to ethnography; cultivating trans-disciplinary knowledge and practice; and small scale economies in the present and past.

24 scholars from Japan and the U.S. were invited to the symposium, including Fritjof Capra, a founding director of the Center for Ecoliteracy and the author of “The Tao of Physics (1975),” and more than 100 scholars and students attended over the course of 2 days. It provided a valuable opportunity for multi-disciplinary discussions on the topic of long-term sustainability and successfully promoted collaborative research between the Japanese and U.S. researchers.

(From the top: Prof. Habu, coordinator of the symposium; Prof. Habu speaks to the symposium audience; panel discussion by speakers)
Director Izutsu delivered a speech at GCUB International Seminar in Brazil

On October 17, JSPS San Francisco Director, Prof. Masayuki Izutsu gave a speech entitled "Strategies for the Internationalization of Research and Postgraduate Studies by JSPS and the Japanese Government" at the 6th International Seminar of the Coimbra Group of Brazilian Universities (Grupo Coimbra de Universidades Brasileiras (GCUB))*. This event took place from October 14 to 17 at Mar Hotel in Recife, Brazil in conjunction with GCUB’s 7th General Assembly. The theme of the seminar was "International University: Models and Strategies" and over 400 participants from over 20 countries attended.

Dr. Izutsu was one of the 4 speakers in the Roundtable 5 on “Strategies and Good Practices for the Internationalization of Research and Postgraduate Studies.” In his speech, Dr. Izutsu presented an overview of JSPS and initiatives for international research and postgraduate education by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT) and JSPS. The speech was delivered in English and simultaneously interpreted into Portuguese, French and Spanish.

In addition to attending the roundtable, the JSPS delegation successfully networked with representatives of research funding agencies and universities from Latin American countries at the seminar, including Prof. Guilherme S. Soares A. Melo of the National Council for Scientific and Technological Development (CNPq). During their visit in Recife, the delegation also visited the Federal University of Pernambuco (UFPE) to promote JSPS fellowship programs. UFPE is highly committed to international exchange in education and research including collaboration with Japanese universities, and four faculty members kindly hosted the delegation: Prof. Frederico Dias Nunes, Prof. Francisco de Sousa Ramos, Prof. Armando Shinohara, and Lecturer Ayako Ono.

JSPS San Francisco will continually reach out to research funding agencies and academic institutions in Latin America and promote exchange and collaboration between Japanese and Latin American researchers.

*GCUB is an association of prestigious Brazilian universities which consider the University of Coimbra their alma mater. Its mission is to promote interinstitutional and international integration of member universities by means of staff and student mobility programs, and to promote and increase the sovereign internationalization of the Brazilian universities among its foreign counterparts.

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If you would like receive our newsletter and emails on special events, please contact us at: webmaster@jspsusa-sf.org
The Japanese University Network in the Bay Area (JUNBA) is pleased to invite you to JUNBA 2015 to be held on January 8 and 9, 2015 at the Hilton San Francisco Airport Bayfront (600 Airport Blvd., Burlingame, CA 94010).

The JUNBA Symposium on January 8 is open to the public. JUNBA will invite the following two speakers with a strong background in both research and university administration:

- **Dr. Aimée Dorr** (Provost and Executive Vice President, University of California Office of the President)
- **Dr. C. Judson King** (Director, Center for Studies in Higher Education, University of California, Berkeley)

The JUNBA Summit on January 9 is only open to those affiliated with Japanese universities and will bring together Japanese university leaders to exchange views on governance of higher education institutions from the perspective of improving education quality.

For further information including the schedule and registration, please visit the JUNBA website:
- [http://www.junba.org/junba2015.html](http://www.junba.org/junba2015.html) (English)

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**Organized by:**
- Japanese University Network in the Bay Area (JUNBA)
- Consulate General of Japan in San Francisco*
- Japan Society for the Promotion of Science (JSPS)

**Supported by:**
- Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT)
- JETRO San Francisco*

*Prospective organizations

+++ What’s JUNBA? +++

The Japanese University Network in the Bay Area (JUNBA) is a network of Japanese universities with overseas offices in the San Francisco Bay Area. The mission of JUNBA is to contribute to the betterment of education and research and to promote business creation both in Japan and the U.S. through the support of internationalization activities, training of Japanese university personnel, and the stimulation of industry-academia-government collaborations between Japan and the U.S.
**Leadership on a Global Scale**

At Fukuoka Institute of Technology (FIT), we promote globalization for our students, faculty, and administrators. The concept of globalization is rapidly expanding every year, and FIT is among those who support its growth.

The Advanced Culture and Education (ACE) Program concluded its fourth year with yet another successful generation of twenty selected students from California State University, East Bay (CSUEB) and FIT, which was made possible by the Presidents’ initiative. This program was funded by FIT and subsidized by the Japan Student Services Organization (JASSO). The students spent three weeks in both California and Fukuoka throughout the entire program. The theme for this year was “The Personal and Collective Faces of Leadership.” Students learned how to be a leader by discovering their strengths and exploring different cultures. They attended lectures and seminars to learn about leadership from well-respected political and academic figures. Their tasks were to collaborate and create multiple presentations in pairs and groups about what leadership means to them. The FIT students expressed that before the program, they thought that “leadership” was a quality that only a select number of people could have. But during the program, their views on leadership were transformed. As one student quoted, “I realized that every person has their own leadership based on their strengths.” The students cultivated their leadership skills as they continued to work together throughout the program. To apply their new skills beyond the program, the students came up with an idea to start a leadership club at both FIT and CSUEB campuses. A CSUEB student stated that these leadership clubs “would make a difference in [their] community... anyone who is interested in leadership roles or [those] who want to improve themselves are welcome to join.” In the end, the students created a unique bond with each other, and established a strong support network that will continue to help them in their new endeavors as they become future leaders in their home countries.

The Step-up And Re-learning (STAR) Program began its first year with five graduate students from FIT, which took place in California over eight days. The purpose of this program is to educate students about globalization, leadership, and entrepreneurship through the perspectives of young engineers and well-known figures from top technology companies, startups and universities in California, especially in Silicon Valley. Their mission was to research and expose themselves to advanced technology to create a more interconnected world and learn to become a global contributor not only to their home country, but to other nations as well. They visited companies such as TESLA, Cisco, and Hewlett-Packard (HP), and the labs of Santa Clara University to attend presentations and meet those who create innovative technologies with real world applications. From these tours, the students were able to gain expert career advice and learn about the importance of having a global mindset, working with different fields of concentration, and being motivated to further their own interests. As a result, they became inspired to plan and challenge themselves to achieve their goals for future careers as the next generation of young innovators.
On Saturday, August 30, the Center for Global Health (CGH) at Osaka University Hospital and the Osaka University North American Center for Academic Initiatives (NAC) jointly held an international medical symposium, “Go Global!! 3 in San Francisco,” at Taj Campton Place, a luxury hotel located in the heart of downtown San Francisco. CGH, established on April 1, 2013, had held several international medical symposiums in Japan, focusing on both inbound and outbound medical globalization, but this was the first overseas symposium held by CGH and its affiliate chair in the Graduate School of Medicine, Global and Innovative Medicine, that was newly established on July 1 of this year. The symposium gathered a large attendance not only from the Bay Area but also from Japan and all over the U.S.; in attendance were academic and business leaders who have been generously supporting NAC, Japanese students from Osaka University who were studying English in the U.S. on short-term programs, Osaka University alumni living in the U.S., and faculty members from Osaka University.

Following greetings from Professor Toshio Hirano, President of Osaka University, and Mr. Masato Watanabe, Japanese Consul General in San Francisco, Professor Toshiya Hoshino, Vice President of Osaka University, gave a keynote speech on global health for “coexistence” in our society. Thereafter, three faculty members from the Department of Global and Innovative Medicine in the Graduate School of Medicine, Professors Yoshiki Sawa and Ken Nakata, and Associate Professor Kaori Minamitani, delivered presentations on the importance and challenges of medical globalization. Moreover, Professor Yasuhide Nakamura from the Graduate School of Humanities and Sciences talked about his activities promoting the use of “Maternal and Child Health Handbooks” in the world, especially in developing countries in Africa.

Throughout the symposium, Osaka University's strong determination to address medical globalization was clearly shown, as it was represented in the symposium’s theme, “Launching Medical Innovation! New Kanrinmaru!” Kanrinmaru is the name of an historical warship which sailed to San Francisco from Japan to ratify the Treaty of Amity and Commerce between Japan and the U.S. at the end of the Edo Period, about 150 years ago.

Following the symposium, the former Director of NAC, Emeritus Professor Ryoichi Kuboi, talked about the ten-year-history of NAC at the commemoration of its 10th anniversary, focusing on the strong connection and interaction between people as a result of NAC’s many initiatives. He wrapped up his talk by showing gratitude to all the supporters and emphasizing the importance of NAC’s commitment to the further promotion of global partnerships in the region.
With its sights set on becoming a world-class university, Osaka University (OU) has been introducing numerous original cutting-edge research and education programs. Additionally, for the past 10 years, it has also been establishing overseas bases. Currently located in four regions around the world, OU’s very first “Overseas Center” was established in San Francisco* in 2004. A primary goal of such Overseas Centers is communicating the latest OU research results to the world. Two years ago, publicizing such results received a giant boost with the creation of a totally new website dedicated solely to the promotion of the latest, most advanced multicolored research taking place in OU schools and research institutions. Named “ResOU” (Research at Osaka University — pronounced “ree-so”), the website’s name is a homophone for the Japanese word 理想, “ideal.”

All articles at the ResOU site are in English (and also Japanese) and are written in a easy-to-understand way. Go to ResOU and you’ll find over 200 articles on a variety of topics from how it is that immune cells gain entrance into the central nervous system to scientific demonstration of “a good deed is its own reward,” from an article announcing the world’s “first commercially viable terahertz ellipsometer” to an important step taken in the realization of alternative energy sources. While somewhat technical, the articles at ResOU, accompanied by images and diagrams, are written with the average citizen in mind, making it possible for almost anyone to obtain a general understanding of the research, its importance and where such research may lead. Furthermore, because almost all of the articles have been published in English in overseas online journals, readers wanting to peruse a topic in greater detail will find the link to that article at their fingertips.

ResOU is an eye-opener. Who would have thought an advance could be made in drug development that promises to avoid producing drug-resistant bacteria? Or that an atomic manipulation technique will likely lead to the development of single-electron devices and nano catalysts? What’s more, recently, Osaka University and Osaka Prefecture University achieved a world first, the fabrication of anisotropic single-crystalline microspheres. Smooth at the atomic level, such single-crystalline microspheres will be used for a variety of fields other than optical science, in fields as diverse as drug delivery, in transporting pharmaceuticals in the body.

Thus, ResOU is more than an eye-opener. ResOU is solid evidence not only that advanced research is alive and well at Osaka University, it’s proof Osaka University is a very viable choice for North American researchers who’d like to pursue advanced research or conduct joint research opening doors to the future.

(Fred Alsdorf, Specially Appointed Researcher, Creative Unit, Osaka University)

*North American Center for Academic Initiatives (San Francisco Office)

44 Montgomery St., Suite 3580, San Francisco, CA 94104
URL: www.osaka-u-sf.org
Osaka University applied for the Center of Innovation (COI) Program* launched by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and was adopted as one of the COI sites in 2013.

Subsequently Osaka University has accelerated R&D by establishing a stronger collaborative structure with multidiscipline businesses as well as with Kanazawa University, a satellite institution. Under the title of “Development of a Super-Nippon-Jin with enhanced human senses and capabilities with the broader goal to strengthen the industrial competitiveness and to contribute to a more prosperous society,” the outlined objectives are to create a Super-Nippon-Jin who is highly motivated and exercises his maximum potential at any time by activating human abilities, and to ultimately establish a more prosperous and promising society.

In pursuit of the objectives, we will proceed in the following stages: firstly, simple physical parameters, closely correlated to human power determinants based on medical and brain sciences, will be monitored to diagnose and activate human conditions at all times; secondly, the most suitable stimuli will be applied to the brain directly or through the five senses by controlling living, educational and sports environments and by using newly-developed wearable devices; finally, such a human power activation system will cultivate a Super-Nippon-Jin.

The key research and development themes for achieving the objectives are described below:

1. Study on human power in terms of medical and brain sciences
   By using specimens of blood and tears, stress biomarkers will be identified as correlated to stress level. Concurrently detailed brain functions will be visualized via a 7T magnetic resonance imaging and a magnetoencephalography for children, and thereby human power determinants will be elucidated.

2. Development of monitoring technology for diagnosis of human conditions
   New sensing devices will be developed to quantitatively estimate the stress biomarkers. Concurrently

*(Continued on page 8)
new algorithmic technologies using wearable sensors and business microscopes will be developed to monitor simple physical parameters closely correlated to the human power determinants, and ultimately to diagnose the human condition.

3. Development of activation technology for human power

For the objective of enhancing human power, such state-of-the-art technology is to be developed as to stimulate the brain directly or through the five senses by controlling living (music, sleep, etc.) and human (education, sports, etc.) environments as well as by using cutting-edge wearable devices.

The research regarding a silicon flexible biosensor and a patched organic biosensor, etc. which is performed by Purdue University and the University of California, San Diego respectively, includes one of the requisite technologies that the Osaka University COI site has been pursuing for the objective of diagnosing human conditions and ultimately of enhancing human power. In view of the future collaboration, we will endeavor to open up our mutual information sharing and to facilitate our research exchanges.

(Continued from page 7)
Yuta Tsuji received his B.Eng. (2009), M.Eng. (2011), and Ph.D. (2013) degrees from Kyushu University under the direction of Prof. Kazunari Yoshizawa. He has been a JSPS fellow in the group of Prof. Roald Hoffmann at Cornell University since May 2013. His research field is molecular electronics. He has a great interest in developing a chemical way of thinking about quantum transport in molecules.

**Why did you choose the U.S. to conduct your research?**
Setting out to pursue a doctoral degree at Kyushu University, I was awarded a three-year fellowship by JSPS. Since I was blessed with excellent mentors and a bit of good fortune, it took me only two years to earn my Ph.D. Consequently, I had one year left to be a JSPS fellow. Prof. Kazunari Yoshizawa, my supervisor at Kyushu University, exhorted me to carry out postdoctoral research under the guidance of Prof. Roald Hoffmann at Cornell University. He also spent one year as a visiting scholar under the same professor, at the same place, 20 years ago.

Prof. Hoffmann is a leading figure in chemistry, having received the Nobel Prize in Chemistry, which he shared with Prof. Kenichi Fukui, who was the first Japanese Nobel laureate in chemistry. His research interest covers a wide range of materials of any complexity, whether organic or inorganic, discrete molecules, or extended solids. I would have been a fool not to avail myself of this golden opportunity to study under such a great scholar.

After a year at Cornell, I was awarded another two-year fellowship by JSPS, namely the JSPS Postdoctoral Fellowship for Research Abroad. Hence, I have been continuously working at the same place.

**What is your impression of the research environment in the U.S.?**
The research environment in the U.S. holds several advantages. One of the greatest benefits originates from the division of labor. In our department many of the staff from diverse backgrounds are supporting our research activities in various aspects.

Take my case, for example. My research requires computer workstations and various software programs. In Japan, researchers have to take responsibility for the maintenance and management of the workstation, as well as the installation of programs, themselves. In the U.S., by contrast, the skillful staff, who are quite familiar with the computer, perform these troublesome tasks instead of us. It saves us so much time.

On the other hand, however, there is a drawback. On each occasion when one wants to use a new program on the workstation, one has to wait for the staff to install it, which sometimes takes a long time, for the staff are always engaged one way or another. Nevertheless, I prefer the U.S. style because I would like to be involved, not in the computer itself, but in chemistry and physics simulated by it.

**How do you take advantage of your experiences in the U.S. and apply it to your research or career?**
Having a large circle of acquaintances, Prof. Hoffmann introduced me to experts from various fields, such as applied mathematics, nanoelectronics, and graph theory. He gave me wonderful opportunities for joint studies with them. Thanks to the interdisciplinary collaboration, my horizons have been broadened and I have made some significant progress in quantum interference phenomena, which can be applied in various uses, e.g. molecular switches, thermoelectric devices, chemical sensors, and solar cells. I am sure that such invaluable connections with scientists from a variety of fields will be very helpful for making a breakthrough and further developing my research in the future.
Katsuhiro Nose has been dispatched to the Massachusetts Institute of Technology (MIT) from the Institute of Industrial Science at the University of Tokyo through a project known as the “Development of Young Researchers and Formation of Global Network to Create Next-Generation Technologies for Rare Metal Production (PI, Prof. Toru H. Okabe, IIS, Univ. Tokyo.)” This is one of JSPS’s programs for human resource development, referred to as the Strategic Young Researcher Overseas Visits Program for Accelerating Brain Circulation. He is currently researching new production and recycling processes for rare metals, such as platinum-group metals, rhenium, and molybdenum. Currently, as a visiting scientist at MIT’s Allanore Group, he conducts research with the aim of forming a global organic network of young researchers that will endure for a period of more than 20 years.

Why did you choose the U.S. to conduct your research?
The required amount of metal production has increased due to the improvement of humans’ quality of life on a global scale. Extractive metallurgy and engineering are playing a more and more important role in realizing an advanced society that can effectively utilize limited mineral resources and maintain a global environment. However, in recent decades, the number of researchers who specialize in extractive metallurgy has decreased worldwide. Among the limited number of researchers, Professor Antoine Allanore, whose focus is extractive metallurgy, is one of the most active young principle investigators (PIs) at MIT. He is one of only a few researchers who specializes in metal production technologies. His research involves innovative processes for rare metal production and recycling for our future society. His group is therefore the most appropriate place for the development of the next generation of extractive metallurgists.

Many researchers in different fields assemble at MIT from all over the world. Most of them move on to other places after working at MIT for a certain period. In this way, it resembles an international hub airport. I feel that this continuous stream of human resources is one of the energy sources that activate research activities at this institute. Postdoctoral researchers from Korea, France, Italy, Iran, and other countries are working in our group. It can therefore be said that our group is an international hub for human exchange in the area of extractive metallurgy.

What is your impression of the research environment in the U.S.?
The research environment at MIT is wonderful. There are elegant, eye-catching buildings and modern statues all across the campus. I always see students and researchers sitting or having lunch on the well-maintained, beautiful lawns. It seems that its ample budget allows MIT to invest a lot of money in its campus, as well as its publicity activities. However, there is not much difference between the research facilities at MIT and at top Japanese universities. Indeed, I believe some Japanese universities have even better facilities.

Generally, research groups consist of a PI, postdoctoral researchers, and graduate students. Undergraduate students join research groups as part of the Undergraduate Research Opportunities Program (UROP). This group structure is quite different from that of typical universities in Japan, but similar to that of the Institute of Industrial Science at the University of Tokyo, where I am based. The PI makes decisions regarding the research direction, while the postdoctoral researchers and PhD students individually propose and conduct research plans. Compared to typical Japanese universities, I believe more emphasis is placed on individuality in conducting research at MIT. The students have a strong spirit of self-reliance. We frequently hold short research meetings, in which the ability to express one’s opinions and self-appeal are required. I have noticed that the ability to express one’s opinions logically is essential in working cooperatively with foreign researchers.

(Continued on page 11)
How do you take advantage of your experiences in the U.S. and apply it to your research or career?
This experience studying abroad has given me the opportunity to learn about the differences between American and Japanese research cultures and to begin to develop my own research style. I hope that I can develop my research skills in order to pave the way for new scientific and engineering activities around the world. I would also like to build an international research network and continue accelerating the brain circulation of the extractive metallurgy field.
Finally, I would like to express my gratitude to everyone who has given me their kind support during this program.

JSPS FELLOWSHIP PROGRAMS
UPCOMING APPLICATION DEADLINES

Postdoctoral Fellowship Program
Short-term (1-12 months)
Application period: January 5-9, 2015
*Candidates must be citizens or permanent residents of the U.S., Canada, European Union countries, Switzerland, Norway or Russia. Applications must be submitted to JSPS Headquarters by host researchers in Japan.

SSRC/JSPS Fellowship Program for ABDs and Recent PhDs
Long-term (12-24 months) and Short-term (1-12 months)
http://www.ssrc.org/fellowships/jsps-fellowship/
Application deadline: December 1, 2014
*Candidates must possess U.S. citizenship or permanent residency status. Applications must be sent directly to SSRC.

Strategic Program / NSF GRFP GROW (3-12 months)
http://www.nsf.gov/grow/
http://www.jsps.go.jp/english/e-fellow-sp/
Application deadline: December 15, 2014
*Strategic Program is part of NSF’s Graduate Research Opportunities Worldwide (GROW). GROW is open only to awardees of NSF’s Graduate Research Fellowship Program (GRFP).