



Japan Society for the Promotion of Science San Francisco Volume XXIV Issue January 2012



EVENTS OF FALL 2011

Symposium with Stanford University

"Japanese Imperial Maps as Sources for East Asian History: A Symposium on the History and Future of the Gaihozu."

On 7-9 October, the JSPS San Francisco held a jointly sponsored symposium with Stanford University on the theme "Japanese Imperial Maps as Sources for East Asian History: A Symposium on the History and Future of the Gaihozu." Venued on the university's campus, the symposium utilized the set of maps, called *gaihozu*, produced in mainly the 1930s and 40s for the purpose of Japan's colonial rule in the Asia-Pacific region. Many of them had recently been found in a state of disarray at Stanford University.



The aim of the symposium was to use these maps as valuable source material across a spectrum of fields (e.g., history, geography, environmental science) in exploring the modern history of relationships between Japan and other Asian countries. Japanese specialists in *gaihozu* research and American and Japanese scholars in modern Japan-Asia history presented reports on their research and engaged each other in lively discussions.

A closed workshop was also held in which map librarians at Stanford reported on their work with the archived maps and Taiwanese researchers, who are compiling a *gaihozu* database, described their efforts to create a geographic information system (GIS) using the *gaihozu* collection. The participants discussed enthusiastically possibilities of initiating joint research, culminating the event on an optimistic note.



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EVENTS OF FALL 2011

The 18th Gathering of JSPS Japanese Fellows in Boston

The JSPS San Francisco Office holds what it calls “Gatherings of JSPS Japanese Fellows.” This confabulation is held three times each year, one of them for researchers residing in the East Coast, while the rest are held at JSPS SF Office for researchers residing in the West Coast.

The 18th such gathering was held on October 28th in Boston, and attended by 25 fellows under both JSPS’s Research Fellowships for Young Scientists and Postdoctoral Fellowships for Research Abroad along with other Japanese researchers laboring in the U.S. Among them, two researchers came all the way from California to join the gathering. Also, seven members of JSPS’s Tokyo headquarters and San Francisco Office attended this meeting.



Office director Dr. Seishi Takeda opened the meeting with welcoming remarks, followed by Mr. Isao Oshiro, head of JSPS Research Fellowship Division, who gave a briefing on JSPS fellowships for Japanese doctoral and postdoctoral researchers. Next Ms. Mariko Yanagita, who works for the Consulate-General of Japan in Boston, introduced their activities to the Japanese researchers. Then the participants introduced themselves and their research activities, each presentation delivered in a personally unique and creative fashion. They formed collegial ties with each other by asking questions about the research fields presented while exchanging views, including their experiences of living and doing research in the

U.S. As a result, they appreciated that this meeting provided a good opportunity to meet other researchers, because it can be hard to get to know each other even while conducting research at the same university in the U.S.

The gathering gave the young Japanese researchers dispatched to the U.S. under JSPS fellowship programs an opportunity to build mutual networks, which will be valuable in strengthening exchange among them not only while residing in the U.S. but even after they return to Japan. Believing such opportunities to be very meaningful, JSPS will continue to proactively support them in the future as well.

The 19th Gathering of Japanese Fellows on January 27th

JSPS San Francisco will hold the 19th Gathering of JSPS Japanese Fellows on January 27th. This time we will hold the gathering in Berkeley, CA. We are looking forward to a lot of researchers’ participation!!

EVENTS OF FALL 2011

The 7th Meeting for University Administration Officers in the U.S.

JSPS San Francisco held the 7th meeting for university administration officers in the U.S. on November 4th. Its primary purpose is to exchange information and establish a network between administration officers from Japanese universities and educational institutions.

This time, focusing on “the future prospective of the Japanese administrative staff”, Koichiro Aoshima, a coordinator at the International Student Services & Outreach, Office of International Programs (OIP) at San Francisco State University (SFSU), was invited as a guest speaker. SFSU is part of the 23-campus California State University (CSU) system and about 1500 international students from more than 100 countries study at SFSU. OIP supports international students who would like to apply to SF State and also who are already students at SFSU to get accustomed to life in the U.S. Mr. Aoshima originally came from Japan to study at SFSU and has worked in this field since he started attending SFSU. Other than supporting the international students at SFSU, one of his main tasks is recruiting foreign students as well.

Through his engaging lecture on his experiences in his field and the decision-making system in his office, participants discussed what they have learned through the comparison between U.S. universities and Japanese universities. And also, through awareness of these differences, discussed how an ideal university staff should support their university. The participants, staff from Fukuoka Institute of Technology, Kyushu University, Tohoku University, University of Tokyo, High Energy Accelerator Research Organization, Tokyo University of Science, Osaka University, Shimane University, Hokkaido University and Ministry of Education, Culture, Sports, Science and Technology (MEXT) engaged each other in lively discussion and exchanged opinions amongst each other. JSPS San Francisco would like to continue meetings like this in the future so that participants can reflect on the differences and similarities between U.S. and Japanese universities, thus gaining a deeper understanding of what it means to be a productive university administrator.



EVENTS OF FALL 2011

JSPS San Francisco joins "Asia Research Funding Workshop" at UC Davis

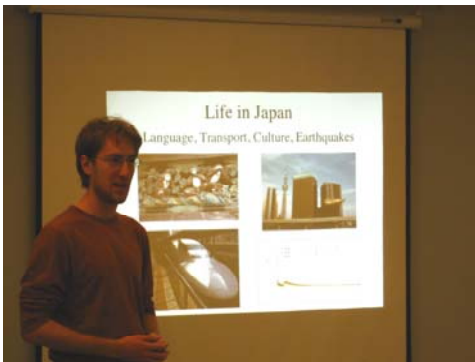
On 17 November, JSPS San Francisco joined the workshop, "Asia Research Funding Workshop" held at UC Davis. Two institutions, the Consulate General of the People's Republic of China and JSPS SF presented at the workshop which began with an introduction by William B. Lacy, Vice Provost University Outreach & International Programs Offices of the Chancellor and Provost, University of California Davis.



JSPS SF introduced their fellowship programs and following that, two UC Davis students talked about their wonderful experience in Japan while they were on the JSPS Summer Program. Attended by over 40 participants, there were many questions about fellowship programs and the life in each country as well. JSPS SF encourages as many researchers as possible to enjoy a wonderful research experience in Japan and firmly believes that it will lead to stronger academic partnerships between the U.S. and Japan.

Message from William B. Lacy, Vice Provost University Outreach & International Programs Offices of the Chancellor and Provost, University of California Davis

Japanese universities have been major partners with UC Davis primarily because of the quality and excellence of the students and faculty. We have developed formal partnerships and agreements of cooperation with 20 of the leading Japanese universities. Over 200 students and another 200 scholars from Japan attend classes and collaborate with our scientists each year. We look forward to enhancing and strengthening these important educational and scientific relationships.



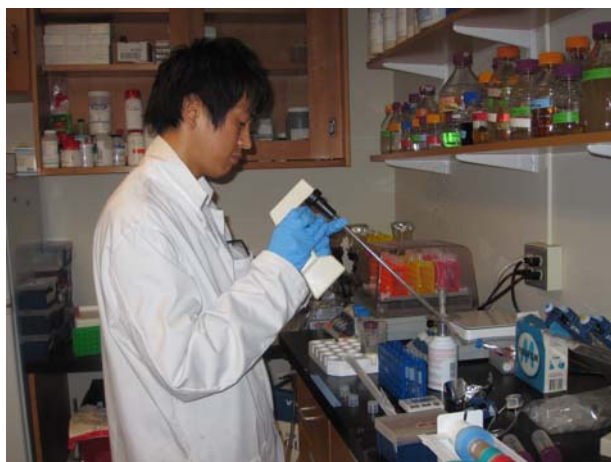
VISIT JSPS FELLOWS

JSPS staffs visited the JSPS Postdoctoral Fellows for Research Abroad at MIT

On October 28, two of the JSPS Postdoctoral Fellows for Research Abroad at MIT received a visit from Head Isao Oshiro, Research Fellowship Division, Administration Department of JSPS, along with four other staff members. In the interviews, the young scholars both expressed that they found their research life in the US gratifying.

Dr. Yutaka Yawata, whose research theme is “Microfluidic technology-based measuring system for CO₂ production velocity of marine biofilms”, was the one whom the visitors met first. He was thriving in a rather laid-back environment of an MIT laboratory, since he was used to foreign cultures having participated in several international conferences as early as in his undergraduate years. Being an emerging researcher, interestingly enough he mentioned,

“I would tell young people to think very cautiously about going on to a doctoral course, before thinking of research abroad.”

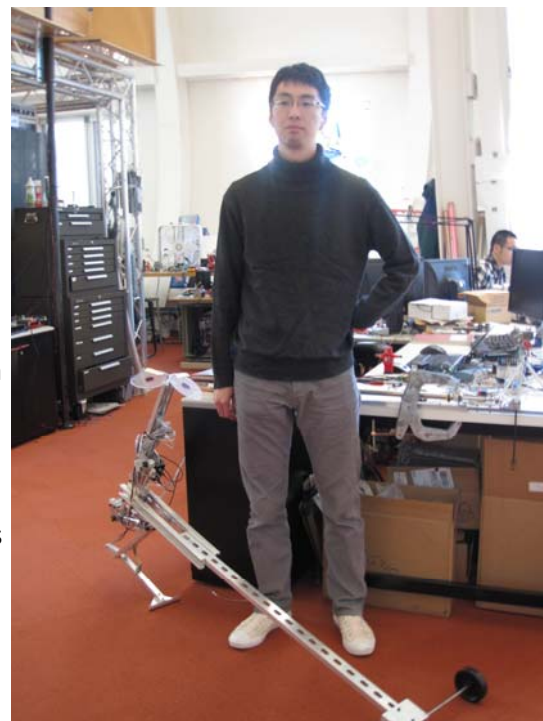


But smiling, he added, “Only those who never give up can choose this career,” and he did seem he very much enjoyed the path he took so far.

The visitors next interviewed Dr. Ryuma Niiyama, whose research theme is “Kinesiology of the Musculoskeletal Robot and its Application to Cybernetic Device.” While one of the reasons he came to the U.S. was to hone his English skills so that he could discuss his ideas with his colleagues in the international research community, he now appreciates the environment where he can connect with distinguished researchers and create new robots freely. As a matter of fact, the laboratory where he worked



was filled with many kinds of mysterious machines. Yet the highlight of the meeting with Dr. Niiyama was the video image of his signature robot; the visitors could not help but be wowed when the mechanical cat legs jumped as naturally as the animal does!



THE OFFICE STAFF SWITCH

JSPS San Francisco Wishes a Heartfelt Farewell to two Members

Tsuyoshi Yamamoto , an Adviser from MEXT



Mr. Yamamoto stayed in California for two years as an Advisor to JSPS San Francisco.

During his stay, he mainly advised and supported JSPS SF to improve our many activities. Moreover, he did research on the education system in the U.S., especially within the state of California by visiting UC campuses, conducting interviews about university operations, and attending various meetings and seminars related to post-secondary education. He visited a lot of elementary and secondary schools as well. He compared the education system between Japan and the U.S. and exchanged a lot of information related to education with people who are from various areas.

What he thought most important during his time here is the network of people. Reflecting back on his first visit to California two years ago, he recalls he had no acquaintances at all. Now, he is surrounded and supported by a large network of people. He said he could complete his work here thanks to the support from the staff of JSPS SF and the people whom he met during his stay.

Now, he wants to use his experiences here to enhance his work in the Japanese government by supporting the Japanese education system after returning to Japan.

From the JSPS SF staff, we appreciate your warm support on many points and we wish you all the best of luck in your future endeavors!

Chihiro Akatsu, the new Deputy Director of TUS San Francisco Office



Chihiro Akatsu is the 6th deputy chief of the TUS (Tokyo University of Science) San Francisco office. She has worked for TUS for 4 and a half years at the Office of Science and Technology, Noda Campus, prior to working for the San Francisco office. This is actually the second time for her to stay in a foreign country; she studied for a year at a university in London as an exchange student in the past. However, this is still a good opportunity for her to see universities in the US from the viewpoint of an administrative staff, instead of a student. During her stay, she hopes to visit various educational and research facilities around the Bay area, and to meet as many people as possible to expand her view. She is glad that UC Berkeley is near her office.

She would like to have lunch breaks on campus, watching students and seeing many events there. She also looks forward to enjoying her life in Berkeley.

Kyushu University

International Institute for Carbon-Neutral Energy Research (I²CNER)

On Saturday, November 12th, I²CNER hosted the first All-WPI (World Premier International Research Center Initiative) Research Center Joint Symposium. The event, which was developed as a means to introduce cutting edge science to younger generations, was themed “Leading Science and Your Future.” The response was overwhelmingly positive, with 623 participants, many of whom were high school students.



The day officially began with some remarks from Setsuo Arikawa, President of Kyushu University, a keynote lecture presented by Toshio Kuroki, WPI Program Director, followed by six WPI research center presentations (AIMR, IPMU, iCeMS, IFRc, MANA and I²CNER) who each introduced their center’s research. The lectures drew great attention and participants eagerly listened to each speaker’s presentation.

After the center presentations, twelve high school students and each of the seven speakers engaged in a panel discussion, which was led by Ms. Hiroko Edahiro, an environmental journalist. Time was also set aside to provide the audience with a chance to ask questions of the presenters.

The day concluded with an opportunity for the participants to view the booths that each center developed and allowed the opportunity for the high school students to personally meet and engage the WPI speakers and staff.

The symposium was a fantastic opportunity to publicize the WPI program and its goals to the public.



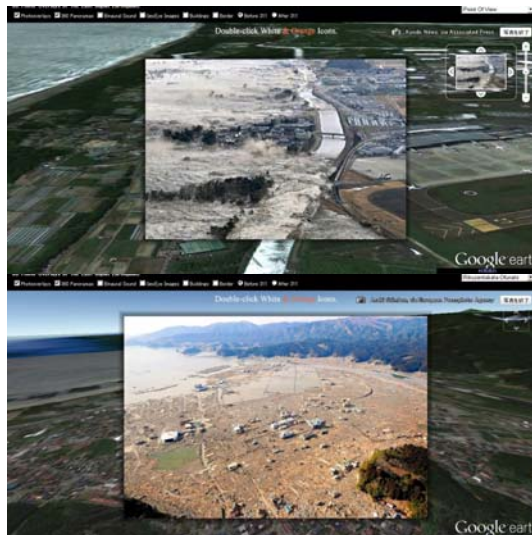
Tokyo Metropolitan University

"Nagasaki Archive" and "Hiroshima Archive" Send out Memories of A-Bomb Suffering to the World via Web Communities

Hidenori Watanave Laboratory, Graduate School of System Design, Tokyo Metropolitan University



Hiroshima Archive



The East Japan Earthquake Archive

August this year saw the 66th anniversary of the end of World War II. The Great East Japan Earthquake and the Fukushima Daiichi Nuclear Power Plant accident, however, have made this summer quite different from usual years. Sixty-six years ago, atomic bombs brought catastrophic disaster to Hiroshima and Nagasaki, devastating each city in a moment, killing and injuring vast numbers of people, and, even now, afflicting many atomic bomb survivors, or hibakusha (survivors of A-bomb), with radiation damage. Fears of radiation damage attributable to the nuclear accident in March this year, and Japan's rehabilitation efforts from the great earthquake and tsunami disaster, vividly remind us how Japan rebuilt itself from the atomic bomb disasters and the destruction of World War II.

On July 23, 2010, we created a website "Nagasaki Archive." We came up with this project to send out to the world and pass on to future generations the memories of the atomic bombing. Making much use of the most advanced digital technology including Google Earth, a digital globe, and Twitter, we thought, "We have to keep the historical evidence." On July 10 of this year, we also opened a "Hiroshima Archive."

If you click on the Hiroshima Archive, the picture of each hibakusha and his/her narrative appears on a three-dimensional map, showing you where he/she was at the time the bomb fell. You can also follow how Hiroshima has changed from the time of the bombing to the present through rehabilitation, as the past and present photos of Hiroshima are shown in a multilayered way.

These two archives objectively let you know what actually happened and what evidence still remains in Hiroshima and Nagasaki. The archives will be continually built up over a long period of time collecting data. The narratives of surviving witnesses are very convincing. As the archives have English pages, they will surely make+ the most effective tool in this age of the Internet in disseminating the experiences of the atomic bombing to the present and future generations of the world and in enabling the younger generation to ponder upon war and learn about the atomic bombings once again.

The original purpose of the archives was to instill the devastating reality of the atomic bombings to the younger generations, but the Great East Japan Earthquake and tsunami and the Fukushima nuclear accident have changed the mission of the archives completely. We are also developing "The East Japan Earthquake Archive." with the same design method as the Hiroshima and Nagasaki Archives.

Hiroshima Archive: <http://hiroshima.mapping.jp/>

Nagasaki Archive: <http://e.nagasaki.mapping.jp/>

The East Japan Earthquake Archive: <http://e.nagasaki.mapping.jp/p/japan-earthquake.html>

(You need to plug in to use Google Earth)



東京工業大学
Tokyo Institute of Technology

Tokyo Tech students rank in the top 10% and win the iGEMers Prize

iGEM (The International Genetically Engineered Machine Competition) is a worldwide synthetic biology competition aimed at undergraduate university students. Standardized biological parts called BioBricks are provided to the student teams and they compete by presenting their design and formulation of a new biological system.

Following the iGEM 2011 Regional Jamboree–Asia held in mid-October, the iGEM World Championship Jamboree was held at Massachusetts Institute of Technology from November 5th to 7th. Three teams from Japan who won at the Regional Jamboree–Asia including the team from Tokyo Tech participated in the World Championship Jamboree.

As a result of the review by a jury that consisted of university teachers, Tokyo Tech's team was selected as being in the top 16, making them the top 10% among the 160 participants. In addition to this evaluation, Tokyo Tech received the iGEMers Prize, an award voted for by the participating students. The achievements therefore show appraisements of high ability by both teachers and students.

Tokyo Institute of Technology has won the gold medal at this competition five years in a row. Among all the participating teams, only 5 universities, Tokyo Tech, UC Berkeley, Imperial College London, the University of Edinburgh and the University of Freiburg have this record.

Comments from the students

- It has been a challenging six months but I have gained a lot of skill and knowledge. Above all, it was a great event to devote my extra time to during the long summer vacation. And also this is a rare opportunity to do research under such a unique theme.
- I used my youth and passion as fuel over the summer!
- I experienced far more than I imagined at iGEM. Not only obtaining skills, but also, I gained confidence and a strong ambition.
- Now, after this experience overseas, I have started to consider studying abroad.
- It was an amazing experience to mix with students from all over the world. We usually don't have such opportunities in our undergraduate years. I advise Tokyo Tech students to join this event.

For details of iGEM: <http://2011.igem.org/Jamborees>

For details of the Tokyo Tech project: http://2011.igem.org/Team:Tokyo_Tech





Science Cafe Events for the FIRST Program: AKIRA Project

The Funding Program for World-Leading Innovative R&D on Science and Technology (FIRST Program) was established by the Cabinet Office, Government of Japan, for the purpose of enhancing Japan's international competitiveness and capabilities and using research achievements to benefit the Japanese people and society.

The research project, titled "Comprehensive understanding of immune dynamism: toward manipulation of immune responses (AKIRA Project)" being conducted under the leadership of Prof. Shizuo Akira, Director of Immunology Frontier Research Center (IFReC), Osaka University, was selected as one of 30 cutting-edge research projects for the FIRST Program. The AKIRA Project was launched in March 2010 and will end in March 2014 and aims to achieve a greater understanding of the immune system and control of immune responses by elucidating dynamic mechanisms of innate and acquired immunity through collaboration between researchers in the fields of immunology, biological imaging and bioinformatics.

Starting in 2010, a series of "science cafe" events were held as part of the AKIRA Project outreach activities with the aim of introducing the research activities and achievements to the general public. A total of eight world-class researchers, including Prof. Akira, spoke at each event introducing their respective research activities. Recent events were held in Osaka on October 27th and November 19th with the sub-project leaders of the AKIRA Project Prof. Fuyuhiko Inagaki (Faculty of Advanced Life Science, Hokkaido University) and Prof. Kenta Nakai (The Institute of Medical Science, The University of Tokyo) as guest speakers respectively.



Science Cafe Event with Prof. Shizuo Akira

(January 18th, 2011)

Prof. Inagaki, who is an expert of structural biology, explained how alterations in protein functions are caused by flexible changes in the protein structure as well as the features of nuclear magnetic resonance (NMR) used to investigate protein structures. Meanwhile, Prof. Nakai, who is a specialist of computational analysis of genome sequences, spoke about methods of analyzing molecular interactions based on molecular biology from the standpoint of a computer scientist. At each event, an active question and answer session was held, with around 40 participants engaged in direct talks with each guest speaker about the latest topic in their respective research fields. More "science cafe" events are scheduled to be held with other sub-project leaders and sub-project members of the AKIRA Project.

Interview with JSPS Fellow in the U.S.



Dr. Sayumi Yamazoe

2005: B.S., College of Agrobiological Resource Sciences, University of Tsukuba

2006: M.S., College of Agrobiological Resource Sciences, University of Tsukuba

2007-2010: JSPS Research Fellow (DC1)/Ph.D.candidate, Graduate School of Medicine, Kyoto University

2010: Ph.D., Graduate School of Medicine, Kyoto University

2010-2011: Postdoctoral Research Fellow at School of Medicine, Stanford University

2011-present: JSPS Postdoctoral Research Fellow at School of Medicine, Stanford University

Sayumi Yamazoe was born and raised in Shiga, Japan. She attended The University of Tsukuba; obtaining her Master's degree in the field of Agricultural Chemistry and studying bioactive molecules in medicinal plants. While working on her research project, she recognized how powerful chemicals can be used as tools for biological research. With this knowledge, she decided to pursue her Ph.D. degree in the chemical biology laboratory of Prof. Motonari Uesugi at Kyoto University. During her studies at Kyoto University, Sayumi completed a cell-based phenotypic screen for small molecules, resulting in the discovery of an organic compound that affects cell adhesion and other biological processes. As a postdoctoral fellow in Professor James K. Chen's laboratory at Stanford University, she hopes to apply her chemical biology training to study zebrafish development.

Q1: Why did you choose the U.S. to pursue your research?

During my doctoral course, I had the opportunity to visit Baylor College of Medicine in Houston, Texas. While working on experiments in the lab, I was impressed with the department's structure; including laboratory set-up, management's ideas, and people's attitude towards experiments. One week was not enough time to fully appreciate these differences. I wondered if I would ever get the opportunity to work in a laboratory in the United States. My former supervisor, Dr. Motonari Uesugi, encouraged me to experience working in an American laboratory. With his guidance, I got the opportunity

to work at Stanford University as a postdoctoral fellow.

Q2: What is your impression of the research environment in the U.S.? How is it different from your lab in Japan?

I have worked in only two laboratories in Japan for extended periods of time. The most obvious difference to me is that in the U.S., there are no partition walls between adjacent laboratories. I think there are several advantages to this. First, we can get to know each other better because there are more chances to talk individually with people from different laboratories. Second, we can easily share the experimental instruments. I received great benefit from this. I was able to get opinions and ideas from people with different backgrounds and also a chance to do a collaboration project. We have common "break rooms", which people from several laboratories can use for lunch or coffee breaks. There are many other opportunities to get to know potential collaborators through conferences, meetings, and parties open to researchers with various research fields.

Q3: What merits do you derive from conducting your research in the U.S.?

The principal investigator of my laboratory, Dr. James K. Chen, has extensive experience in both zebrafish developmental biology and organic chemistry. There are many experienced researchers in each field, but there are few people who have knowledge and techniques in both. My current project requires techniques working with both

zebrafish and organic chemistry, which I have very limited experience. My supervisor assists me by giving me very practical and precise advice. With this information, I am able to achieve professional experience in both research fields at the same time. Also, my English is very limited, but a long stay in the U.S. gives me a great opportunity to improve my language skills.

Q4: What is your dream? And do you have any advice about doing research abroad for young researchers?

I owe my current laboratory life to many people including current and former supervisors, co-workers, and family. If I could acquire knowledge and expertise and could do something for them, I would be very happy.