The Symposium “AI and the Future of Society :A Global Approach to Understanding the Digital Disruption”

in University of California, San Diego

“IOT”, “AI”, and “industry 4.0” are emerging as the leading themes to describe the emerging technological disruption of production processes, urban design, health sciences, consumer relations, work relations, and many more areas of daily life. This disruption is accompanied by new research regarding “big data” analysis, artificial intelligence advances beyond manufacturing, and new approaches to neuro and health sciences, computer engineering and connectivity.

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Yet, many of the larger ethical, psychological, societal and legal aspects remain underexplored. The research project led by the Japan Forum Innovation and Technology (JFIT) introduces the comparative perspective: As they all look for new ways to structure our societies, we stand to benefit from discourse, exchange, and learning across national boundaries. The JFIT focus on the U.S., Germany and Japan, as researchers in these countries are pushing the research agenda in important and different ways, and it is improbable that global progress in the ongoing disruption will occur without a leading role played by these three countries. These three countries also appear to place emphasis on different aspects of the issues at hand; for example, one working hypothesis is that while the U.S. is highly concerned with connectivity and the technological frontier of big data, Germany has traditionally placed a high value on privacy and cyber security, whereas Japan is keenly interested in being at the forefront of hardware provision for the newly emerging societal infrastructure systems. Insofar as this is true, how does it affect the national discourse on IOT, AI and the future of work, and will diverging technology policies emerge as a result? What can we learn from these differences, and what are their global implications?

To try to answer these questions, JSPS and JFIT held a symposium "AI and the Future of Society: A Global Approach to Understanding the Digital Disruption" on April 27 and 28 in cooperation with the Max Planck Institute for Innovation and Competition, the German Institute for Japan Studies and several other organizations. The conference brought together scholars from Japan, the U.S. and Germany, to explore the "state of the art" of social science thinking about the ongoing technological disruption, innovation, and national policy responses in different countries. The Conference was open to many different lines of inquiry, including:

• What are the new complexities of the men-machine relationship, ongoing societal challenges, and new issues such as job replacement or ethical priority rankings of self-driven cars or automated surgeons?

• How are large companies responding to the disruption: what are new business models, corporate strategies, or operations management and human resource practices?

• How should we think about new regulatory structures and global agreements, e.g. on privacy and cybersecurity, in the health sciences, or for robots and drones?

• What are the legal, ethical and societal challenges associated with the fast pace of technological change?

• What is the impact of these developments on innovation and entrepreneurship, including government policies and market responses such as newly emerging corporate innovation strategies?

The conference had a high degree of interdisciplinary exchange. We are pleased to see this event serve as the inaugural conference of a new research initiative on digitization and the future of society from a global perspective. JSPS will continue to support such academic symposia that helps strengthen international cooperative networks.

The University of California San Diego

PAST EVENTS

Fellowships for Research in Japan

Information Session & Networking at the University of California, San Diego (4/27) and the University of California, Santa Cruz (5/24)

JSPS San Francisco held fellowship information and networking sessions at the University of California, San Diego (UCSD) and the University of California, Santa Cruz (UCSC). With the generous help of the people of each university, there were a lot of participants coming to learn about the JSPS's fully-funded fellowships for research in Japan and to connect with fellow researchers. The sessions drew a large variety of researchers at different career stages from different fields, including late-term doctoral students, postdocs and faculty members.

The JSPS would like to thank JSPS alumni Stuart Anstis (Emeritus Professor, Department of Psychology, UC San Diego), Francis Nimmo (Professor, Department of Earth and Planetary Sciences, UC Santa Cruz) and Yihsu Chen (Associate professor, Department of Technology Management, UC Santa Cruz) for sharing their experiences researching in Japan on JSPS fellowships. Their talks were the highlights of each session, providing valuable insight through their first-hand experiences.

JSPS San Francisco will continue to hold regular networking info sessions at universities in California. All interested researchers are welcome to attend. For more information about upcoming info sessions, as well as fellowship eligibility, and other details, please contact the JSPS San Francisco Office: fellowships@jspsusa-sf.org or visit us at our website: http://www.jsps.go.jp/english/e-fellow/

Opening Remarks at UC San Diego

Alumni Talk at UCSD

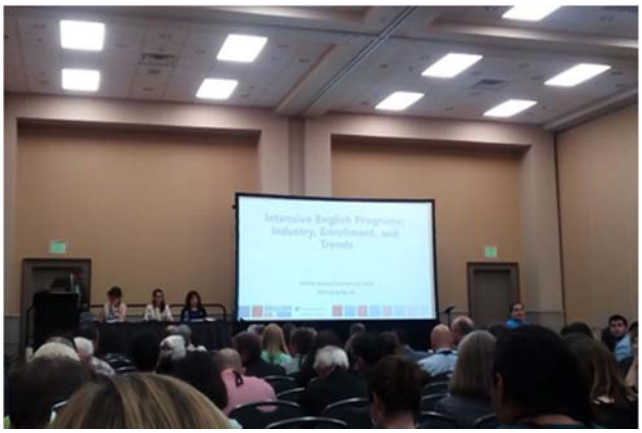
Alumni Talk at UC Santa Cruz

Alumni Talk at UCSC

NAFSA 2018 Annual Conference

From May 29-30, JSPS San Francisco staff joined the NAFSA 2018 Annual Conference & Expo, "Diverse Voices, Shared Commitment", in Philadelphia, Pennsylvania. The annual NAFSA conference is a large-scale event focused on international education. Nearly one million educators and other stakeholders from over 3,500 institutions all over the world attend the event. Participants learn about the latest trends in international education at numerous sessions and seminars. In addition, NAFSA offers a great networking opportunity for universities seeking institutional partnerships. Our staff participated in various seminars and sessions about international education. The report is uploaded on our website (URL: http://www.jspsusa-sf.org/news/).

Japan Booths



The session "Intensive English Programs: Industry, Enrollment, and Trends"

サンフランシスコ研究連絡センター長の四方山話

–日米大学の給与事情について–

日本学術振興会サンフランシスコ研究連絡センター長

田宮　徹

JSPSサンフランシスコ研究連絡センターは、サンフランシスコ市からBay Bridgeを渡った先の、University of California (UC) Berkeley校のお膝元に位置する。BART (Bay Area Rapid Transit) を使えば、サンフランシスコ市内からは、約30分で、サンフランシスコ国際空港からは、約１時間で到着する。Berkeley校は、UC10校[1]（UC Berkeley, UC San Francisco, UCLA, UC Santa Barbara, UC San Diego, UC Davis, UC Irvine, UC Santa Cruz, UC Riverside, and UC Merced）の中で最も歴史が古く（1868年創立[2]）、今年は丁度150周年に当たる。最も新しいのは、2005年に開設されたUC Mercedである。最近の日本では、UCLA (University of California, Los Angeles)が有名なようであるが、UCLAの創立は1919年[3]でUC Berkeleyよりも50年ほど若い。

UCバークレーのシンボル　Sather Tower

Berkeleyの隣町のOaklandには、UC10校を束ねる総長の事務局UCOP (University of California Office of the Presidentカリフォルニア大学総長事務局)が、存在する。UCのシステムでは、州政府との折衝は、必ず総長を通して行われるため、各キャンパスの学長(Chancellor)は、州政府の介入から守られている。

米国の大学教員の給与は、教員それぞれが、大学当局と交渉して決まる。給与は年俸制で、契約により、この金額を９－10ヶ月で割った額が給与として毎月支払われる。従って、無給の２－3ヶ月は、基本的に、大学の仕事をする必要は無いため、研究費を潤沢に持っている教員は、その間、研究に集中出来る。さらに、無給の期間の給与を自分の研究費の中から支出する事が可能である。もっと研究に集中したい場合は、自分の講義を代講してくれる人の給与を大学に支払う事で、教育義務からも解放される。若い教員で、自分の研究費から給与が支出出来ない場合は、サマーセッションなどで授業を行い、その期間の給与を稼いでいる。

余談であるが、日本の大学も、グローバル化で、英語で授業を提供しなければならない状況が増えている。米国では、多くの場合、夏休みが、6月から8月なので、この間、無給の若い米国教員を日本の大学が招聘し、英語で講義をしてもらえば、両者にとって有益だと思うが、これを実践している日本の大学はごく少数である。

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ここでは、上述のUCOPがMarsh & MacLennan Companiesに依頼して作成させた報告[4]とLos Angeles Timesに掲載された記事[5]から米国大学教員の給与を日本のそれと比較しながら紹介したい。UC教員の平均年俸と米国大学（2014）[4]および日本の教員の平均年俸（2016）[6]を表１に示した。

表１ UC 教員と米国、日本大学教員の年俸比較

	UC 平均($)	米国平均($)	日本平均(¥)
教授	196,715	216,761	10,691,100
准教授	121,566	140,723	8,483,100
助教	105,815	119,233	6,837,900

UCの平均年俸および米国大学平均年俸は、2014 Update of Total Remuneration Study for General Campus Ladder Rank Faculty[4]から、日本大学教員の平均年俸は、厚生労働省の「平成28年賃金基本統計調査」[6]から引用した。

全米教員の平均に比べると、UCの教員の年俸は若干低い。米国と日本では、集計年度並びに平均年齢が異なるため、これらのデータを同等に比べることはできないが、1ドル100円で換算し、比較すると、集計年度が米国の方が古いにもかかわらず、日本の大学教員の平均年俸[6]より、米国教員の平均年俸の方がかなり高い。特に教授の年俸は、約倍近く高い。

Los Angeles Timesによれば、UCの年俸（2014）[5]トップは、UCLAのフットボールコーチの350万ドルで、二着もUCLAのバスケットボールコーチの230万ドルとなっている。この二人につづき、二人の医学系の教授が230万ドルと220万ドルで、運動部コーチと医学系の教授の年俸がずば抜けて高い事がわかる。UCで年俸100万ドル以上の人は28名おり、彼らの年俸は、総長の57万ドルを遥かに越えている。日本でも、UC Berkeleyの物理学者、村山斉先生が、東大の世界トップレベル研究拠点（Word Premier International Research Center Initiative, WPI）プログラムのKAVLI IPMU (東京大学 国際高等研究所 カブリ 数物連携宇宙研究機構)の機構長に就任した時（2008年）に、年俸が東大総長よりも高いと評判になった事があるが、米国では、高名な学者、即ち研究費を稼げる学者を高額の年俸で引き抜くのは当たり前である。これは、雇った研究者が、多額の研究費を獲得すれば、それに見合った収入（間接経費）が大学に入るためでもある。特に、医学系の大学では、大学予算の中の間接経費の割合が直接経費を上回る大学[7]もあることから、UCの場合も医学系の教員が高額年俸者になっていることは頷ける。日本の大学も、トッププレーヤーを連れてくるためには、その価値に合った年俸を提供する必要があるであろうが、日本の大学の場合、間接経費の割合が米国に比べ低いため、なかなか実行に踏み切れないのが現状であろう。

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5. http://www.latimes.com/local/lanow/la-me-ln-uc-pay-20150729-story.html
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7. H. Ledford, Indirect costs: Keeping the lights on (2014) *Nature, Nov20; 515(7527) 326*-329

UPCOMING EVENTS

AUGUST

8/18 SAT

日本人研究者交流会　2018夏

日 時：2018年8月18日　1:30pm - 5.30pm

場 所：David Brower Center（2150 Allston Way Berkeley, CA 94704)

詳細はこちら　　※申込締切：7月31日　（締切日以降のお申込については、JSPSサンフラン

シスコ研究連絡センター（gathering@jspsusa-sf.org）までメールにてお問い合わせください。）

OCTOBER

在米大学職員研究会

10月下旬頃にバークレーで開催予定（詳細は後日）

DECEMBER

12/5-8 WED.-SAT.

2018 CJS-JSPS Symposium

The Center for Japanese Studies (CJS) at the University of California, Berkeley

JANUARY

1/24-25 THU.-FRI.

World Premier Research in Japan

January 24, 2019　at the University of California, Berkeley

January 25, 2019　at Stanford University

INTERVIEW WITH JSPS FELLOW IN THE U.S.

SATOSHI TOMANO

2017- JSPS Postdoctoral Fellow for Research Abroad

2014-2017 Ph.D. student at Graduate School of Biosphere Science, Hiroshima University

2015-2017 JSPS Research Fellow (DC2)

2012-2014 Master student at Graduate School of Biosphere Science, Hiroshima University

2008-2012 Undergraduate student at Faculty of Applied Biological Science, Hiroshima University

Satoshi Tomano is a JSPS postdoctoral fellow researching abroad. He has been working on a marine conservation ecology project advised by Dr. Paul Barber in the department of Ecology and Evolutionary Biology (EEB) at The University of California Los Angeles (UCLA). Satoshi's research utilizes marine ecology to understand the processes shaping marine biodiversity, with implications for marine conservation planning and management. His interest in marine conservation and sustainable fishing has been shaped by his family businesses of fishing and oyster farming. He had a great experience working in a fishery science lab (Dr. Tetsuya Umino) for seven years and decided to become a researcher. He has been investigating geographical patterns of biodiversity in economically important fishery species.

Marine resources contribute to food security and provide adequate nutrition for the global human population, supplying protein to about 3 billion people with at least 15 percent of their average per capita animal protein intake. However, global fish stocks have declined over the past 40 years, possibly due to overfishing and environmental change such as rising water temperature. In order to satisfy an increasing global demand for protein the squid catch has increased 4 fold over the past 40 years.

Currently, Satoshi is using genetic approaches to understand dispersal and connectivity of reef squid, one of the most expensive and delicious squid in Japan (see the picture below), and throughout the West Pacific Ocean.

"My target species Big-fin reef squid caught in Yaku-shima Island in Japan."

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

I chose the US to conduct research because this is the only way to survive in science.

When I was second year of PhD student in Hiroshima University in Japan, a research paper had been published by Dr. Barber's group in UCLA EEB. I'll never forget the shock of reading this paper because they researched the same species with the method I was planning to use for my PhD research. They conducted genetic analysis to understand the evolution and population dynamics of reef squid, which was more robust and in-depth than my research. I didn't have any idea how to work better. I felt my life in research would require a shift. There were two ways to continue my research career; one is to change my research project, the other is to work for their project.

In order to start a research relationship with someone, I would have to provide something the other side would want. Fortunately, they didn't collect squid from Japan so I felt that I could begin to contribute to their project by providing samples from Japan.

Generally, when we offer to collaborate, most professors don't respond because they receive similar emails from hundreds of other people. I sent an email to Dr. Barber to explain my idea and proposed my vision to collaborate on a squid project. He replied to me in a few days and said, 'Please send me your CV and proposal.' I got the chance of a lifetime! Finally, I was selected as a JSPS fellow for research abroad and came to the United States. I appreciate the JSPS for giving me an opportunity to continue my project.

Q2. What is your impression of the research environment in the U.S.?

The research environment is exciting. I am writing some opinions from my impressions of the research environment in the US, compared to my previous laboratory in Hiroshima University. Dr. Barber's lab has two postdocs, five PhD students, one master student. Although each member is working their own project, we focus on projects that uses molecular genetic techniques in the study of ecological and evolutionary questions in marine environments (see website https://barberlab.eeb.ucla.edu/). Working with people from different backgrounds and nationalities retrained me to have different ways of approaching tasks and human interaction. I learned that it is important to be respectful of their differences, which can bring the workplace to better state of professional collaboration. An example of a contrast is that most students don't do a PhD program at the same place as their undergraduate. My friend told me that it is beneficial to get out of my comfort zone and work with other groups, otherwise no growth and no connection can be formed.

The University of California Los Angeles

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Q3. How do you take advantage of your experiences in the U.S. and apply it to your research or career?

In terms of the advantage, research experience in the U.S. has been a great chance to further my career. This experience in the US will provide several opportunities, such as. 1) A chance to step out of my comfort zone. I realize that I am significantly less mature than PhD students and postdocs in our lab. Improving my research skills is essential. 2) I currently have a very small set of collaborators. Collaboration is an important part of furthering research and science careers. I am working towards expanding my network of researchers in the US, which will make future collaborations easier. I am building relationships that will continue even after I return back to my country. 3) Research abroad is a good opportunity to see the world and experience of different cultures. I learned that cultural differences between Japan and U.S. research also provide an opportunity to expand my way of thinking into a longer-term and more worldwide perspectives. In the future, I want to be a professor in Japan who can give opportunities for future students to also see the world. To young researchers in Japan, I can't tell you what is best for you, but if you think you are in the best place, I strongly recommend going abroad. Here is the famous story paraphrased from "Surely You're Joking, Mr. Feynman!"

"I want to go to MIT because it is the best school in the country"

"That's why you should go to some other school. You should find out how the rest of the world is."

Finally, I would like to thank everyone who supported me in Japan and LA, especially JSPS for giving me an opportunity to do research abroad and Dr. Barber for his acceptance and mentoring of my research. Please find me on Facebook!

Dr. Barber lab is in TLSB

JSPS STAFF VOICES

Tips from the Local Staff : *SF Bay Area Real Talk*

My name is Chris and I've been working in the San Francisco office of the Japan Society for the Promotion of Science since August of 2017. I'll be taking the reins of the quarterly newsletter column from my predecessor, Lauren Nakasato.

My plan is to fill this space with information about a region and industry that's closely watched in the national and international media. I'm of course referring to "Silicon Valley". A term that only loosely refers to a geographic location.

When I was in high school "Silicon Valley" usually just meant the tech companies located South of San Francisco, stretching from Menlo Park to San Jose. Nowadays the term has expanded to encompass the San Francisco Bay Area more broadly. Some people even think that Amazon and Microsoft are Silicon Valley companies (they're not) despite being headquartered in Washington state.

While I don't work as a professional software engineer I have spent most of my life here and the ups and downs of this volatile industry are omnipresent.

I have fond memories of my first real job in the 7th grade helping my school build and network several dozen computers donated by a local tech company. The machines were all equipped with Intel's Pentium processor which was then state of the art. I also vividly remember the bursting of the dotcom bubble during my senior (fourth) year of high school. In recent years I worked as a technology reporter for the Asahi Shimbun (a national newspaper in Japan).

Living up to Lauren's esteemed legacy has been challenging but I hope to continue her practice of explaining useful english phrases that one doesn't normally find in traditional language instruction. For this column I plan to include several terms frequently used in the technology industry. These terms often seep into the larger business and education worlds. Their definitions will hopefully give readers a taste of the broader work and business culture here in the US.

That's it for this instalment. Please join me next time where I plan to introduce more terms and write about the high cost of housing here in the SF Bay Area and how JSPS staff members and researchers from Japan are shocked when looking at the rents for places to live.

Acquihire: This is a combination of "acquire" and "hire" and it describes when a larger established company (such as Google or Facebook) buys a smaller startup solely for the purpose of acquiring skilled software engineers. The goal of this transaction is not to acquire a company's assets, such as technology or intellectual property, but rather their engineering talent. The extraordinary

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price that large companies are willing to pay to for engineers illustrates how competitive the "war for talent' is in this industry.

Minimum Viable Product (MVP): This is a product (usually software) that is released with enough core features to provide a relatively small subset of customers sufficient value. Even if the product still has bugs and a minimal set of features this small group of initial users can provide feedback and data that helps refine the product into something with a wider appeal. Eric Reis, entrepreneur and author of *The Lean Startup*, writes that 'the minimum viable product is that version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort'.

By Chris Reed, Liaison Officer

UPCOMING APPLICATION DEADLINES: FELLOWSHIP PROGRAMS

Application deadline to JSPS Tokyo Office:

September 3 - 7, 2018 *

Postdoctoral Fellowship for Research in Japan

- Standard Program [P] (12-24 months)
  http://www.jsps.go.jp/english/e-fellow/application-19.html

Invitational Fellowship for Research in Japan

- Short-term S [E] (7-30 days)
- Short-term [S] (14-60 days)
- Long-term [L] (2-10 months)
  http://www.jsps.go.jp/english/e-inv/application/2019application.html

Application deadline to JSPS Tokyo Office:

October 1 - 5, 2018 *

Postdoctoral Fellowship for Research in Japan

- Short-term Program [PE] (1-12 months)
  http://www.jsps.go.jp/english/e-inv/application/2019application.html

**The deadlines are for the host institution to submit the application to JSPS Tokyo; generally, applicants must submit documents to host institution 1-2 months prior to these deadlines.*

OFFICE STAFF SWITCH

New Advisors

Jun Imada (Advisor from Ministry of Education, Culture, Sports, Science and Technology-Japan (MEXT))

Jun Imada started as a MEXT (Ministry of Education, Culture, Sports, Science and Technology) advisor for JSPS San Francisco at the beginning of April. He has been engaged in various fields at the ministry such as administrative reform, upper secondary education and information science and technology. After the Great East Japan Earthquake, he was in charge of establishing a reconstruction agency and the distribution of funds to affected areas. Prior to working for JSPS, he worked at MEXT's Research and Development Bureau and promoting fusion energy science and managing an annual budget of 20 billion yen. During his two year term he visited South France eight times to participate in an international meeting on fusion energy. He also has an interest in the accountability system of California schools and plans to research it extensively. He now lives in the San Francisco Bay Area with his wife and daughter (6 months old) and enjoys watching his kid grow and develop.

Junichi Kusano (Advisor from MEXT)

Junichi Kusano arrived at the University of California, the Office of the President (UCOP) as a fellow on April 2nd. UCOP and the Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT) have had an exchange program for more than 15 years. His predecessors have researched about the UC system, which is one of the top university systems in the world, and their research has provided valuable leads for the improvement of higher education in Japan.

Mr. Kusano is the 16th fellow visiting UCOP. He is deeply interested in "asset management in public universities". And plans on conducting his research on this theme.

He started to work for MEXT in 2004, and has experienced various educational areas of work for more than 10 years.

He was in Knowledge Infrastructure Policy Division, Private Education Institution Administration Division, Student Affairs Division at MEXT. In addition, he was in Ministry of Foreign Affairs, Agency for Cultural Affairs, and Board of Education Bureau in Tokushima Prefecture. He hopes to make use of these experiences to research at UCOP and to work for JSPS.

New International Program Associates

Chie Hamashima (Yamagata University)

Chie Hamashima joined the JSPS San Francisco office on April 1st. She is in charge of administrative affairs for the Japanese University Network in the Bay Area (JUNBA) and coordinating Researcher gathering for Japanese researchers in the U.S. She is also in charge of publication and PR, such as maintaining the office website and publication of newsletter.

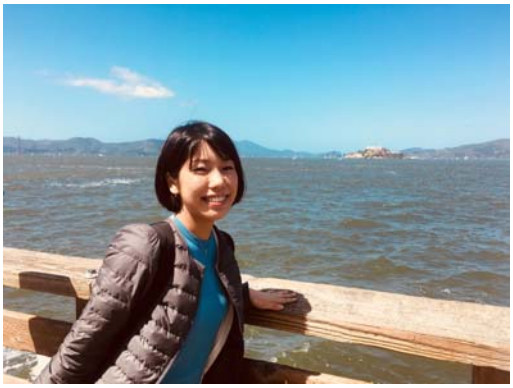
Last year, she worked at the JSPS headquarters in Tokyo, where she coordinated bilateral collaborations (Joint Research Projects and Seminars). She is originally a staff member of Yamagata University, and she will work with us for one year under the JSPS Overseas Internships for University Administrative Staff Program.

During her stay, she is aiming to learn about fundraising methods in the U.S. Also, she is looking forward to enjoying America's majestic natural beauty and music.

Mana Danno (Ritsumeikan University)

Mana Danno joined our office this April and is primarily in charge of accounting. Last year, she worked in the International Policy Planning Division at the JSPS headquarters in Tokyo. There she was in charge of operating the International Program Committee, renovating the JSPS electronic application system, and supporting the screening system of the International Collaboration Programs.

She started out as a staff member of Ritsumeikan University, whose main campus is located in Kyoto city. During her year-long stay here with us, she is aiming to learn about Communities of Practice for university students, researchers, and administrative staff in the U.S. Also, she is looking forward to broadening her perspective through experiences with other members of international community, as well as interacting with local residents here in California.



Cover: Stanford University

Japan Society for the Promotion of Science
JSPS San Francisco Office

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