

2017 CJS-JSPS International Symposium "Drive for the

Nobel Prize"



The JSPS San Francisco and the Center for Japanese Studies (CJS) at the University of California, Berkeley (UCB) held a joint symposium titled "Drive for the Nobel Prize" at the International House in Berkeley on October 31 and November 1.

The objective of this symposium was to discuss the influence that the Nobel Prize has on individuals, institutions and society. The symposium started with opening remarks from UCB chancellor, Carol Christ and Mariko Kobayashi, Director of the International Program at JSPS. Dana Buntrock, Chair of CJS, also gave some context and background to the topic at hand.

Nobel laureates, Yuan T Lee (Chemistry, 1986), Saul Perlmutter (Physics, 2011) and Takaaki Kajita (Physics, 2015) delivered lectures on their research and the topic of the event to more than 80 scholars. The distinguished guests also took numerous questions from the audience.

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The second day included panel discussions on three different topics: "Journalism and the Nobel Prize", "The Nobel Prize's Impact on Institutions" and "The Nobel as an Incentive". The panelists included a Nobel selection committee member, several journalists (from Science, New York Times and the Asahi Shimbun), an official from Japan's Ministry of Education, Science, and Technology (MEXT), and researchers from the US and Japan.

The JSPS San Francisco will continue to support such symposia while maintaining its close relationship with the University of California.



PAST EVENTS

Summer Researcher Gathering 2017 in the U.S.



On August 5th, JSPS San Francisco held the Brower Center in Berkeley. This biannual gathering ministrators participated in the event. provides an opportunity for Japanese researchers to Japan.

More than 50 people, including JSPS fellows, Summer Researcher Gathering 2017 at the David visiting and resident scholars, researchers and ad-

Dr. Toru Tamiya, Director of JSPS San Francisco, expand their networks by presenting their research gave the opening remarks which were followed by and exchanging views on the difference between presentations from several young researchers who research environments and methods in the U.S. and shared their current work. Next Dr. Yoshihiro Izumi-(Continued on page 3)

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ya (an Associate professor at the University of Cali- this winter in Berkeley. fornia, Davis' Department of Dermatology School of Medicine, Comprehensive Cancer Center) gave a presentation on his carrier trajectory and lab while giving tips on acquiring grants. After the presentation, participants divided into 6 groups to exchange views and experiences pertaining to such issues as career advancement and strategies for staying productive as a researcher. After the group discussion the JSPS introduced several funding opportunities available to the participants.

Dr. Izumiya and Dr. Tamiya gave some closing remarks that touched on the history of this event and the life challenges that one often faces as a researcher.

At the evening reception participants were able to further strengthen their connections with one

another while enjoying food and drinks.

The next Researcher Gathering will be held



18th Workshop for Japanese University Administrative Staff in the U.S.



18th annual workshop for Japanese university ad- styles at American and Japanese universities and the ministrative staff in the U.S. at its office in Berkeley. abilities needed to effectively navigate between the The purpose of this workshop was to provide Japa- two different settings. nese university administrative staff with an oppor-

tunity for professional development and networking.

The main event was a lecture by Nariyuki Fujita, the Director of New Academic Initiatives at the Center for International Education at UC Davis. He presented some of the many collaborations between UC Davis and Japanese universities and his experience on the job market here in the US. Mr. Fujita also focused on the strengths that Japanese employees often bring to international organizations and how the attendees could benefit from an awareness of these strengths. He also argued that above all, one needs passion to achieve goals.

After the lecture, the diverse group of partici-On October 23 the JSPS San Francisco held its pants discussed the difference between working

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The JSPS San Francisco will continue to hold this workshop regularly.



Fellowships for Research in Japan

Informational Session & Networking at the University of Washington, University of California, Berkeley, University of California, Los Angeles and University of California, Davis



Opening Remarks at UW

JSPS San Francisco held fellowship infor- including late-term doctoral students, postdocs and mation and networking sessions at the University of faculty members. Washington, the University of California, Berkeley (UCB), the University of California, Los Angeles ven W. Collins (Associate Professor, Division of En-(UCLA) and the University of California, Davis.

research in Japan and to connect with fellow re- UCB), Mathew Malkan (Professor, Department of searchers.

The sessions drew a large variety of researchers at different career stages from different fields,



Networking at UCB

The JSPS would like to thank JSPS alumni Stegineering & Mathematics, University of Washing-With the generous help from several univer- ton, School of Science, Technology, Engineering & sity staff members numerous participants come to Mathematics), John Harte (Professor, Department learn about the JSPS's fully-funded fellowships for of Environmental Science Policy and Management, Physics and Astronomy, UCLA) and Thomas L.

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session, providing attendees with valuable insight accepting overseas researchers. through their first-hand perspectives.

University Network in the Bay Area (JUNBA), the Bay Area. All interested researchers are wel-Kazuhiko Hasegawa (Regional Director, Osaka Uni- come to attend. versity North American Center for Academic Initia-USA) for their participation in the short networking website: events following each session. Ichiro Hashimoto http://www.jsps.go.jp/english/e-fellow/



Fellowship Information at UCB

(Consul (Science and Technology) from the Consu-Rost (Professor Emeritus, Department of Plant Biol- late-General of Japan in San Francisco) also particiogy, College of Biological Sciences, UCD) for sharing pated in the short networking event following the their experiences researching in Japan on JSPS Fel- session at UCB. They shared viewpoints about the lowships. Their talks were the highlights of each state of research in Japan and their experience of

JSPS San Francisco will continue to hold regu-The JSPS also thanks guests from Japanese lar networking info sessions at universities around

For more information about upcoming info tives), Mari Maruyama (Executive Director, Obirin sessions, as well as fellowship eligibility, and other Gakuen Foundation of America) and Yoichi Aizawa details, please contact the JSPS San Francisco Of-(Executive Director, San Francisco Office, Waseda fice: fellowships@jspsusa-sf.org or visit us at our



Fellowship Information at UCLA



Alumni talk at UCLA



Fellowship Information at UCD

PAST INFORMATION SESSIONS

When	Where
October 12, 2017	University of Washington
October 18 , 2017	University of California, Berkeley
October 26, 2017	University of California, Los Angeles
November 8, 2017	University of California, Davis

JSPS San Francisco will continue to hold informational sessions at universities on the West Coast. Please check our website for the most updated information: <u>http://www.jspsusa-sf.org/fellowships.html</u>

UPCOMING EVENTS

JANUARY

JSPS Fellowship Information Session Stanford University

Date: January 30 2018

Details coming soon

FEBRUARY

JSPS Researcher Gathering

We will hold a gathering for Japanese researchers and JSPS alumnus.

Date: February 3

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

To RSVP, please contact us: gathering@jspsusa-sf.org

"The Political Economy of Japan under the Abe Government"

Symposium Sponsored by Japan Society for Promotion of Science, Freeman Spogli Institute for International Studies (Stanford University), and Shorenstein Asia Pacific Research Center (Stanford University)

Date: February 8-9

Venue: Philippines Room, Encina Hall, Stanford University

NEWS FROM JAPANESE UNIVERSITIES

Kyoto's Living Legacy of Quantifying the Invisible Scientific inquiry from the infinitesimal to the infinity of space

This year's awarding of the Nobel physics prize — to three researchers instrumental to LIGO's success in detecting gravitational waves — was a cause of jubilation for Kyoto University's YITP, the Yukawa Institute for Theoretical Physics, in particular because many of the Yukawa scientists have worked closely with Dr. Kip Thorne, one of the awardees.

YITP doctoral candidate Joseph M. Fedrow — Joey to his friends — is a native of Long Island, New York. An alumni of The Evergreen State College, he received his Master's degree in astronomy from San Diego State University while completing his thesis in theoretical physics as a visiting graduate student at UC San Diego.

Strongly interested in education, Joey is passionate about using interdisciplinary methods to bring science to a wider audience. This passion brought him to Japan, not initially as a researcher, but rather to teach English to primary and secondary school students.

Now he is back in academia at Kyoto University, in the lab of Professor Misao Sasaki, using numerical relativity to better understand gravitational waves from extreme astrophysical sources.

In other words, he surfs the waves of space to hunt black holes.

YITP has a long history of fostering talented physicists like Joey. Founded in 1953, the institute is named after Hideki Yukawa, the 1949 recipient of the Nobel prize in physics, and Japan's first Nobel laureate. Since its inception, YITP has been a world leader in theoretical physics, supporting cuttingedge researchers from the fields of cosmology, particle physics, field theory, astrophysics, and condensed matter physics.

"Theoretical physics is all about quantifying the invisible," explains Joey. "We use mathematics as a microscope to probe the fundamental laws of nature. Professor Yukawa's award-winning research — predicting the existence of mesons — is a shining example of the power of theoretical physics."

Joey explains that YITP's stimulating international research environment — where students and professors are encouraged to focus on individual research interests — is particularly unique. The open atmosphere enables groundbreaking science



YITP doctoral candidate Joey Fedrow describing to the interaction of a pair of black holes

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advance informally and collaboratively, especially over meals and coffees.

Joey is also part of the collaborative "International Research Unit of Advanced Future Studies", or AFS, in which 15 research organizations from across the university are joining their intellectual efforts to guide the future of humanity. It is an environment where Joey enjoys the freedom to pursue his own interests. As a result, he has started to work with scientists at other institutions such as Caltech.

"I am continually inspired by the power of theoretical physics to elucidate the macroscopic manifestation of microscopic phenomena underlying all of nature. In addition, one of the best parts about being a theoretical physicist is that people without much scientific background, even kids still in grade school, can understand and appreciate the basics of what we do. As a result, I hope to inspire more students to become scientists and more adults to become scientifically lit- https://www.yukawa.kyoto-u.ac.jp/en-GB/ erate."

"My ultimate research goal is to bring about ture Studies social justice through astrophysics."



A computer simulation of Joey's investigation of black holes and gravitational waves

For additional info:

•Yukawa Institute for Theoretical Physics

• International Research Unit of Advanced Fu-

http://www2.yukawa.kyoto-u.ac.jp/~future/? lang=en

Evolutionary Design of Sustainable Transportation



Rolando Armas, Hernán Aguirre and Kiyoshi Tanaka Frontiers in Massive Optimization and Computational Intelligence Shinshu University https://sites.google.com/view/lia-modo

According to the UN[1], 54% of the world's countries, the number of vehicles is increasing, population currently lives in urban areas, rendering mobility problems even worse. The redemanding infrastructures satisfactory level of service. Mobility represents a countries implies substantial costs that are hardly constant challenge in those cities where affordable. Hence, a way to reduce traffic transportation infrastructure is

The population of cities keeps growing. Additionally, in large cities located in developing that support a design of road network infrastructure in those inadequate. congestion is to make better use of existing

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of vehicles on the streets.

a perfect example of a city that has grown in recent signal configuration found by the evolutionary years increasing traffic congestion, gas emissions, algorithm. pollution, and use of energy. Our research integrates evolutionary computation, traffic in urban transportation. We define Level of Service simulation, emission models, and data mining tools (LoS) in terms of traffic density and use the to gain a better understanding of DMQ's complex evolutionary algorithm to search combinations of mobility and transportation system in order to the number of private/public transportation users, propose solutions sustainably. We particularly the capacity of buses, and the time interval focus on Quito's business district, which covers between bus departures of five main Bus Rapid approximately 5x8 km².

70 traffic signals. The proper setting of traffic which minimize traffic density, travel time and fuel signals helps to reduce emissions and induce traffic consumption simultaneously. Fig. 2 shows the patterns to control speed in sensible areas to trade-off between travel time and density. This increase pedestrian security. We used an figure is colored according to the proportion of evolutionary algorithm together with a traffic agents NPt that use public transportation and simulator (MATSim) to obtain optimal signal includes vertical lines to mark the ranges of LoS Asettings, minimizing average travel time and D. emissions simustaneously[2]. We implemented several genetic operators and designed several configurations on Particulate experiments to find a proper configuration that emissions. Fig. 3 shows PM emissions differences allows a fluid traffic through a proper coordination between

between signals. Using data mining techniques, we group the optimal solutions in clusters. Finally, we infrastructure, which can be achieved in part by a analyze the effects of traffic signal settings respect proper set of traffic signals or improving the level to the environmental impact using the output data of service of the system while reducing the density from the MATSim emission module. Fig.1 illustrates in blue the area where CO₂ emissions can be Quito Metropolitan District - DMQ (Ecuador) is significantly reduced by adopting an appropriate

A second study examined traffic density levels Transit (BRT) corridors on DMQ scenario [3]. The The first study dealt with the optimization of evolutionary algorithm searches for solutions

> We also analyze the effects of BRT headway Matter (PM) different two BRT headways configurations.



Fig. 1 Reduction of CO₂ by traffic signal optimization



Fig. 2 Trade-off between tarvel time and density colored by Npt

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References:

[1] Department of Economics, United Nations and Population Division Social Affairs, World urbanization prospects: The 2014 revision, 2014.

R. Armas, H. Aguirre, S. Zapotecas and K. [2] Tanaka, Traffic Signal Optimization: Minimizing Travel Time and Fuel Consumption, Artificial Evolution: 12th International Conference, Evolution Artificielle, EA 2015, Lyon, France, Springer, Artificial Evolution, pages 29-43.

R. Armas, H. Aguirre and K. Tanaka, Multi-[3] objective Optimization of Level of Service in Urban Transportation, Proceedings of the Genetic and Evolutionary Computation Conference, GECCO'17 Berlin, ACM, pages 1057-1064.



Fig. 3 PM emissions difference between two BRT configurations

Third Joint Committee meeting of the Trans-Pacific Human Capital Development Program and short-term training at the Pontifical Catholic University of Peru

University of Tsukuba,

Global Commons

The Trans-Pacific Human Capital Development es; Keiko Sekimoto, head of the Global Commons Program, a student-exchange project adopted and office; and Dr. Paola Sanoni, International Associsupported by the Ministry of Education, Culture, ate, made a courtesy visit to the president of the Sports, Science and Technology of Japan (MEXT), PUCP, Dr. Marcial Rubio, together with representcurrently in its third year of activities, held its Third atives from the other five partner universities that Joint Program Meeting of the Steering Committee participate in the Trans-Pacific consortium: El Coat the campus of one of its Latin American partner legio de Mexico, the University of Guadalajara universities, the Pontifical Catholic University of (Mexico), Los Andes University (Colombia), the Peru (PUCP), on September 14th and 15th of this University of Sao Paulo (Brazil), and the University year.

Prior to the meeting of the committee, Professor Shigeo Osonoi, Chair of the program and Provost of the Faculty of Humanities and Social Sciences of this university; Dr. Mari Minowa and Dr. Saori Isoda of the Faculty of Humanities and Social Scienc-





of Chile. Professor Osonoi expressed his deep gratitude to the PUCP family, and to Dr. Rubio in particular, for their cooperation in hosting the meeting of the Steering Committee, and for receiving our students in the short-term training program. The visit to Dr. Rubio was then followed

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by an exchange of opinions with all the representa- dents from September 3 to 21. As part of the protives present about strengthening the collabora- gram, other than taking classes of Spanish lantion between partner universities. At the two-days guage and Peruvian culture and society, students presented, with particular attention to the further Association (Nikkeijin Kyokai), JICA Peru, JETRO Lipromotion of exchange and the expansion of the ma, the Japan-Peru Chamber of Commerce and network. These points were lively discussed, and they set the tone for the exchange program.

Besides the high-level meeting, the PUCP also hosted the Short-Term Training Program of our stumeeting of the committee, the future agenda of had an enriching experience which included visits the program (now reaching its halfway point) was to the Japanese Embassy, the Japanese-Peruvian



(Dr. Marcial Rubio (5th from the right), Professor Osonoi (6th), and other committee members.)



(Joint Program Meeting of the Steering Committee) Industry, Peru Shimpo, and the Japanese company (Continued on page 13)

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Ajinomoto, etc. Through these interactions, the purpose. Overall, we expect that the experience students gained further understanding of the ac- will lead them to their next professional step, and tive relationship between the two countries. During to become a bridge between Latin America and their time at the PUCP, the students also enjoyed Japan. the opportunity to meet alumni of the Trans-Pacific Program who had studied in Tsukuba in the past. On September 19, the last day of their training pro-

gram, the students presented their findings and conclusions at the final presentation held for that



(Professor Osonoi (3rd from the right, front row) and the short-term program students visiting the Embassy of Japan in Peru)



(Training of the short-term program students at Peru Shimpo)

Newly discovered brain chemical "NPGL" controls appetite and body fat composition 広島大学

Kazuyoshi Ukena, along with collaborators from to assist the evolutionary-survivalist human body to Japan and UC Berkeley, adds to our understanding adapt to a calorie-intense 21st century environof how the brain regulates energy usage and feed- ment. ing habits - the control mechanisms of which are not yet fully understood. They found that NPGL, a recently discovered protein involved in brain signalling, has been found to increase fat storage by the body - even when on a low-calorie diet in rats. In addition, NPGL was shown to increase appetite in response to high caloric food intake. This latest research into NPGL has greatly increased our under-

The latest discovery by the group of Professor standing and should guide scientists in finding ways

Related articles

Iwakoshi-Ukena E, Shikano K, Kondo K, Taniuchi S, Furumitsu M, Ochi Y, Sasaki T, Okamoto S, Bentley GE, Kriegsfeld LJ, Minokoshi Y, Ukena K. Neurosecretory protein GL stimulates food intake, de novo lipogenesis, and onset of obesity. eLife 6:e28527 (2017) (Continued on page 14)

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Matsuura D, Shikano K, Saito T, Iwakoshi-Ukena E, Furumitsu M, Ochi Y, Sato M, Bentley GE, Kriegsfeld LJ, Ukena K. Neurosecretory protein GL, a hypothalamic small secretory protein, participates in energy homeostasis in male mice. 158:1120-1129 (2017)

Press releases

https://www.hiroshima-u.ac.jp/en/news/41277 https://www.hiroshima-u.ac.jp/en/news/39342 Profile of Professor Kazuyoshi Ukena

Endocrinology http://seeds.office.hiroshima-u.ac.jp/profile/ en.d20d4908f81dd6d2520e17560c007669.html

Unravelling the Mechanism of the Decline in Fertility with Age & Developing a Technique for Ovarian Rejuvenation

oped countries including Japan, USA, UK and EU opause. countries rely on assisted reproductive technology Reference: (ART) to become pregnant. However, the success Takashi Umehara, Tomoko Kawai, Ikko Kawashima, rate of ART in women more than 40 years old wom- Katsuhiro Tanaka, Satoshi Okuda, Hiroya Kitasaka, en is low.

using the unique ovarian aging model mice, we re- Cre female mice. Aging Cell (2017) vealed that the growth of fibrosis tissue in ovarian DOI: 10.1111/acel.12662 stroma is induced by the high serum levels of LH Profile of Professor Masayuki Shimada present with increasing age. The fibrosis is associat- http://seeds.office.hiroshima-u.ac.jp/profile/ ed with the arrest of follicular development. Thus, en.421632da20fa61ea520e17560c007669.html



Fertility decreases slightly in women around GnRH antagonist treatments might provide a new, the age of 30, but is clearly evident at a median age non-invasive strategy for improving fertility in a of 40. As a consequence, many women in devel- subset of non-responder aging women before men-

JoAnne S. Richards, Masayuki Shimada. The acceler-In our study (Umehara et al., Aging Cell 2017), ation of reproductive aging in Nrg1flox/flox;Cyp19-

You can also refer to the following articles. 🕘 広島大学

Latency of seizures determined by diet: estrogen-mediated brain protection directly linked to intake of fatty acids found in oils

https://www.hiroshima-u.ac.jp/en/news/41275

Conclusion of Inter-university agreement with National Autonomous University of Mexico (UNAM) https://www.hiroshima-u.ac.jp/en/news/41713

UPCOMING APPLICATION DEADLINES: FELLOWSHIP PROGRAMS

Application deadline to JSPS Tokyo Office: January 4 - 11, 2018 * Postdoctoral Fellowship for Research in Japan

- Short-term Program (1-12 months) https://www.jsps.go.jp/english/e-fellow/application-18.html

*The deadline is for the host institution to submit the application to JSPS Tokyo; generally, applicants must submit documents to host institution 1-2 months prior to this deadline.

Application Deadline to NIH:

January 31, 2018

Postdoctoral Fellowship for Overseas Researchers

https://www.fic.nih.gov/Programs/Pages/japan-fellowships.aspx

- Short-term for North American and European Researchers (1-12 months)
- Standard (12-24 months)

OFFICE STAFF SWITCH

Introducing New Deputy Director, Liaison Officer and International Program Intern

Yumiko Minoura (Deputy Director from Nagoya University)

Office on September 1 as the 8th Deputy Director. JSPS SF, she worked at Nagoya University for 13 Since then she's been enjoying meeting new people, years and recently became involved in international walking in the beautiful Northern California sunshine collaboration. One of Nagoya University's strengths and learning more about American culture. She is in its international approach which is unique in very excited to work in Berkeley where diversity and that it pays focus closely

Yumiko Minoura joined the JSPS San Francisco freedom is in the air. Before starting her tenure at

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and harmonious relationships with other Asian and new places here in the U.S. counties. Right before transferring to the SF Bay Area, Yumiko worked for two years for the university's Asian Satellite Campuses Institute that runs the flagship program, the 'Transnational Doctoral Programs for Leading Professionals in Asian Countries.' This program exclusively aims to provide educational opportunities to government officials in six countries (Cambodia, Vietnam, Mongolia, Uzbekistan, Laos and the Philippines) where NU Satellite Campuses are located. Through her work, Yumiko has gained professional experience in international cooperation while working with Japan's Ministry of Foreign Affairs, Japan International Cooperation Agency and MEXT. Back in 2009, she spent a total of 12 months in Montana and North Carolina, participating in the Long-term Education Administrator Program, supported by MEXT. Just few years later, she made a triumphant return to the U.S. in order to attend the Academic Residency of Education's USA Leadership Institute on Campus Internationalization: Institutional Structures to Support Inbound and Outbound Student Mobility, sponsored by the U.S. Department of State's Bureau of Educational and Cultural Affairs (ECA). She is thrilled to work with her American colleagues and is always seeking out opportunities to deepen her understanding of higher education in the US while expanding her personal network. She is a frequent traveler and has visited fifteen countries for business and/or pleasure and is looking forward to

on Asia. The university has several productive the opportunity to discover many more different



(Nashville, November 2017)



(Uzbekistan, May 2017)

Chris Reed (Liaison Officer)

worked for the Asahi Shimbun's San Francisco Bu- searched pre and post-war kamishibai ("paper thethe SF Bay Area. Chris has spent a total of 5 years grad at the University of California, Davis he spent living in Japan, first as an Assistant Language 10 weeks on an internship living and working in Ise Teacher on the JET Program in Nagasaki and later (located in Mie prefecture) at a "children's home"

Chris Reed joined the JSPS San Francisco as a graduate student in the department of Politi-Office as Liaison Officer in August. Previously he cal Science at Waseda University, where he rereau reporting on technology and breaking news in ater") propaganda. During his time as an under-

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with disadvantaged youth, an experience that jumpstarted his interest in Japan.

Chris is excited to play a role in higher education and furthering academic ties between Japan and the US. He's also excited to be working with a dynamic and engaging group at JSPS San Francisco while continuing the notable tradition of JET alumni filling the position of Liaison Officer. In his spare time Chris enjoys reading nonfiction (mainly history and economics), cooking (cauliflower Parmesan casserole is his go-to), listening to records (recently he's taken an interest in early 90s Detroit Techno and early 80s electro-pop from Japan), playing his Sega Genesis (known in Japan as the Sega Mega Drive), and going on outings with his young daughter (she hates being coopted up indoors).



Kaori Enoki (International Program Intern from KEK)

Kaori Enoki joined the JSPS San Francisco Office as International Program Intern at the beginning of July 2017 and will stay for two years. Prior to JSPS, she was working for the High Energy Accelerator Research Organization (KEK, Tsukuba City, Ibaraki Prefecture) for eight years. Her last position in KEK was at the J-PARC Center Users Office where she worked in operations and dormitory and apartment maintenance for J-PARC Center facilities users.

She is grateful for the opportunity to experience not only the dynamism of physics but of the scientific research community as a whole.





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