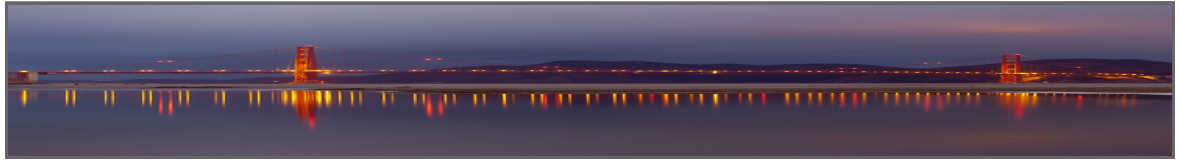




Japan Society for the Promotion of Science

San Francisco Volume XXXIII Issue March 2014



EVENTS OF SPRING 2014

Symposium with University of California, Berkeley After 3.11: New Architecture + Engineering



On March 8th, JSPS San Francisco (JSPS-SF) held a jointly sponsored symposium with the Center for Japanese Studies(CJS) at the University of California, Berkeley(UCB) on the theme of "After 3.11: New Architecture + Engineering". This symposium aimed to discuss how the Great East Japan Earthquake and other major disasters challenged architects and engineers and how reshaped their work. Since this year marks the 3rd

anniversary of the disaster, this symposium drew much interest and attention.

This event was held as a full-day symposium and divided into 4 sessions followed by a keynote speech. Prior to going into the sessions, Prof. Steven Vogel, Chair of CJS, and Seishi Takeda, Director of JSPS-SF, made opening remarks. Following that, Prof. Dana Buntrock, coordinator of this symposium, made introductory remarks. The themes of the 4 sessions were; Disaster Preparedness + Response, Architects' Response After 3.11, Building Structures, Building Energy Demand + Supply. The topic of the keynote speech was, "Large-scale impacts from a large event: effects on large corporations and tall buildings spread out across Asia" presented by George Kurumado, an architect and managing officer of Takenaka Corporation.

JSPS-SF and CJS invited thirteen researchers and experts for this event, six of them were from Japan and others were from UCB and other American institutions.

In this symposium, speakers discussed the impact of disasters, recovery process, disaster prevention and reduction, shelters, earthquake-resistant construction, energy demand and supply, rebuilding of community and so on. They exchanged their views and ideas based on their expertise as social scientists, architects, engineers and business enterprises. These views and ideas were gained through experience from the series of disas-



Seishi Takeda, Director of JSPS-SF

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EVENTS OF SPRING 2014

ters which had occurred.

This event gave valuable opportunity for researchers and experts of architecture and engineering to share their knowledge and findings while broadening their networks for creating new horizons. Also, this was a great opportunity to show both American and Japanese academia and society how the recovery and reconstruction from the Great East Japan Earthquake has progressed, and how academia contributes to this progress. For the young scholars, this event provided them with updated ideas and findings and in-depth knowledge in the field of architecture and engineering.

JSPS-SF will continually support such symposiums which inspire and broaden networks between academics, students and society and which foster young researchers.



Reception after the symposium

Fellowship Information Session at UCI



A JSPS fellowship information session took place at the University of California, Irvine (UCI), on Feb. 13th. JSPS San Francisco (JSPS-SF) holds fellowship information session to promote JSPS fellowship programs for foreign researchers in the West Coast. This session at UCI was made possible due to the kind support from Michelle Lee, Graduate Extramural Support Director.

At the beginning of the session, Michelle introduced the session's purpose and then Chihiro Watanabe, Deputy Director of JSPS-SF, presented the audience with an overview of JSPS fellowship programs and application process. Following that, Jesse Angle and Seema Ehsan, both Ph.D. candidates in the Department of Chemical Engineering & Materials, shared their experience of research in Japan for the audience.

Jesse joined JSPS summer program/EAPSI 2013 at the University of Tokyo and told how his life and research in Tokyo was interesting and meaningful for him. Seema also participated in the same program at the Osaka Medical Center for Cancer and Cardiovascular Diseases Research Institute and shared her exciting and rewarding experience of her summer research in Japan. Their picturesque and well-organized presentations were a great showcase of the 10 week summer program.

After the presentations, the Q&A session followed. The participants raised many questions about detailed eligibility information, the language to use for the application, how to obtain a host researcher's acceptance, housing in Japan, and so on, and all questions which only prospective candidates would ask. Hoping more applications will be coming in from those institutions in the near future, JSPS-SF concluded the session successfully.



Speakers (Left: Seema Ehsan, Right: Jesse Angle)

EVENTS OF SPRING 2014

The 25th Gathering of JSPS Japanese Fellows at JSPS SF Office

On Feb 1st, JSPS San Francisco held the 25th “Gathering of JSPS Japanese Fellows in the U.S.” in Berkeley, California. The gathering is held for young Japanese researchers coming to the US under JSPS’s fellowships for research abroad, postdoctoral and doctoral fellowships, and other programs which promote the international mobility of gifted young researchers. Over 20 fellows attended, some from the East Coast who were repeaters of the 24th Gathering in Boston. Staff from JSPS Tokyo Headquarters, National Institution for Academic Degrees and University Evaluation (NIAD-UE) and JSPS San Francisco office also attended.

The meeting started with warm greetings from Dr. Seishi Takeda, Director of JSPS San Francisco, followed by Mr. Yasuharu Sasaki, Coordinator of Human Resource Development Program Department, who gave an explanation on the institutional system of JSPS fellowships mainly for Japanese doctoral and postdoctoral researchers. Next, Ms. Hata, Director of International Affairs, NIAD-UE, gave a presentation on “Quality Assurance and Evaluation & Accreditation in Higher Education”.

After that, each fellow introduced themselves and made a presentation about their current research activities followed by a short Q&A session. Even though the time limit was only 5 minutes per person, they made their presentation clearly understandable. Therefore, participants could learn about each presenter’s research field regardless of whether it was similar to their own. After each presentation, many unique questions followed. Fellows then divided into 2 groups and discussed the positive changes they experienced after coming to the U.S. The group discussion seemed like a good opportunity to talk with each other in a relaxed setting to understand each other’s opinion.

It was clear the meeting was successful because the participants continued talking to each other even after the gathering ended. According to our survey to participants, almost all of them evaluated this gathering as excellent or a good experience, and gave us much positive feedback on the meeting. By using these ideas, we hope to make the next gathering a better one.

The researchers appreciated this meeting because it provided a chance for them to meet other researchers. It is also a good opportunity for JSPS staff to hear about the researchers’ thoughts on the JSPS fellowship program system and to exchange opinions. JSPS San Francisco plans to continue providing such valuable opportunities for network building events among young Japanese researchers.

The next gathering for young Japanese fellows will be held in Berkeley this coming June.



Group Discussion



THE OFFICE STAFF SWITCH

Farewell to our Director, Seishi Takeda!



Seishi Takeda has fulfilled his 11 year contract as director for JSPS San Francisco and will return to Japan at the end of March. Dr. Takeda opened this office in downtown Berkeley in January of 2003 while he was still the director of JSPS Washington DC. He served as the director both in the east and west coasts until he became the full-time director at JSPS San Francisco in August 2004.

During his stay in Berkeley, he started creating networks and co-organizing joint symposia with universities in the US and Canada. The first joint symposium on the theme of "Transformations of Experience - Interpreting the "Opening" of Japan" was co-organized with the Center for Japanese Studies, UC Berkeley in March 2004. Since then, a total of twenty joint symposia were co-organized with Stanford University, University of Southern California, University of Texas Austin, University of Hawaii Mānoa, Harvard University, University of British Columbia, McGill University, UCLA and UC Berkeley. Four joint symposia will be co-organized with University of Washington, UC Santa Barbara and UC Berkeley through 2015. He values the cooperative support from the faculty of US universities in organizing the joint symposia. He also expresses his gratitude to the Consulate-Generals of Japan located near each respective university for kindly offering their support.

He started creating networks of young Japanese researchers who were being supported by JSPS Postdoctoral Fellowships for Research Abroad. He also started networks for the staff of Japanese universities working at US universities and also faculty of Japanese universities visiting US universities. He played a pivotal role in founding JUNBA (Japanese University Network in the Bay Area) and has been on the Executive Board and served as Secretary-General of the new network since 2006. Currently, JUNBA comprises of ten branch offices of Japanese universities mainly located in the SF Bay Area.

In conclusion, he is sure that JSPS San Francisco will persevere in its efforts to promote academic exchange across a wide spectrum of fields between Japan, the US and Canada. With this endeavor, he would like to thank all of the participating individuals for their cooperation and support to JSPS San Francisco.

JSPS San Francisco Always Welcomes Your News

We are looking forward to hearing your news regarding international related events and so on.

If you have any news about your institution or your research, please feel free to ask us about including it in this newsletter.

This newsletter will be distributed to researchers, staff members of universities and research institutions in Japan and in the U.S.

Contact: JSPS San Francisco

E-mail: webmaster@jspsusa-sf.org / URL: <http://www.jspsusa-sf.org>

THE OFFICE STAFF SWITCH

Farewell to our Program Coordinators!

Yuji Fujita and Hisae Aoki have fulfilled their 1 year training as Program Coordinators for JSPS San Francisco. Returning to Japan at the end of March, they start working for the universities which they each belong to. Here are some comments from our Program Coordinators about their stay in the U.S.

Yuji Fujita, from University of Tsukuba

Q1. What did you accomplish during your time here in the U.S. and with JSPS San Francisco?



I originally planned to visit many campuses over a period of 1 year. During my stay in the U.S., the number of universities I set foot in was 40 by chance of some business meetings, interviews for a report or just out of curiosity. I could find huge campuses and small ones, historical buildings and innovative ones, several laboratories, many attractive programs, unbelievable stadiums and arenas, gorgeous common spaces and beautiful green lawns. And I had many chances to exchange views and opinions about a university's approach with several Japanese and American researchers and administrative staff here, which I found different from the views I held in Japan. Each university in the U.S. has a different situation, and even each department and laboratory has its own situation just like universities in Japan. They also have a totally different educational and social system to the Japanese one and it's difficult to imitate their program/approach without thinking about the whole system. We need to invent our own beneficial methods by ourselves. There are no shortcuts.

Q2. What will you miss the most about America?

Everything! No joke. I can't imagine a more attractive place than here. Everyplace I stopped, everything I did in the U.S. became a precious and unforgettable memory for me. It's so difficult to select just one. But since this question was thrown, I can choose the Oakland Raider's fans for now. Their supportive attitude and devoted mind for the players were so impressive for me. They always fought with the field players no matter what happened to their team. I hope to have such passionate feelings for my favorite football team and all the students in my university also.

Hisae Aoki, from Kyoto University

Q1. What did you accomplish during your time here in the U.S. and with JSPS San Francisco?



I felt one year is too short to accomplish something. However, I made an effort to study English to better communicate and to interview university staff in the U.S. for my report. I conducted seven interviews from May 2013 to February 2014. I am satisfied with finishing so many interviews. By listening again to my last interview, I felt that my communication skills in English had improved compared to my first interview. In addition, through my job with JSPS San Francisco, I developed skills to organize an international symposium, like JUNBA (Japanese University Network in the Bay Area) 2014.

Q2. What will you miss the most about America?

I will miss too many things to write here. Everything and everyone I have met and have seen here has been fantastic. The magnificent nature and scenery in the national parks and monuments, sunny days and warm-hearted people in California, cute towns as if from a picture book, huge museums like the Metropolitan Museum in NY, and so on. I will especially miss driving on the beautiful California coast. Before I came here, I hardly ever drove a car in Japan. However, I came to love driving on the highway and seeing the sun shining on the bays. It was far more awesome than I expected. In addition, I will also miss the sun set and the nighttime view from my room. From there, I could see the Golden Gate Bridge and San Francisco across the bay. I don't think I can find a room with such a special view in Kyoto.

NEWS FROM JAPANESE UNIVERSITIES

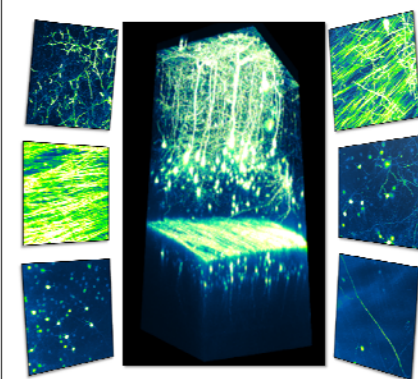


Networking Interdisciplinary Researches across Biology/Chemistry/Physics/Mathematics at Hokkaido University

The Research Institute for Electronic Science (RIES) of Hokkaido University has more than 70 years of history during which we have worked under the mission of development of new interdisciplinary fields. Nowadays we have four departments, "Photonics and Optical Science", "Material and Molecular Sciences," "Biology and Life Sciences," and "Mathematical and System Sciences," and two centers, "Green Nanotechnology Research Center," and "Nikon Imaging Center". Since 2007, we have served as a hub in a nanotechnology network project in Hokkaido which was launched by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) for creating outcomes by sharing cutting-edge research equipment and facilities. Since 2009, we have participated in "Network type cooperative hub for materials and devices (MEXT)" composed of five different institutes attached to five different universities, in addition to Hokkaido University, Tohoku University, Tokyo Institute of Technology, Osaka University, and Kyushu University. In total, more than 400 joint research projects across the country are being promoted every year.

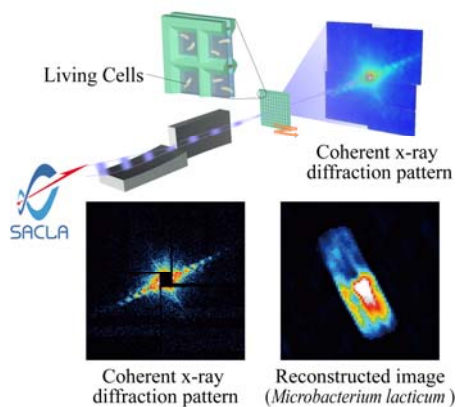
Our institute is unique in Japan, in that a mathematical division composed of researchers from different theoretical fields was established from the very beginning to promote interdisciplinary exchange between mathematical/theoretical and experimental research. For example, RIES has had four Human Frontier Science Program (HFSP) grant awardees since 2007. The HFSP organization consists of 34 management supporting parties, in locations including Japan, USA, EU, etc. The HFSP promotes novel international collaborations that bring biologists together with scientists from fields such as physics, mathematics, chemistry, computer science and engineering to focus on interdisciplinary problems at the frontier of the life sciences. According to MEXT, 13 HFSP awardees received the Nobel Prize over the past 25 years. The number of awardees from RIES is the third highest in Japan, exceeded only by RIKEN (14 awardees) and University of Tokyo (9 awardees). In the case of RIES, all 4 awardees belong to a single institution (the total number of researchers is 66) affiliated with the university.

The deepest *in vivo* fluorescence imaging for live organisms and of cortical and hippocampal CA1 neurons "Visualizing hippocampal neurons with *in vivo* two-photon microscopy using a 1030 nm picosecond pulse laser", R. Kawakami *et al.* *Scientific Reports* **3**, 1014 (2013).



The first observation of a live cell at the nano-meter scale by using x-ray free-electron laser.

"Imaging live cell in micro-liquid enclosure by X-ray laser diffraction", T. Kimura *et al.* *Nature Communications* **5**, 3052 (2014).



Compared to RIKEN (14 awardees in 6 institutions, 9 of them belong to the RIKEN Brain Science Institute where the total number of researchers is 306) and the University of Tokyo (9 awardees in 1 institution and 8 departments), RIES has the highest percentage of awardees per number of researchers in Japan. This shows the international recognition of RIES that puts great value on the collaborations of mathematics and various other fields, and serves as a core facility contributing toward modern biology, from molecules to cells, tissues, and the brain, from the perspective of mathematical science. For example, one of the awardees in 2007 won two Ig Nobel prizes for research concerning slime molds that can solve puzzles (*Nature* **407**, 470 (2000)) and even determine the optimal routes for railroad tracks (*Science* **327**, 439 (2010)). The third cycle of the "mid-term goal · mid-term plan" of RIES along the MEXT strategy plan over the next six years is, e.g., to develop novel light imaging technology relevant to biology with interdisciplinary interactions over all fields in RIES (please visit us <http://www.es.hokudai.ac.jp/english/>).

NEWS FROM JAPANESE UNIVERSITIES

SICO staff members visit to San Francisco and Silicon Valley

On October 1st 2013, the “Shikoku Innovative and Collaborative Organization for Industry, Academia and Government” (SICO) was established by five national universities on Shikoku Island of Japan, as one of their subsidiary projects, sponsored by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to strengthen and accelerate university reform. SICO promotes industry-academia-government collaboration activities of the University of Tokushima, Naruto University of Education, Kagawa University, Ehime University, and Kochi University, beyond the frameworks of individual universities. The five national universities including the Technology Licensing Organization (TLO) in Shikoku possess high-quality intellectual property and advanced technology which could be transferred to business and industrial fields.

SICO staff members visited San Francisco and Silicon Valley from September 15th to 19th because the Bay Area is blessed with many of the best new business facilities and R&D centers in the U.S. We paid a visit to the Consulate General of Japan in San Francisco, the Japan Society for the Promotion of Science (JSPS) San Francisco Office, Japan External Trade Organization (JETRO) San Francisco, and the San Francisco Center for Education & Research in Osaka University. We felt greatly reassured that this area features strong Japanese networks formed by organizations such as the Japanese University Network in the Bay Area (JUNBA), supported by JSPS. In addition, we have a great deal to learn from universities that have a long history of industry-university cooperation such as Stanford University, the University of California at Berkeley and San Francisco, San Jose State University.

In order to gain ideas for the planning of SICO from an “ecosystem of innovation” to actively promote industry-academia collaboration in Silicon Valley, we visited UT (the University of Tokushima) Silicon Valley Branch (in B-Bridge International, Inc.), Plug and Play Tech Center, TechShop and bio Cube San Jose. This area is home to many entrepreneurs, businessmen, and educators. We hope that our new presence in the Bay Area will help introduce Shikoku’s technology to the world and energize Shikoku’s industry. We hope SICO will create seeds of further business through active collaboration among industry, academia and government nationally and globally from Silicon Valley.

In the field of education, two undergraduate students from the University of Tokushima participated in the international internship program in California for 4 weeks that was developed by Yuji IDE, former Executive Director of Kagoshima University. This course provides students with the opportunity and motivation to become a global professional so that they can work anywhere in the world. We wish this program to spread not only amongst undergraduate students but to all members of society in the Shikoku area.

SICO can create seeds of further business and nurture high-quality human resources for the new era through active collaboration among industry, academia, and government with a strong association in San Francisco and Silicon Valley.

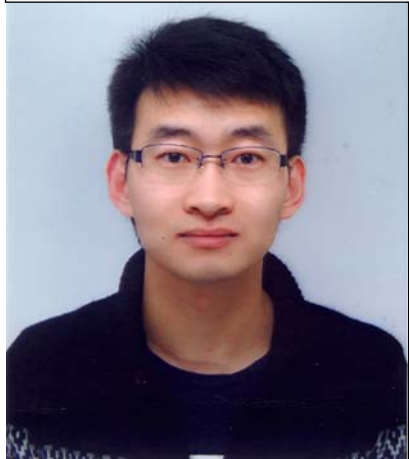


SICO staff members at JSPS San Francisco Office



SICO staff members at Osaka University San Francisco Center for Education and Research

INTERVIEW WITH JSPS FELLOW IN THE U.S



Dr. Guoqing Wang

2003.9 – 2007.7: B.E. in Chemical Engineering and Technology, Department of Chemical Engineering, Qufu Normal University, China

2007.8 – 2009.8: M.Sc. in Bionanotechnology, Department of Bionano Sciences, The Graduate School of Hanyang University, South Korea

2009.9 – 2010.3: Research assistant, Environmental Microanalysis & Monitoring Laboratory (EMML), Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, China

2010.3 – present: Ph.D. in Materials Chemistry, Graduate School of Chemical Sciences and Engineering, Hokkaido University, Japan

2012.4–2013.3: JSPS research fellow (DC2),

2013.4–2014.3: JSPS postdoctoral research fellow (PD)

My name is Guoqing Wang. I received my doctor of science degree in materials chemistry under the guidance of Prof. Kuniharu Ijiro at Hokkaido University, where I was engaged in research in the areas of DNA-based nanoelectronics and self-assembly. As a JSPS postdoctoral fellow affiliated with the Research Institute for Electronic Science (RIES) at Hokkaido University, currently I am undertaking research at University of California, Riverside (UCR). My research interests include DNA nanotechnology, nanoscale self-assembly and stimuli-responsive plasmonic nanostructures.

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

To researchers worldwide, US institutions are famous for the creative research atmosphere, where many professors in chemistry are doing innovative projects. My host researcher, Prof. Yadong Yin has made great contributions to the fields of synthesis of advanced nanomaterials, self-assembly and photocatalysis. It would be a great opportunity to work with him, not only strengthening my chemistry background but also broadening my research view. To fulfill my purpose for a future career, furthermore, it's important to make connections with US professors. Finally, I would be able to better my research style by

experiencing a different atmosphere.

2. What is your impression of the research environment in the U.S.?

US researchers prefer original and innovative research themes. They are more open-minded, and frequently exchange ideas with each other. Collaborations are more active not only among professors, but also among students. A student can ask for help with measurements using the instruments from his/her friends' lab without reporting to their professors. In my host lab, one can not only suggest and transfer techniques to other labmates, but can also often help others execute a substantial experimental step. Work time is short here with everybody concentrating on research during their stay in the lab, usually from 9am to 5pm. Only a few people work during the weekend. In other words, efficiency first!

3. How do you take advantage of your experiences in the U.S. and apply it to your research or career?

First of all, I believe that the experiment techniques I got here are very helpful for my future study on the uses of nanotechnology in biology. My research interests have been shifted a little bit to materials science field. For instance, I have been able to synthesize a variety of functional nanostructures,

which may show promise in biological applications. Reasonable combinations would create new ideas, and hopefully multidisciplinary topics. Importantly, the connection with Prof. Yin makes collaborations with him, as well as other US professors, possible in the future. In terms of personal research style, I would also benefit a lot from both the Japan-style rigorous attitude with US-style improved efficiency.

4. Do you have any advice about doing research abroad for young researchers?

Doing research abroad is not a must for career development, but a plus since that experience brings you new knowledge, new connections and importantly, a new way of thinking. To young researchers, I would like to suggest the following. US culture is quite different. Make sure to get used to the new life and research atmosphere promptly; In case of doing a project not in your field, try to get familiar with the new theme readily by reviewing related literatures, and then move forward; Be honest and open minded, and positively exchange ideas with your labmates; Work hard; Never give up struggling for your dream as you come across troubles, and then you will make a difference.

INTERVIEW WITH JSPS FELLOW IN THE U.S



Dr. Takuji Adachi

2006: B.Eng. Department of Applied Physics, Osaka University

2006-2007: Research Assistant at Osaka University and Hamano Life Science Research Foundation

2012: Ph.D., Department of Chemistry, University of Texas at Austin

2013: Postdoctoral Fellow, Department of Physics, University of Regensburg, Germany

2014-present: JSPS Postdoctoral Research Fellow, Department of Chemistry, New York University

Takuji Adachi is a JSPS postdoctoral researcher in the group of Prof. Michael D. Ward at New York University. He has been interested in understanding how the morphology of materials is formed and affects the properties. He seeks a way to rationally design new functional materials.

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

“Curiosity and Positive Thinking”, is all it took for me to come out to the U.S. I went to Texas when I was 24 to start a Ph.D. program. I had never been abroad before then, I could not speak English, and I knew nothing about how graduate school life was going to be. However, I had a vague but very positive vision that the experience and skills I would obtain after this challenge would be something unique (...and hopefully useful). At that stage of my life, pursuing a Ph.D. in the U.S. appeared to me as a very exotic and adventurous experience. During this time, one thing I found really valuable about being in the U.S. was the positive attitude of people towards failure. Nothing is guaranteed to succeed, but people enjoy and admire challenges. This atmosphere helped me a lot through tough times. I lived in Germany for a year after completing my Ph.D. degree, but I realized such an attitude was unique to the U.S., which brought me back here again to pursue my research career.

2. What is your impression of the research environment in the U.S.?

It is stimulative because every individual knows this is an important step to the next stage of their life. Therefore, everyone naturally works hard and people are open for collaboration to be productive. Discussion with colleagues is active and very helpful, and communication skills get trained thorough it. It is worth noting that the environment itself varies significantly between different groups. I have worked with three different advisors in the U.S., but every group had a unique environment that reflected the character of the professors. Some professors check what students do almost every day and discuss what to do next, “micro-management”. Some professors let students do whatever they want and barely check the status of the research progress, “macro-management”. These are the extreme cases, but every group fits in somewhere between. Each style has both advantages and disadvantages on how students would be trained, therefore it is very important to manage and balance oneself to maximize the outcome. Another interesting point is the diversity of the research background of postdoctoral researchers in a group. In the U.S., it is encouraged for postdocs to change their research field to some extent from their Ph.D. topics. Therefore, many postdocs are not necessarily familiar with the technique or topic of the group they join. The value of a Ph.D. degree is not only evaluated by the knowledge about one topic but also by the knowledge of how to approach and

solve problems. This diversity sometimes leads discussions in an unexpected direction and may lead to new discoveries (...or complete nonsense).

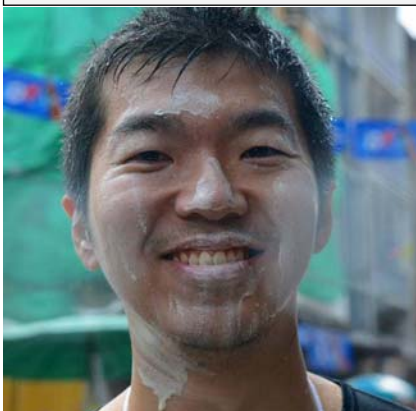
3. What is your vision for the future?

One of my goals is to be a bridge for younger students to come to the U.S. As I mentioned earlier, curiosity brought me here. However, I have to mention that I have had continuous kind support from my bachelor thesis advisor Prof. Hiroshi Masuhara, National Chiao Tung University in Taiwan. I was so lucky that I met him at the right timing and he recommended a wonderful professor in Texas to me. I am certain that my challenge could have been much more difficult without his support. I will try my best to establish myself and acquire resources so that I can support younger students/researchers to take on challenges in the U.S.

4. Do you have any advice about doing research abroad for young researchers?

There is no guarantee that things will turn out to be successful, including my case, but I still would like to encourage younger researchers to keep challenging new things. Studying in the U.S. is a great choice, and you will gain lots of stimulation and experiences through it. The energy and flexible mind young people have is more than enough to overcome the language barrier or culture shock that everyone faces in the beginning. I believe that curiosity and positive thinking is the key ingredient in doing research. We all should stay like kids and not grow up. The most important thing is that you have fun!

INTERVIEW WITH JSPS FELLOW IN THE U.S



Dr. Takashi Ito

B.S. Major in Biological Chemistry and Biotechnology, University of Tokyo

Ph.D., Department of Integrated Bioscience, University of Tokyo

GCOE fellow, Department of Cardiovascular Science and Medicine, Chiba University

Present- Sep 2015: JSPS Postdoctoral Research Fellow, Department of Pathology, University of Washington

My research fields and interests are aging and age related diseases.

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

People who want to be a great French chef go to France. Those who want to be the best soccer player go to Europe. Those who like computer and anime go to Akihabara. Those who want to study the genetics of aging go to the U.S.

2. What is your impression of the research environment in the U.S.?

What's good in Japan:

1) Young people; Graduate students or postdocs in Japan devote most of their time in their 20's and early 30's to research just because they like it and they want to do so. In the U.S., quite a few people take research as a job. They like to make a balance of work and life, enjoy their weekends, and hand over their task to reduce their own burden when it is possible.

2) Quality of administrative staff; Office work related to research in academic settings, including the staff in universities or grant agencies like JSPS, is excellent, unlike the U.S.

3) Food and health; The food in Japan is the best in the world. There are a variety of cuisines with the best quality and an economical price. Japanese food is basically good for your health too. Japanese people live among the longest in the world and the diet contributes to this significantly. The average lifespan in the U.S is 5 years shorter. Even that of rich people is shorter than that of the average Japanese person.

What's good in the U.S.:

1) Boss; Talented scientists are selected from among ambitious scientists from all over the world. Productive bosses keep the highest standard at their daily work. They keep updated on the field. They know who is doing what, so they can be a great guide. In a productive lab, the boss works the hardest, even at home.

2) Number of people; The system at universities is based on the condition that people work while they can also enjoy time for family and recreation. Here, a much larger amount of the budget is invested in the people to enrich the research environment and keep the people involved happy. This proves a great contrast with the current situation in Japan where the budget for universities is being cut and the number of staff in the lab and department has been decreasing. In Japan, money goes to buildings and devices, which often proves not to contribute to an increase of the productivity.

3) Networking; Researchers have a lot of chances for interaction. Major research universities have a bunch of seminars every day. Students and postdocs have good chances to know what the hot topics are in the field or what a productive researcher is like. This also helps principle investigators to make a network for future collaboration and to gain the leading edge knowledge in the field. This even makes it easier to get work published because you can understand who likes your study and who doesn't, and then you can make a good list of who the recommended referees should be and should not be.

4) Competition; This is famous and there is no need to explain. Students need a recommendation from their mentor for graduate school or job hunting. This system helps lazy human beings in nature keep a high standard of work. The higher

your position is, the harder the pressure and competition becomes.

5) Cooperation; Contrary to the general image Japanese people would have of the U.S., researchers cooperate much more frequently and closely than in Japan at least in academics. One reason for this is severe competition between researchers, which necessitates collaboration between researchers with different expertise for them to survive severe competition in academics. This consequently promotes interdisciplinary approaches that often lead to breakthroughs that otherwise would have been impossible. Personally, I believe that this is the essence of why the U.S. research in academics has been the best in most fields. Undergraduates also have an opportunity to work as part of a group in doing research, through which they can learn how to cooperate and put together each person's work.

3. Do you have any advice about doing research abroad for young researchers?

I take "young" to mean the age of preschool kids when humans have the best plasticity. The most successful musicians or athletes start their career at the age of 3 or 4, even younger. Their success is often helped by private lessons from their parents, who in most cases have the professional skill in the field themselves. So if a country, or any university, promotes scientists to take their kids to the lab and facilitate them to learn how to conduct research as early as possible, there will be tons of talented researchers in their generation who would be nothing compared with us non-genius researchers. We could even pay for child researchers when they do well. This should also help the success of the parents as a researcher, because they would not have to spend so much time or money for childcare at home.