

JSPS Stockholm Newsletter

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Norwegian Woods

By Director Hideo Akutsu, JSPS Stockholm Office



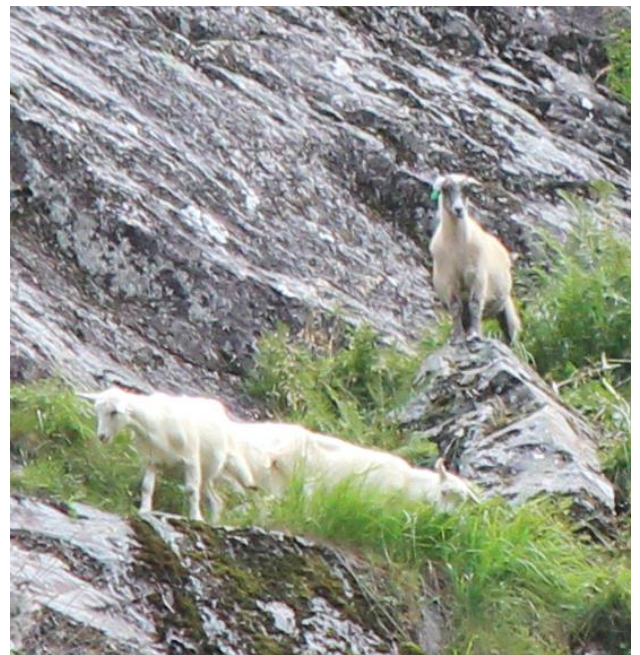
The Nobel Prize in Physics in 2014 was awarded to three Japanese Scientists in terms of birth place. I would like to congratulate Profs. Akasaki, Amano, and Nakamura for their great achievement. There were also unique Laureates in 2014. They were a Norwegian couple, Profs. May-Britt and Edward I. Moser at Norwegian University of Science and Technology (NTNU), awarded the Nobel Prize in Medicine or Physiology together with their senior colleague Prof. John O'Keefe at University College London. In 1970s, Prof. O'Keefe discovered so-called place cells in the hippocampus of a rat brain, which were activated when the animal assumed a particular place in the environment. This discovery revealed an important implication of the mechanism underlying the recognition of own position by the animal. However, there remained the serious question why single piece of information can provide the three dimensional perception. The couple visited O'Keefe's laboratory and learned the way to deal with the issue and handling methodology. After having come back to NTNU, they had concentrated on this issue for decades and came up with astonishing results in 2005. They discovered "grid cells" in the entorhinal cortex nearby brain. The cells were activated in a unique spatial pattern responding the movement of the rat. Thus, the place cells, the grid cells, and other additional cells turned out to form a network to function as a three dimensional spatial navigator, a kind of GPS in the brain. The winning of Nobel Prize has revealed not only the high quality of science but also the aspiring activity of female scientists in Norway. The Nobel lecture by Prof. May-Britt Moser held the audience spellbound through her attractive talk and brilliant performance.

Norwegian Vikings were brave enough to sail out to the wild sea without navigational charts and colonized Iceland, then Greenland. The Sagas in Iceland suggested that they even had stepped on the American continent. The fearless challenging spirit of Norwegian ancestors moves us. Their DNAs are inherited also by Profs. Moser, who challenged a new frontier without a chart as well. Interestingly, they are now elucidating the mechanism how Vikings filled out their blank chart in brain with their challenging adventures.

What is the origin of the challenging spirit of Norwegian? Geographical feature of Norway is the wildest in the Nordic countries, which are supposed to have unfriendly environments in general. The southern terrain is dominated by the highest peaks of the Scandinavian Mountains and the northern mountain

range is almost directly pouring into the Norwegian Sea with steep slopes. When I traveled from Kiruna, a northern city of Sweden, to Narvik in Norway by train, the scenery changed dramatically at the border of the countries. In the Swedish side a comfortable mountain view with forests and lakes was running through outside of the window. In the Norwegian side, however, the mountain slopes got steep and cliffs stood over a fjord. The train rolled down to Narvik through the challenging life. Norway has few fields appropriate for agriculture and dairy farm. Although Norwegian wood is an important export item, the forestry has to tackle on the rough mountain slopes. The merciless environment might be the origin of the fearless and enterprising spirit of Norwegian. Because of their bloody efforts Norway has been successful in getting into the industrially advanced nations of Europe. Currently they are enjoying the strong economy benefitted by North Sea oil. However, the economy after the oil is a serious challenge for Norway. That is why they are investing the oil fortune to development of science and technology. This would be one of major fields on which Japan can collaborate with Norway.

For most Japanese Norway is a far-north country at the end of the earth, harboring fjords and glaciers. Nevertheless, they feel sympathy with Norway because of tasty Norwegian salmons and Disney's animation film "Frozen". I recall my first reading of the novel "Norwegian Wood" (by Haruki Murakami). I was attracted by the Japanese title, which meant "Norwegian woods (or forest)". The story, however, had nothing to do with Norway. The title came from a Beatle's song, which also had nothing to do with Norway. Unexpectedly, however, "Norwegian Woods" had strong impacts on Japanese. Both of the song and novel became very popular in Japan. For Japanese the Norwegian woods sounded like a fantasy. There could be mysterious fairies like a troll and something totally unexpected might be going on in the forest. Even the inspiration of Profs. Moser on the brain GPS might come from there. Norwegian woods are full of surprises.



IVA-JSPS Seminar on Fuel-Cell Vehicles with Mr. Koichi Kojima, Toyota

On March 9, the 2nd seminar in the IVA-JSPS seminar series FY2014 was held on “Fuel-Cell Vehicles – the Solution for Fossil Free Transportation?” at the Royal Swedish Academy of Engineering Sciences (IVA). The seminar was organized by IVA, the Sweden-Japan Foundation (SJF), Embassy of Japan, the Chemical Society of Japan and JSPS Stockholm Office.

Prof. Göran Lindbergh, KTH Royal Institute of Technology, offered welcome remarks. The keynote lecture was given by the invited speaker from Japan Mr. Koichi Kojima, Project General Manager of Fuel Cell System Engineering & Development Division, Toyota Motor Corporation. In the keynote lecture titled “‘MIRAI’, Toyota FCV toward Hydrogen Society”, Mr. Kojima explained about MIRAI Technologies, especially cold startability including their past development experience.

The 2nd invited speaker was Cecilia Wallmark, Section Manager, Energy Strategies, SWECO, with a lecture on the topic “Hydrogen Infrastructure for Transport, implementation plans in Sweden and Europe”.

The lectures were followed by a panel discussion with Cecilia Wallmark, Karin Byman, Head of Department Sustainable Building Management, ÅF, and Hans G. Petterson, Deputy Director, Ministry of Enterprise and Innovation, moderated by Prof. Göran Lindbergh. The panel discussed topics such as the opportunities for Sweden; what can be learned from Japan, the challenges, outlook on cost efficient hydrogen production from renewable energy etc.

Please find Mr. Koichi Kojima’s report on page 9.



Mr. Koichi Kojima, Toyota Motor Corporation.



From left to right: Hans G. Petterson, Cecilia Wallmark, Karin Byman, Mr. Koichi Kojima and Prof. Göran Lindbergh.

Gathering for Japanese Researchers in Sweden

On April 16, a gathering for Japanese researchers in Sweden was held with about 30 researchers from various academic research institutions participating. The gathering was organized by Mr. Masafumi Sato, First Secretary of the Embassy of Japan, together with Ms. Yuriko Kawakubo, Deputy Director of JSPS Stockholm Office.

The purpose of the gathering was to encourage casual information exchange and to promote friendships among the participants. The gathering was also an opportunity to thank a researcher soon returning to Japan and to introduce JSPS’ new staff.

Director Hideo Akutsu closed the gathering, expressing hopes of an active exchange among the researchers.



JSPS Summer Program Pre-Orientation Held in Stockholm



Ms. Etsuko Kifune, JSPS head office.

On April 29, the JSPS Summer Program Pre-Orientation was held in Stockholm at the Swedish Foundation for International cooperation in Research and Higher Education (STINT). The JSPS Summer Program was launched in Sweden FY2014, and the purpose of the pre-orientation was to inform and prepare the FY2015 Summer Program participants of their upcoming research tenure.

Opening remarks were given by Dr. Andreas Göthenberg, Executive Director of STINT. Special guests from the JSPS head office in Tokyo were Ms. Etsuko Kifune and Ms. Megumi Kaneko of the Overseas Fellowship Division, International Program Department. Ms. Kifune gave an introduction to JSPS and informed participants on what to do before and after arriving in Japan.

The Summer Program was launched FY2014 in Sweden, and the first Summer Program fellows also participated in the pre-orientation, offering advice and answering questions from their juniors. Two of the FY2014 fellows also gave presentations on their research experience in Japan.

Director Hideo Akutsu gave an introduction of JSPS Stockholm Office and its activities, followed by an introduction of STINT by Dr. Hans Pohl, Program Manager of STINT.

The pre-orientation was closed with final remarks from Director Akutsu, and all participants could enjoy networking at the reception that followed.

The 2015 Crafoord Prize



On May 6, the Crafoord Prize award ceremony was held at the Royal Swedish Academy of Sciences (KVA). This year's Crafoord Prize was awarded to Dr. Tomoko Ohta, Prof. Emeritus, National Institute of Genetics, Mishima, Japan, and Dr. Richard Lewontin, Prof. Emeritus, Harvard University, Cambridge, USA, "for their pioneering analyses and fundamental contributions to the understanding of genetic polymorphism". Dr. Ohta and a representative of Dr. Lewontin, received the Prize from the hands of His Majesty the King Carl XVI Gustaf.

Prior to the award ceremony, the Crafoord Prize symposium in biosciences "Genetic variation in natural populations" was held at KVA with Dr. Ohta giving the lecture on "Genotype to phenotype link and near-neutrality in evolution". Additionally, Dr. Ohta presented

on May 7 in the Crafoord Prize lecture held at Lund University, on the topic "Progress of the near-neutrality concept in evolution".

Anna-Greta and Holger Crafoord's Fund was established in 1980, with the purpose to promote international basic research in the disciplines of astronomy and mathematics, biosciences, geosciences and polyarthritis research. The Crafoord Prize is one of the world's largest scientific awards with its prize sum of 6 million SEK, and is awarded to the above mentioned disciplines according to a rotating scheme. The prize acts as a complement to the Nobel Prize, and is annually awarded by KVA to excellent scientists.

More information on the Crafoord Prize 2015

- **Crafoord Prize symposium and the Prize lecture (video):**

<http://www.crafoordprize.se/events.4.2f692b3510dbfce339680003497.html>

- **The Royal Swedish Academy of Sciences:**

<http://www.kva.se/en/Prizes/Crafoord-Prize/>

- **The Swedish Royal Court:**

<http://www.kungahuset.se/royalcourt/royalfamily/latest-news/latestnews/thekingpresentscrafoordprizeinbiosciences.5.36257d1d14c9d87d3cd38e6.html>

- **National Institute of Genetics (Japanese)**

http://www.nig.ac.jp/nig/ja/2015/06/prizes-and-awards_ja/20150519.html

Symposium on “Human Brown Adipose Tissue and Obesity” Held in Stockholm



On June 2, the symposium on Human brown adipose tissue and obesity was held at the Royal Swedish Academy of Sciences (KVA), Stockholm. The symposium was organized by KVA, Stockholm University, Hokkaido University and JSPS Stockholm Office, and the purpose was to bring leading researchers for a mutual exchange of current research results and ideas in the field of human brown adipose tissue and obesity.

Prof. Barbara Cannon, President of KVA, offered welcome remarks and an introduction of the academy. The invited speaker from Japan was Prof. Emeritus Masayuki Saito, Hokkaido University.

Prof. Saito spoke about the brown adipose tissue in small

rodents, dogs and humans, and shared current research results.

Other speakers included researchers from Finland, Denmark, Sweden and the Netherlands, broadening the international perspective of the research field.

The symposium was attended by approximately 50 students and researchers, actively participating in discussions.

The symposium was closed with a dinner which provided an opportunity to make valuable contacts among participants.



Prof. Barbara Cannon, President, the Royal Swedish Academy of Sciences.



Prof. Masayuki Satio, Hokkaido University.

SAC Activity Seminar FY2014 Held at Linköping University



Prof. Hisatoshi Kobayashi, NIMS.

On March 10-11, the SAC Activity Seminar “Sweden-Japan Seminar on Nanomaterials and Nanotechnology (SJS-Nano)”, was held at Linköping University. The event was organized by SAC member and contact person Dr. Ashutosh Tiwari, Assoc. Prof. at the Department of Physics, Chemistry and Biology (IFM), Linköping University. From JSPS Stockholm Office, Dr. Hideo Akutsu, Director, and Ms. Marika Tashima, Office Assistant, attended the seminar on March 10.

The focus of the seminar was on nanotechnologies in health, energy and environment, with a total of 22 speakers from Sweden and Japan, lecturing on site and online. The aim was to increase and strengthen the collaboration between Swedish and Japanese nanotech researchers, and to develop collaboration between the two countries in the fields of processing, morphology, structure, properties and applications of nanomaterials and composites.

The seminar was opened by welcome remarks offered by Dr. Ashutosh Tiwari and his JSPS BRIDGE Fellowship

Program host and invited speaker from Japan, Prof. Hisatoshi Kobayashi, Group Leader of Biofunctional Materials Group, National Institute for Material Science (NIMS).

Prof. Ingemar Lundström, professor in Applied Physics at IFM, gave an introduction to Linköping University and acted as chair of the first part of the seminar. Following the university introduction, JSPS Stockholm Office’s Director Akutsu introduced the activities of JSPS Stockholm Office and the various JSPS Programs.

The first plenary talk on the 10th was given by Prof. Anthony P.F. Turner, IFM, on “Designing the Next Generation of Biosensors”. Next, Prof. Hisatoshi Kobayashi gave his plenary talk on “New Material concept for Corneal Regeneration”, sharing his group’s most recent results of their trials of making the mimic structure of the natural corneal stroma constructing of nanofibrous materials by using nanotechnology, and electrospun nanofiber approaches.

In the afternoon, Director Akutsu gave a plenary talk on the theme “An energy-transducing Nanomotor Protein, FoF1-ATPsynthase”, followed by Dr. Ashutosh Tiwari’s talk on smart integrated nanobiosystems for healthcare.

The first day was wrapped up with lectures by Dr. Niclas Solin, Linköping University, Prof. Fengling Zhang, Linköping University and Dr. Anton Grigoriev, Uppsala University.

The seminar was successfully attended by about 60 students and researchers.

Please find seminar organizer Dr. Ashutosh Tiwari’s detailed report on the seminar on p.16.

SAC Board Meeting Held at the JSPS Stockholm Office

On March 16, the JSPS Alumni Club in Sweden (SAC) held a board meeting at the JSPS Stockholm Office. The purpose of the meeting was to review the submitted applications for the SAC Activity seminar proposals FY2015, and the board was yet again impressed by the Alumni Club’s ambitious members’ seminar proposals. The final decision on which seminar to support was to be made later in Spring when JSPS had allocated a budget for alumni activities.

Other topics that the board discussed were the selection procedure of new board members, how to make the Club more independent, and the Club’s upcoming 10-year anniversary. Previously, a working group in charge of planning for the anniversary event was formed at the SAC General Assembly in November

2014. This time, it was decided that a chair should be selected among the participating working group members, and that two of the members’ event proposals were to be combined into one.



The Japan Alumni Forum Held in Helsinki

On March 19, the Japan Alumni Forum (JAF) was held in Helsinki, and gathered Finnish “Japan Alumni” who had lived in Japan for an extended period of time due to work, studies, research, JET or other exchange programs. The event was organized by the Embassy of Japan in Finland with support from JSPS Stockholm Office, for the purpose of creating a platform where fellow Japan Alumni could meet, network, share knowledge and memories from Japan.

The event was divided into a seminar and networking session, and the first speaker, Dr. Bart Gaens, Senior Research Fellow at the Finnish Institute of International

Affairs, gave a presentation on the manga creator Tezuka Osamu, titled “Tezuka Osamu – Pioneer of Japanese Pop Culture”.

The second speaker, Mr. Atsuyuki Agawa, Director, General Affairs, Finland and Northern Europe, Japan Airlines Co., Ltd, gave travel tips in his presentation titled “Planning your next trip to Japan -suggestions from JAL-”.

The Japan Alumni Forum was a success and gathered approximately 146 participants with various Japan-related backgrounds, happily networking and exchanging information.

The Seminar “Research and Study Possibilities in and on Japan” Held in Helsinki



Assoc. Prof. Naoko Saito, Kyoto University, Prof. Yoshimi Ogawa, Yokohama National University and Deputy Director Yuriko Kawakubo, JSPS Stockholm Office.

On May 11, the seminar “Research and Study Possibilities in and on Japan” was held at the Swedish School of Social Science, University of Helsinki. Attending from JSPS Stockholm Office was Ms. Yuriko Kawakubo, Deputy Director, and Ms. Marika Tashima, Office Assistant.

The seminar’s main organizers were the Embassy of Japan in Finland, the Hokkaido University Helsinki Office and JSPS Stockholm Office. Co-organizers included Academy of Finland, Finnish University Network for Asian Studies (Asianet), JSPS Alumni Club in Finland, Tekes, and University of Helsinki.

The seminar was chaired by Mr. Tero Salomaa, Deputy Director of Hokkaido Helsinki Office. Mr. Salomaa introduced Prof. Yoshihiro Narita, the newly appointed Director of Hokkaido University Helsinki Office. Prof. Narita offered welcome remarks and presented Kansei-Engineering, an advanced method of “measuring” the feelings and impressions of a product. Products can then be developed and improved in a way that responds to the intended feeling.

The first invited speaker was Prof. Yoshimi Ogawa from the Graduate School of Education, Yokohama National University. Prof. Ogawa’s lecture was titled “Research Sources on Language Teaching and Politics – Japanese

language education in Pre-war Europe”, and focused on the Japanese courses and the social demands in the early stages in Europe, Japanese native lecturers and persons related to Japanese courses in Finland.

Dr. Naoko Saito, Assoc. Prof. at the Graduate School of Education, Kyoto University, gave the keynote speech “Lost in translation? Addressing internationalization today”. Dr. Saito talked about the sense of loss in cross-cultural settings and how such an experience can reorient into an alternative mode of thinking and language for the internationalization of higher education.

The afternoon session focused more on research and funding possibilities, with Deputy Director Yuriko Kawakubo, JSPS Stockholm Office, informing the activities of JSPS Stockholm Office and JSPS programs, and Dr. Kristiina Jokinen, Chair of the JSPS Alumni Club in Finland, introduced the alumni club and its activities. After that, the following organizations’ representatives gave brief introductions of each institution and information on possible research funding, programs, activities, cooperation with Japan etc.: Ms. Ulla Ellmén, Science Adviser, Academy of Finland, Mr. Yuji Kato, Director of the Japan Science and Technology Agency (JST) Paris Office, and Ms. Merja Hiltunen, Director, Tekes, Strategic support for programmes and networking activities.

Other speakers included MEXT scholars and JSPS fellows, who shared their study and research experiences in Japan, and how it has benefited their careers.

A Master’s Thesis Workshop for students in Japanese was also held in the afternoon where students could discuss their thesis topics and receive feedback from supervisors.

The seminar was a success with 112 students and researchers attending, and the seminar was closed with a networking event held in the evening.

Please find Prof. Ogawa’s report on page 9.

ACF Activity Seminar FY2015 “Future Diagnostics” Held in Turku

On May 21, the seminar “Future Diagnostics” was held at the University of Turku. The seminar was organized by JSPS Stockholm Office, University of Turku - Technology Research Center, Turku University of Applied Sciences and the City of Turku. The chair of the organizing team was JSPS Alumni Club in Finland member Dr. Timo Korpela, Senior Fellow at the Technology Research Center, University of Turku. Attending from JSPS Stockholm Office was Dr. Hideo Akutsu, Director, and Ms. Marika Tashima, Office Assistant.



Dr. Seiji Shibasaki, Hyogo University of Health Sciences.

The seminar was opened by Dr. Korpela who offered welcome remarks and introduced the first invited speaker, Dr. Seiji Shibasaki, Assoc. Prof. at General Education Center (Chemistry & Biochemistry), Graduate School of Pharmacy (Molecular Medicine & Rheumatology), Hyogo University of Health Sciences. The theme of Dr. Shibasaki's speech was “The Recent Challenges in Red Biotechnology – for Accelerating the Development of Novel Diagnostic Tools and Pharmaceuticals”. Dr. Shibasaki spoke of the trends in Japanese health care, the development of diagnostics tools for infectious diseases using red-biotechnology and novel mechanisms in vaccines and drugs to combat the fungus *Candida albicans*.

The next speaker was Dr. Erkki Soini, Prof. Emeritus, on the topic of “New Principles for In Vitro Diagnostics – a Retrospective Review”. Dr. Soini presented the research and visions during his time at Wallac Oy and the collaboration in the 90's with 2014 Nobel Prize Laureate in Chemistry, Dr. Stefan Hell.

Dr. Korpela spoke about electrochemistry in diagnostics, and Director Hideo Akutsu briefly introduced JSPS Stockholm Office and JSPS programs supporting research activities.

Other presenters included representatives from PerkinElmer, Roche Diagnostics Ltd. and Turku Science Park.

The seminar was attended by about 50 participants, including students, researchers and company representatives. An evening reception was held at the Turku City Hall, where the participants could enjoy networking.



From left to right: Dr. Tony Wahlroos, Director Hideo Akutsu, organizer and JSPS alumni Dr. Timo Korpela, and Dr. Erkki Soini.

ACF Spring Meeting Held with the Seminar “Future Diagnostics”

Three board members of the JSPS Alumni Club in Finland (ACF) attended the seminar on Future Diagnostics in Turku for the purpose of holding a spring meeting.

The first part of the meeting was open for all symposium participants interested in the purpose of the Alumni Club and its activities. Dr. Kristiina Jokinen, Chair, introduced the club's history, present board members, the Club's previous and upcoming activities. Dr. Jokinen also informed of the BRIDGE Fellowship Program, which is a JSPS alumni club exclusive fellowship program.

The second part of the meeting was a board meeting with topics such as the Club's annual activity plan, budget and new members discussed.



From left to right: Prof. Robert Franzén, Dr. Kristiina Jokinen, Chair, Director Hideo Akutsu and Dr. Tapani Jussila.

Presentation and People whom I met at IVA Seminar

Koichi Kojima, Project General Manager of Fuel Cell System Engineering & Development Division,
Toyota Motor Corporation



including Mr. Morimoto, ambassador of Embassy of Japan in Sweden, were so active that the time passed very quickly. After my presentation, I was very relieved to get positive comments from many people. It was followed by a presentation on hydrogen infrastructure construction and then a panel discussion about hydrogen society such as FCV in Sweden. I was hearing various questions and answers on “Power to Gas” utilizing renewable energy and the political approach to hydrogen utilization as well as technology development, admiring the chairman, Professor Lindbergh, for his interesting conversation. During the panel discussion, I answered questions on Japan’s situation as far as I know. I re-realized that the sale of our FCV triggered these discussions in Sweden as well as Japan, and that hydrogen as renewable energy receives increasing attention in Europe including Sweden.

After the seminar, the dinner party was held in the chandeliered hall, where I talked with many participants. Those who were attending actively exchanged views with other people, like the questions and answers session at the seminar. A person was telling that he became proud of his study at the university because it found be useful to society. Also, the sale of our FCV could appeal to people who are in charge of basic research.

Lastly, I would like to take this opportunity to extend my gratitude to Ms. Kawakubo who supported this IVA seminar, and Dr. Akutsu, Professor of Osaka University and Director of Japan Society for the Promotion of Science (JSPS) Stockholm Office, who made me relaxed before my presentation, and many people who supported us.

FCV has just been released. We’ll continue to develop and suggest attractive products to customers. Your continued support will be greatly appreciated.

It was a fruitful day that I felt I could contribute to a better relationship between Sweden and Japan. I’m thinking back to the day and here I’m writing down what I feel.

In 1992, our company, Toyota, started developing fuel cell system technology and I’ve been engaged in it for the past decade. Since the end of last year when we released our Fuel Cell Vehicle (FCV) called “MIRAI”, many people show increasing interest in it. Toward commercializing FCV where the energy source is hydrogen, we think it’s very important that hydrogen infrastructure should be fully prepared. In Japan, energy companies are currently promoting the construction of 100 hydrogen stations in the four major metropolitan areas, with the government support for hydrogen station construction as well as automobile subsidy.

While we’ve been actively working on it, I was invited by IVA to speak about FCV. I started considering which theme is appropriate for the seminar held in Sweden and then decided to talk about MIRAI technologies, especially cold startability including our past development experience, so that more people can be familiar with FCV technology.

In the seminar, the discussions between the attendees

Research Source on Language Teaching and Politics: Japanese language education in Pre-war Europe

Prof. Yoshimi Ogawa, International Strategy Office, Graduate School of Education, Yokohama National University

I was given the honor of delivering a lecture titled “Research Source on Language Teaching and Politics: Japanese language education in Pre-war Europe” as part of an academic exchange between Japan and Finland. Personally, this lecture was a memorable opportunity for

me to connect the past and the future: I was able to introduce a theme which came about as a result of my post at the University of Helsinki, to see my old East Asian Studies students from 1990, and to engage those young men and women presently working at the



➡ frontline in discussion of issues bearing on the future.

In my lecture, I discussed three points about the history of Japanese language education in Europe, while featuring relevant documents. This research topic dates back to when I met Professor Tsutomu Kuwaki, who was at Helsinki as a visiting professor at the time (1941–1944). It all started when he gave me a large volume of documents including his lecture notes from the 1940s. As I read through the documents from both Japanese and European archives, many historic facts of Japanese language education in Europe during the war came to light.

For the first point of the lecture, I introduced how the Japanese government, nongovernment organizations and Japanese educators were involved in Japanese language education in Germany, Italy, Finland and neighboring countries, with reference to the opinions of Japanese educators regarding Japan's public relations at the time.

The second point of the lecture was the purpose of Japanese language education. The history of language education has always been a repetition of openings and closings influenced by social demand, and Japanese was no exception during the early stage of its introduction in Europe. For example, Japanese language was taught in the Netherlands during Japan's premodern period of national seclusion, known as *sakoku*. In Italy and France, moreover, it was taught as early as 1863, before the Meiji Restoration. The reason for this was an epidemic of pébrine among silkworms causing severe damage to the textile industry, which led to trade with Japan in order to obtain Japanese silkworms as a way to offset this damage. It is especially noteworthy that *Yōsan Hiroku*, a representative Edo-period book of instructions on silkworm breeding, was already translated into French and Italian in the mid-19th century. The Japanese language had been studied to the point where this document, which could be called Japan's first technical book, was translated and published by multiple translators. Overcoming an economic crisis was a strong motivation for contemporary linguists.

The third point is the introduction of documents about persons involved with Japanese language education in Finland after the time of the linguist G. J. Ramstedt, along with my own interpretations. According to Halén (1998), a man named Do Chong-Ho who spoke a Korean dialect which played a vital role in Ramstedt's research was considered for the position of Japanese language teacher before Kuwaki's arrival. There is now a new interpretation for the reason why he was not ultimately given the position, based on diplomatic documents that recorded exchanges between Ramstedt and the legation. Secondly, Marta Keravuori, a student of Kuwaki's, introduced Japan to the country through many activities after the war, along with Kuwaki himself, who actively introduced Finland to Japan. Recognized for his works, Kuwaki served as the first chairman of The Nordic Cultural Society of Japan and was awarded the Lion of



Finland. Letters by Keravuori suggest that Kuwaki's activities were supported by her and that he also gave her activities unstinting support. The foundation of the cultural exchange between Japan and Finland was established through the work of these dedicated individuals.

There is great hope for future research of the history of cultural exchange between Japan and Finland as new interpretations evolve. During my recent stay, I was able to have fruitful discussions with a doctoral student writing a thesis on Keravuori, along with scholars studying Japan and my peers from JSPS. I keep the documents and publications that I collected from the archives in Japan and Europe in my office at Yokohama National University. I hope they will become useful to those who are researching the history of Japanese study and the history of Euro-Japanese exchange.

Finally, I would like to give recognition to the Japan Society for the Promotion of Science which has supported me through publication and research grants. My treatise *Ōshū ni okeru senzen no Nihongo kōza: Jittai to haikai* ("Japanese Language Education in Prewar Europe: Facts and Backgrounds," published by Kazama Shobō) came out in 2010 with a grant from JSPS. With another recent grant that we have received, we opened a webpage that introduces the history of Japanese language education in Europe and around the world. We are currently in the process of adding more data and translating them into multiple languages to spread this field of research, so please have a look if you are interested. I was able to feel a strong hope for the future of the academic exchange in this field. I would like to give my most sincere thanks to the Hokkaido University Helsinki Office, JSPS Stockholm Office, JSPS Alumni Association, the Japanese Embassy and all other people who have given me support.

March

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Visitors from Hokkaido University

Prof. Masataka Kinjo, Laboratory of Molecular Cell Dynamics, Faculty of Advanced Life Science, and Dr. Yuki Takagi, Task Force for Research Strategy, URA station, both from Hokkaido University, visited JSPS Stockholm Office.

Director Hideo Akutsu introduced JSPS Stockholm Office and its activities, while Prof. Kinjo and Dr. Takagi explained "Hokkaido Summer Institute" and "Learning Satellite" program, which are implemented as a part of "Top Global University Project", supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT).



March 9, visit by Dr. Yuki Takagi and Prof. Masataka Kinjo, Hokkaido University.

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Director Hideo Akutsu and Deputy Director Yuriko Kawakubo visited Oulu, Finland

Director Hideo Akutsu and Deputy Director Yuriko Kawakubo visited Oulu, Finland, to participate in the 2nd "Arctic Fact Finding Mission" organized by the Embassy of Japan in Finland. Participants consisted of representatives from Japanese research institutes and businesses, and the mission included visits to Oulu University, the Reska area with its eco houses, and a lunch meeting sponsored by the Mayor of Oulu.

April

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Dinner with JAXA Astronaut Mr. Soichi Noguchi

Mr. Soichi Noguchi, Head of Astronaut Group Japan Aerospace Exploration Agency (JAXA), was visiting Sweden for the preparations of the upcoming space conference to be held in Stockholm on September 20-27. The conference is organized annually by the Association of Space Explorers (ASE)*, of which Mr. Noguchi is the current President.

Mr. Noguchi kindly shared his experience in space at the International Space Station (ISS) and the challenging astronaut training.

Participating in the meeting were Mr. Masafumi Sato, First Secretary of the Embassy of Japan, and the staff of

JSPS Stockholm Office.

*Association of Space Explorers (ASE):

<http://www.space-explorers.org/>



April 20, dinner with astronaut Mr. Soichi Noguchi.

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Director Hideo Akutsu and Deputy Director Yuriko Kawakubo visited Umeå University

Director Hideo Akutsu and Deputy Director Yuriko Kawakubo visited Umeå to meet and congratulate Prof. Emeritus Gunnar Öquist, Department of Plant Physiology, Umeå University, for being awarded the Order of the Rising Sun, Gold and Silver Star, and for a meeting with Prof. Lena Gustafsson, Vice-Chancellor of Umeå University, and Prof. Marianne Sommarin, Deputy Vice-Chancellor with responsibility for research. Director Akutsu and Deputy Director Kawakubo learned about the university's strategy to strengthen cooperation with universities in Sweden and abroad, the aim to become one of Sweden's top universities by improving the quality and attracting excellent students and researchers. They were also shown several research facilities at the university. Prof. Gunnar Öquist had kindly arranged the details of the visit and accompanied all the schedule.

News article (in Swedish):

<https://www.aurora.umu.se/Nyheter/2015/4/japansk-delegation-besokte-umea-universitet/>



April 21, meeting with Prof. Gunnar Öquist, Prof. Lena Gustafsson, Vice-Chancellor, and Prof. Marianne Sommarin, Deputy Vice-Chancellor for Research, Umeå University.

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Visitors from the JSPS Head Office in Tokyo

Ms. Etsuko Kifune and Ms. Megumi Kaneko from JSPS' Overseas Fellowship Division, International Program Department visited JSPS Stockholm Office.

Ms. Kifune and Ms. Kaneko explained the challenges of JSPS Fellowship Programs and ways of implementing the Summer Program Pre-Orientation event. Then, preparatory details of the first Summer Program Pre-Orientation event in Sweden were discussed.



April 28, visit by Ms. Etsuko Kifune and Ms. Megumi Kaneko, JSPS' Overseas Fellowship Division.

May

7

Visitors from Tokyo Institute of Technology

Director Takayuki Kato, International Affairs Department, and Ms. Mitsuyo Ikeda, Staff of General Affairs Division, Suzukakedai Administration Office, Tokyo Institute of Technology, visited JSPS Stockholm Office. Director Hideo Akutsu and Deputy Director Yuriko Kawakubo learned about the reform of education system in the international perspective, and the university's renewal of international research activities to be implemented. The parties exchanged opinions before Director Kato and Ms. Ikeda continued their trip to Göteborg for the participation in the Nobel Workshop on Molecular Frontiers, held at Chalmers University of Technology.



May 7, visit by Director Takayuki Kato and Ms. Mitsuyo Ikeda, Tokyo Institute of Technology.

13

Attending the lunch meeting with officials from the Nobel Foundation, Nobel Media and Nobel Museum

Director Hideo Akutsu and Deputy Director Yuriko Kawakubo attended the Nobel lunch meeting held at the Japanese ambassador's residence. Participating in the meeting were officials from the Nobel Foundation, Nobel Media and Nobel Museum. The parties discussed the outcome of the Nobel Prize Dialogue Tokyo 2015 in March, which was the first dialogue held outside of Sweden, and the scientific exchange between Sweden and Japan.

June

1

Visitor from Osaka University

Distinguished Prof. Tamotsu Yoshimori, Graduate School of Frontier Biosciences, Graduate School of Medicine, Osaka University, visited JSPS Stockholm Office. Deputy Director Yuriko Kawakubo introduced the activities of JSPS Stockholm Office and JSPS Fellowship programs. Prof. Yoshimori shared that he had been invited to deliver a lecture in a seminar held at Umeå University, and both parties exchanged views on international exchange.



June 1, visit by Prof. Tamotsu Yoshimori, Osaka University.

JSPS BRIDGE Fellowship Research Report (ACF)

Prof. Seppo Salminen, Functional Foods Forum, Faculty of Medicine, University of Turku

Program in Abashiri

Following arrival in Abashiri, there was a symposium for the 25th Anniversary of Tokyo University of Agriculture Hokkaido Campus on the following day with my presentation on the “Traditional and future uses of probiotics” where my discussion was focused on our work on how human infants acquire microbiota during fetal period and the first year of life and how this serves as a model for probiotic development. This was followed by presentation of the University of Turku’s probiotic intervention studies in mothers and infants and the efficacy of probiotics with some aspects of future developments. The presentation was followed by a discussion session with the students and the faculty.

A short excursion on the facilities of the Faculty in Abashiri was made and the faculty discussion focused on potential collaborative studies in the future. A focus on probiotics and flavor research would be foreseen as a potential avenue for collaborative studies.

Other program in Abashiri Area

Visit to local supermarkets to observe changes in food products, especially probiotics and fermented foods. A specific interest was placed on fermented dairy products, natto, and foods with FOSHU status. Specific products were discussed with Dr. Endo and he explained the composition and active ingredients and their acceptance by consumers.

Tour around the agricultural areas of Abashiri region took place and additionally a visit to Abashi Prison Museum and familiarization to prison diets and foods. Visit to Shiretoko National Park and Utoro Hot Springs; the UN Natural World Heritage site with special plants and animals typical to the area was a highlight of the cultural activities.

Meeting and symposium in University of Hokkaido and Prof. Yokota

Prof. Salminen gave a special seminar on “Intestinal Microbiota Development and Probiotics in Infants and Children”, at the Department of Microbiology at the Hokkaido University. The seminar had a large audience on the 28th of October and thereafter, PhD seminars and research discussions were held led by professors Yokota and Salminen and included also Dr. Akihito Endo.

Discussion points included research challenges faced by each of the participating teams and focused on intestinal microbiota development, characterization and health benefits of different means of modulating the microbiota. Thereafter, discussion focused on possibilities of future collaboration between the Universities. It was noted that Hokkaido University and the University of Turku belong to the same collaboration agreement and this should facilitate later the inclusion of

Name: Prof. Seppo Salminen

Institution: Functional Foods Forum, Faculty of Medicine, University of Turku

Host institution in Japan: Tokyo University of Agriculture, Abashiri campus

Host researcher: Assoc. Prof., Dr. Akihito Endo

members of each University to exchange knowledge and skills in English speaking courses offered by Hokkaido University as part of their new course development and in part by the University of Turku food and health related studies offered in English for European Union students. Both parties would benefit from such collaborative efforts and expand their knowledge base for teaching.

Visit with Dr. Tsukasa Shiraishi, Department of Microbiology, Sapporo Medical University, School of Medicine, was conducted for discussing microbiota studies and making a field trip to discuss challenges in the microbiology of wine growing and fermentations in Hokkaido area. The tour in Hokkaido Winery was led by Mr. Yasuao Watanabe, who explained the growing conditions of grapes in Hokkaido, which in weather conditions are somewhat similar to the German speaking wine production areas in Europe. Also many of the grape varieties originate from Germany or Austria and are adapted to the local conditions. Hokkaido Wein also collaborates in research with the Tokyo University of Agriculture Abashiri campus and Dr. Endo participates in the development. Wine fermentation, storage and processing were discussed and finally also a product tasting was organized.



Wine tasting in Hokkaido Wein with Dr. Endo.

Dr. Shiraishi organized the practical parts of the field trip in collaboration with Dr. Akihito Endo and the part was of interest both in terms of microbiology and flavour/aroma chemistry as well as culturally, and included an



➡ enchanting tour of the country-side of the wine growing areas.

Le TAO Sweets factory

At the end of the tour day, also a short visit to the Le TAO (Northern Sweets Manner) sweets factory was conducted to observe the various ways of including dairy cheese in chocolate and confectionary manufacturing with a variety of upmarket products from cheesecake to chocolates. Product tasting provided an exceptional possibility to characterize Japanese flavour properties and profiles.

Conclusion to Hokkaido Visit

The research and seminar visit to Hokkaido provided new ideas of potential collaboration between Tokyo University of Agriculture and a basis for and European Horizon 2020 and Marie Skłodowska Curie action collaborative research and training application. This will be proceeded together with Dr. Endo and his colleagues. Potentially also an arrangement with Hokkaido University and professor Yokota may be developed including research and English format course work in the general area of food, intestinal microecology and health.

Taken together the Hokkaido visit was exceptionally well organized and timed and offered an exiting link between Finnish and Northern Japanese agriculture, foods and fermentation processes. Visits to both production sites (such as Le TAO, Hokkaido Wineries, Fisheries in the neighborhood of Shiretoko National Park) as well as the food retail establishments provided a good overview of Agriculture, food science and food production and processing in Hokkaido area.

Program in the Tokyo Area:

Visit to "B Food Science (BFS) company Tokyo office

Dr. Endo had organized a research visit to the BFS company, which is 100% subsidiary company of Mitsui & Co., Ltd., head office in Tokyo (Chiyoda-ku, Tokyo) and had a seminar presentation by Prof. Salminen on the "European Union Regulations concerning novel foods".

Prof. Salminen also presented the status of health claims in Europe concerning polyols and dental caries and dental demineralization and remineralization.

Participation in the annual Yakult symposium in Tokyo

Prof. Salminen participated along with Dr. Endo in the 23rd Symposium on Intestinal Flora organized by the Yakult Bioscience Foundation and the Ministry of Education, Culture, Sports, Science and Technology of Japan. The topic of the symposium was "intestinal Microbiota, Intractable disease and Autoimmunity". The topics focused on enteric bacteria and rheumatic disease, immune-bacteria crosstalk at the mucosal barrier and several intestinal microbiota associated diseases such as inflammatory bowel disease, multiple sclerosis and colitic cancer. The symposium was held in Yakult Hall in Tokyo.

During the symposium, discussions were conducted with

Prof. Yoshimi Benno of RIKEN, Dr. Koichi Watanabe of Yakult Central Research Institute and several other participants. Both the meeting talks and the discussions were useful for planning future collaboration between Finland and Japan.

Visit to Takanashi Milk Products Company and their Research Centre in Yokohama

An industrial visit to Takanashi Milk Products Company headquarters in Yokohama was completed on the 3rd and 4th of November with discussion on low lactose products, probiotics and prebiotics in research and development. At the same time, concepts and new products were introduced in the discussion and potential research needs were discussed. At the end, a short memorandum was made to continue research together with additional researcher training potentially enabling Japanese postdocs to conduct research in FFF at the University of Turku.



New milks in the Japanese market and yoghurt drinks requiring novel technologies.

On the 4th of November, a scientific symposium was organized with the title "Allergy prevention by the use of probiotic products". The Scientific presentations included Prof. Salminen's presentation on "Lactobacillus rhamnosus in allergy and obesity prevention" while Japanese pediatric physicians (Department of Pediatrics, Toho University School of Medicine, Tokyo) Yumiko Komine and Misa Watanabe presented their clinical intervention studies on "Primary Prevention of Allergy" and "on bifidobacteria in human intestinal microbiota".

An intensive discussion on the research projects was conducted with further suggestions on refining the current project and planning new projects in the area of allergy, allergy prevention and treatment of allergic eczema.

Visit to Fukushima Medical School and College

This visit focused on the food and feed situation on Fukushima area and discussion were conducted with ➡

➔ Prof. Otsuva Niva, Prof. Kenneth Nollet (Director, Department of International Cooperation, Radiation Medical Science Center) and Prof. Akira Ohtsuru. The discussion focused on radiation levels in mushrooms, foods and water and the produce from local area of Fukushima. Comparisons were made between Japanese Cs levels and Finnish Cs levels following nuclear power plant accidents (Fukushima and Chernobyl). Local produce was cleared from excessive Cesium levels and the acceptable levels for food were lower than in some European countries. Produce is sold and examined to be of high quality and free from radioactivity.

Concluding remarks

Assoc. Prof. Akihito Endo had organized an excellent program and coordinated the program with great enthusiasm. All details worked out as planned and the exchange of information was of high quality and of both scientific and cultural interest.

As a result, several research projects were planned and coordination in the Japanese end will be organized by Dr. Endo resulting in stronger future collaboration and exchange of scientists.



Seminar in Yokohama.

I would like to sincerely thank Japan Society for the Promotion of Science for providing this opportunity for strengthening the collaboration and providing new direction for future projects. Personal thanks are addressed to Dr. Endo for extraordinary coordination and organization of the visit.

Finnish Alumni Club Summit in Osaka

Dr. Kristiina Jokinen, Chair of the JSPS Alumni Club in Finland (ACF)



From left to right: Tapani Jussila, Joni Kujansuu and Kristiina Jokinen, Chair.

April 1, 2015.

The Finnish Alumni Club found three of the board members in Japan at the same time, so it was most natural to organise a semi-official board meeting in Osaka to celebrate the occasion, as well as to enjoy the spring and the beautiful sakura at its peak blossoming.

Tapani Jussila was travelling and meeting colleagues in Tokyo, Okinawa and Kyoto related to his new book on Japan, Joni Kujansuu had been coordinating a big joint project on air-quality in Osaka and was waiting for his returning back to Finland in May, while Kristiina Jokinen had been invited to attend the Shonan meeting and visited some colleagues in Tokyo, Kyoto, and Kita-Kyushu.

The Summit meeting took place on top of the hills in Takarazuka, the famous all-female theatre town and Osamu Tezuka's home town, north of Osaka.

Joni and his family had a wonderful Japanese house there, tugged up in the mountains and overlooking the Osaka city.

The meeting started with a visit to the famous Nakayama-dera temple, to view the cherry blossoms as well as the beautiful view over the city.

The meeting continued appropriately with a visit to a local bath, and finished at Joni's house up on the top of the mountain.

Besides comparing various cultural and scientific aspects of the current collaboration between Japan and Finland, the summit meeting also briefly discussed the question of introducing a membership fee in the ACF club.

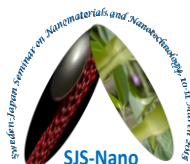
The discussion focussed mainly on the benefits of the membership to the members as well as practical issues of handling payments (in Finland this would require official registering of the Club). These issues were decided to be discussed further back in Helsinki together with the other members of the board.

Finally, the summit meeting decided to suggest to the ACF board to look for possibilities to have another summit meeting or summit seminar in Japan, especially in a summit location like Takarazuka. Joni generously offered to provide the venue for the next event, in the big house he and his wife own in Takarazuka.

SAC Activity Seminar FY2014 at IFM, Linköping University, Sweden, 10-11 March 2015

The Sweden-Japan Seminar on Nanomaterials and Nanotechnology (SJS-Nano)

Ashutosh Tiwari, Associate Professor, Group Leader, Smart Materials and Biodevices, Biosensors and Bioelectronics Centre, IFM-Linköpings University



The Sweden-Japan Seminar on Nanomaterials and Nanotechnology (SJS-Nano) is a two-day bi-national event organized since 2012 by the International Association of Advanced Materials (IAAM, www.iaamonline.org)

with the association of JSPS Sweden Alumni Club (SAC) and Linköping University, Sweden, consisting of plenary talks, invited talks, e-invited talks, oral and poster presentations focusing on the recent advancements in the nanomaterials and nanotechnology. During 10-11 March 2015, this event was hosted by Linköping University at Planck auditorium, IFM-Physics building, Linköping, Sweden. There were six sessions with 3 plenary talks, 5 invited talks, 9 oral and 20 poster presentations. A special e-session was organised to connect five Japanese eminent researchers to deliver their talks through internet live video. The logo of event decided a symbol of green and sustainable nanotechnology.

Sessions include theoretical and experimental works on-

- ❖ Biomedical Nanotechnology
- ❖ Nanotheragnostics
- ❖ Energy and Environmental Nanotechnology
- ❖ Nanobioanalytics
- ❖ Nanofabrication and Applications

The purpose of organising this seminar is to encourage a free exchange of information about recent advances in nanomaterials and nanotechnology, focusing on nanotech in health, energy and environment. The aim of the meeting is to increase collaboration between Swedish-Japanese industry and academia. This meeting was contributed to create strong interaction between both countries. From the Swedish side Prof. Ashutosh Tiwari, Secretary-general of IAAM, Editor-in-Chief, Advanced Materials Letters, Linköping University and Prof. Hisatoshi Kobayashi, President of IAAM, National Institute for Materials Science, Tsukuba, had taken part

from Japan.

The event was started with the welcome and introductory session- welcome talks by Prof. Ashutosh Tiwari, Prof. Hisatoshi Kobayashi, and introductory talks by Prof. Ingemar Lundström, Linköping University on introduction to Linköping University and Dr. Hideo Akutsu, Director of JSPS Stockholm Office on introduction to JSPS. The scientific session was opened with the plenary talk of Prof. Anthony PF Turner on the designing the next generation of biosensors. He emphasised the effective harnessing of emerging nano- and microtechnologies to design and produce sensors at economical costs. Prof. Hisatoshi Kobayashi delivered next plenary talk on the new material concept for corneal regeneration using nanofibers of synthetic and silk proteins to develop porcine cornea. He shared his most recent results of the animal trials. Dr. Hideo Akutsu discussed energy-transducing nanomotors proteins, FoF1-ATPsynthase through the role of solution and solid-state-NMR. ➡



Strategic discussion of SJS-Nano organisers: Prof. Ashutosh Tiwari, Prof. Hisatoshi Kobayashi with Prof. Anthony PF Turner, Head of Biosensors and Bioelectronic Center, LiU and Dr. Hideo Akutsu, Director of JSPS Stockholm Office on introduction to JSPS.

➔ Five more Japanese researchers' delivered e-talks through live video platform: 1) Prof. Kazunori Ikebukuro from NIMS on aptamer based nanobiosensing, 2) Prof. Akio Kishida from Tokyo Medical and Dental University on corneal tissue engineering, 3) Dr. Shanmugavel Chinnathambi, NIMS on quantum dots based nucleic acid drug delivery, 4) Dr. Yohei Kotsuchibashi, NIMS given talk on the temperature-responsive polymeric nanoparticles preparation, chemistry and their biomedical applications, and 5) Dr. Maria Chiara Munisso, National Cerebral and

Cardiovascular Research Institute shared her research on polymer based *in vitro* and *in vivo* antisense delivery systems. From Sweden side more than 60 researchers from four major universities in Sweden participated and shared their works on various topic of nanotechnology ranging from energy, healthcare and environmental to fundamental and basics for example preparation of functional nanomaterials and their properties for high performance technological applications.



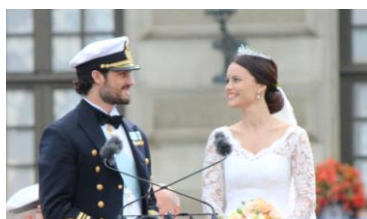
Poster session of SJS-Nano, Prof. Ingemar Lundström, Linköping University, interacting with presenters.



Poster presentation award of SJS-Nano 2015 to E. Ekström and J. Tenö for his work on 'Development of "self-cleaning" and anti-reflective coating on flat glass based on zinc oxide'

4. Column

The Royal Prince Wedding 2015



On June 13, Prince Carl Philip of Sweden married Miss Sofia Hellqvist. The wedding ceremony took place in the Royal Chapel at the Royal Palace in Stockholm. Prince Carl Philip is the second oldest child of H.M. King Carl XVI Gustaf and Queen Silvia.

The Prince couple have formed a foundation in connection with their marriage, "The Prince Couple's Foundation", for the purpose of promoting and supporting children and young people in issues related to care and education.

HIH Princess Takamado of Japan visited Sweden, and was one of the Royalties attending the wedding held at the Royal Chapel in Gamla Stan.

Audience held with HIH Princess Takamado

An audience was held at Grand Hotel with HIH Princess Takamado. Attending were 22 Japanese residing in Sweden, representing academic disciplines, culture and arts, and the Japanese Association in Stockholm. Welcome remarks and introduction of participants were given by HE Ambassador Seiji Morimoto of the Embassy of Japan in Sweden. The participants were divided into groups and had a chance to discuss with HIH Princess Takamado. The Audience ended with HIH Princess Takamado offering words of appreciation and encouragement.



Photos above by Mattias Edwall, The Royal Court, Sweden

Japan's Robot Astronaut "Kirobo"

By JSPS Stockholm Office

Japan is a country known world-wide for its advanced and high-quality technology. One highly recognized field is robotics, an industry which is considered to be more important in Japan than in any other country, and the use of robots varies from factories to department stores. Recently, the Mitsukoshi department store in Tokyo welcomed its customers by having a human-like robot receptionist dressed in kimono greeting the shoppers.

With a society where we communicate less and the increase of people of all ages living alone and feeling excluded from society, Dentsu, the University of Tokyo's Research Center for Advanced Science and Technology (RCAST), Robo Garage, Toyota Motor Corporation, and Japan Aerospace Exploration Agency (JAXA), developed Japan's first robot astronaut "Kirobo", as a part of a five-year joint research project. The project's vision is to help those experiencing severe loneliness by having robots as conversational companions. The name "Kirobo" was selected among 2452 suggestions submitted online, and the name is a combination of the Japanese word for hope "Kibo" (希望) and the short generic term for robot "robo" (ロボ).

The developers worked hard to make 34 cm tall Kirobo capable of voice and speech recognition, speech synthesis and telecommunications. The robot is also capable of natural language processing, facial recognition and video recording in zero gravity environment. Kirobo's robot twin "Mirata" was simultaneously developed, and has the same characteristics and acts as Kirobo's backup.

In August 2013, Kirobo was sent to space on its first mission to serve as a conversational companion to the astronaut Koichi Wakata, the first Japanese commander of the International Space Station (ISS). Kirobo arrived at ISS six days after being launched into space, and another



11 days later, Kirobo gave its first speech stating: *"On August 21, 2013, a robot took one small step toward a brighter future for all."*

During Kirobo's 18-month stay at the ISS, the conversations with astronaut Wakata included topics such as how Kirobo arrived in space, how the Earth looks from space and the difference between Kirobo and its backup Mirata. Before Kirobo's return to Earth in February 2015, astronaut Wakata asked the robot of its best memory from its stay at ISS, to which Kirobo answered "the conversations with astronaut Wakata". Kirobo's adventures in space ended with a safe arrival back on Earth, and the robot was returned to Japan on March 12, with its first words back on Earth being: *"From up above, the Earth glowed like a blue LED."*

Kirobo's achievements in space have been awarded two Guinness World Records for being the first companion robot in space, and for the highest altitude for a robot to have a conversation.

Whether robots such as Kirobo will be a more common sight in space and in the daily lives of humans, only the future can tell.



FACTS. KIROBO.

Height: 34 cm

Full width: 18 cm

Depth: 15 cm

Weight: 1000 g

Spoken language: Japanese

Primary equipment:

- Voice recognition
- Natural language processing
- Voice (speaking) composite
- Information and communication functions
- Communication operations
- Facial recognition camera
- Camera for recording
- Etc.

Sources:

<http://www.kibo-robo.jp/en/>

<http://www.guinnessworldrecords.com/news/2015/3/robot-astronaut-kirobo-sets-two-guinness-world-records-titles-375259>

<http://www.space.com/22235-japan-launches-talking-space-robot-astronaut.html>

<http://www.afr.com/technology/gadgets/japans-shinzo-abe-hopes-robot-revolution-can-replace-ageing-workforce-20150529-ghc7ng>

The Fifth Meeting of the Japan-Norway Joint Committee on Cooperation in Science and Technology (JCM) Held in Oslo

On February 11, 2015, the Fifth Meeting of the Japan-Norway Joint Committee on Cooperation in Science and Technology (JCM) was held in Oslo, Norway.

Ms. Kari Balke Øiseth, Director General of the Department of Research in the Norwegian Ministry of Education and Research (MER), and H.E. Makoto Katsura, Ambassador for Science and Technology Cooperation, the Ministry of Foreign Affairs of Japan, co-chaired the 5th Japan-Norway Joint Committee Meeting (JCM) on cooperation in science and technology. The meeting was attended by representatives from several ministries, funding agencies and research institutions in both countries.

Updates on recent developments in science and technology, innovation policies in both countries were conducted by MER, Cabinet Office of Japan and the Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT). Next, the Joint Committee

discussed the following four existing priority areas of cooperation: energy/environment, seafood safety, nanotechnology and new materials, polar and space research. The delegates exchanged opinions on future cooperation, opportunities and priorities.

Attending from JSPS headquarter office was Ms. Sawa Koyama, Deputy Head, and Mr. Takanori Suzuki, Officer of Bilateral Cooperation Division. Ms. Koyama gave an overview of JSPS activities and programs that promote international cooperation. Ms. Koyama further informed that JSPS Stockholm Office covers JSPS activities in Norway.

Source:

http://www.mofa.go.jp/erp/we/no/page22e_000648.htm

The 2015 Marcus Wallenberg Prize

On March 16, the laureates of the 2015 Marcus Wallenberg Prize were announced. The Prize will be awarded to Prof. Akira Isogai and Assoc. Prof. Tsuguyuki Saito from the University of Tokyo, and Dr. Yoshiharu Nishiyama from the Centre de recherches sur les macromolécules végétales, CERMAV-CNRS, France, for their development of an energy-efficient method to produce nanofibrillated cellulose. The award ceremony will be held on September 28, and the laureates will receive their Prize from His Majesty the King Carl XVI Gustaf.

Marcus Wallenberg (1899-1982) was Sweden's most respected industrialist, holding a unique position in both domestic and international industrial circles. He was

chairman and honorary chairman of several Swedish and international organizations. The Marcus Wallenberg Foundation for Promoting Scientific Research in the Forest Industry was established in 1980 by the company Stora Kopparbergs Bergslags Aktiebolag, to commemorate the many years Dr. Wallenberg served as member and chairman of the company's Board of Directors. The aim of the Foundation is to encourage scientific research in forestry and forest industries, and to award significant scientific achievements within the fields. It is the first time the Prize was awarded to Japanese scientists.

Source: <http://www.mwp.org/>



Sweden's Minister for Infrastructure visited Japan and South Korea



Photo Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

On May 9-16, Sweden's Minister for Infrastructure Anna Johansson, visited Japan and South Korea to discuss high-speed trains and to promote Swedish companies within the transport industry.

Since May 2013, Sweden and Japan has an agreement in the field of railways, and the purpose of this visit was to meet with Transport Minister Akihiro Ota for a mid-term evaluation of the cooperation on maintenance, the construction and management of high-speed railways. In connection with the evaluation, an exchange meeting between Swedish and Japanese railway companies was arranged to promote cooperation.

Minister Johansson's visit to Japan included a ride on the Japanese high-speed train Shinkansen, and a visit to Hitachi Rail, Toyota Motors, Tokyo station, Haneda airport and All Nippon Airlines. The Minister wishes to further expand the cooperation with Japan, and hopes that a direct flight between the two countries will become reality in the future.

The Minister then continued her trip to Busan, South Korea, to visit one of the largest ports in the world and to hear more about the high-speed trains Korea Train Express (KTX). The Minister also visited the Hyundai factory in Ulsan, then took the train to Seoul and met with Transport Minister Yoo Il-ho. Minister Johansson expressed her hopes on future cooperation with South Korea, with connecting traffic between the ports in Göteborg and Busan in the future.

In FY2013, an IVA-JSPS seminar was held on the topic of high-speed trains in Sweden, with a panel discussion on what Sweden can learn from Japan. The invited speaker was Prof. Seiji Iwakura of the Shibaura Institute of Technology, one of Japan's leading experts in planning and economic analyzes of railways.

Please refer to a previous article on the seminar, published in our newsletter 2014 Winter/Spring issue, English edition, P.5 of vol. 16:

<http://www.jsps-sto.com/admin/UploadFile.aspx?path=/UserUploadFiles/NLEnglish/EnglishNewsletterVol.16.pdf>



IVA-JSPS seminar FY2013. Prof. Seiji Iwakura, Shibaura Institute of Technology, on three kinds of Shinkansen Network projects.

Sources

- Government Offices of Sweden (Swedish): <http://www.regeringskansliet.se/pressmeddelanden/2015/05/anna-johansson-pa-framjanderesa-till-japan-och-sydskorea/>
- Photo (Japanese) http://www.mlit.go.jp/page/kanbo01_hy_004042.html

Enhancing Sustainability of Products and Services

- A Promising Area for Collaboration between Sweden and Japan -

Prof. Tomohiko Sakao, Department of Management and Engineering, Linköping University, Sweden

You are most likely aware that sustainability is one of the major concerns in our society, but did you know Sweden and Japan have interesting commonalities and differences with regard to activities for sustainability? This article focuses on economic and environmental sustainability of the manufacturing industry.

First, what are the commonalities? Firms in developing countries have become able to produce cheaper physical products thanks to their lower costs. Those in developed countries face fierce competition to continue to develop and provide products and services with higher value. Sustainability is among the characteristics of products and services. Thus, the industries in the two countries have a common aim to continue to enhance the sustainability. This provides manufacturing firms with enormous opportunities. A number of firms are meeting these opportunities through corporate strategies. However, scientific insights are insufficient for the practice at present and there is a need for researching theories and practices both.

In Japan, Science Council Japan published a report in 2011 called Academic guide to realize monozukuri enhancing resource circulation – mainly targeting countermeasures for climate change. The report points out the importance of design for the lifecycle of products and services, and urges academia to further establish science for design and manufacture to enhance resource circulation. In Sweden, sustainability is regarded as an important issue for engineering research. Production 2030¹, a triple helix initiative, has set up six important themes, two of them related to enhancing sustainability of products and services - Environmentally Sustainable Production and Product and Production-based Services. To name just one example of publicly funded research, Mistra (The Swedish Foundation for Strategic Environmental Research) is about to start a large, four-year program for enhancing resource efficiency of products and services. Its budget is 60 MSEK together with finance from industry partners². These activities show that the two countries taking this issue seriously.

Looking at industry, several manufacturing companies perform remanufacturing in both countries. Remanufacturing is an engineering activity bringing used products to a “like-new” functional state by rebuilding and replacing their after-life parts. It does not require materials and energy to produce parts to be reused, and therefore decreases their environmental impacts. For instance, in Sweden Volvo Parts remanufactures engines for automobiles and Toyota Material Handling Group remanufactures forklift trucks, while in Japan Fuji Xerox remanufactures photocopiers. A number of customers enjoy using the remanufactured parts or products.

On the other hand, there are differences. In Japan, the Home Appliance Recycling Law (HARL) was enforced in 2001. This law has a characteristic that is not found in corresponding laws and regulations in the EU. In particular, HARL obliges manufacturers to recycle their products to certain extents. HARL, together with Law for the Promotion of Effective Utilities of Resources, impacted how manufacturers design products that are easier to disassemble or need fewer resources. As a result, Japan realized recycling 74-89% of materials from home appliances in 2008³, and is arguably the world's most advanced country in terms of material recycling. In addition, customers' perception of remanufactured products is said to be different between the



Remanufacturing process at Toyota Material Handling in Mjölby, Sweden (Courtesy of Toyota Material Handling)

two countries. These are examples of the differences found in the activities in the two countries.

These examples of differences show strong influences on developing and providing products and services for sustainability from laws/regulations and surrounding business circumstances. It is essential to address these issues as well. Therefore, the two countries with different laws/regulations and business circumstances can learn a lot from each other by bringing their own experiences of practices in this area. In fact, the Swedish Government's bill to Parliament recommended collaborative research in sustainable production with Japan in 2008⁴.

The aforementioned new program by Mistra is innovative in researching the interplay among product/service design, business models and policies, as well as addressing each of them. Because collaborative research on this context between the two countries has not been so active, the collaboration is highly expected to be conducted.

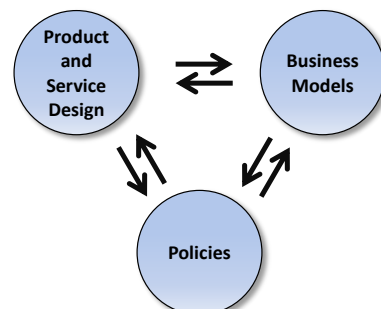


Figure: Interplay to be addressed to develop and provide products and services for sustainability (Source: Project proposal of Mistra REES)

¹ www.produktion2030.se

² www.mistra.org/aktuell/nyhetsarkiv/2015-03-25-42-miljoner-till-forskning-om-produkt-design-och-resurseffektivitet.html

³ www.env.go.jp/en/recycle/smcs/a-rep/2010gs_full.pdf

⁴ The Government's bill to Parliament on Production (2008)

Upcoming Seminars and Symposia

July 17, 20-23 KVA-JSPS Seminar

Since 2009, JSPS has together with the Royal Swedish Academy of Sciences organized seminars with Japanese lecturers. The first seminar in the FY2015 series will be held at Linköping University with invited speaker Prof. Yuichi Ikuhara, the University of Tokyo. The theme of the seminar is "Nanomaterials Science Including Interface Science and Grain Boundary Engineering". Prof. Ikuhara will also deliver a lecture in a workshop at Chalmers University of Technology.

Date and Venue

- July 17 (Seminar), Linköping University
 - July 20-23 (Workshop), Chalmers University of Technology
- http://www.chalmers.se/en/conference/In_Situ_TEM_STEM/Pages/default.aspx

September 2-3 SAC Activity Seminar: "Japanese Ethics and Technology"

JSPS Stockholm Office offers financial support to seminars organized by members of the JSPS Alumni Club in Sweden (SAC). This seminar will aim to create an inclusive forum for cross-cultural exchange between young Swedish, Japanese and international scholars, who are experts in the ethical issues in the Japanese and Western contemporary, technological societies. Particular focus will be on the effect of Fukushima on the thought of Japanese ethics and technology.

Date: September 2-3

Venue: Ångström Laboratory, Uppsala University

Theme: "Japanese Ethics and Technology"

Speakers: Prof. Takashi Majima, Senshu University, and other international delegates.

September 30, October 1-2 Lectures by Prof. Izumi Ohno in Stockholm

Prof. Izumi Ohno, National Graduate Institute for Policy Studies (GRIPS) will deliver lectures in Stockholm as follows:

1) Stockholm Seminar on Japan

Date: September 30, 15:00-16:30

Venue: Ohlinrummet, Stockholm School of Economics

Organizer: the European Institute of Japanese Studies (EIJIS) at Stockholm School of Economics, the Embassy of Japan, Swedish Institute of International Affairs, Stockholm University, and JSPS Stockholm Office.

Theme: "Development Cooperation in a Post-MDG Era: Can Japan effectively (continue to) contribute to global development?".

Speakers:

- Prof. Izumi Ohno, National Graduate Institute for Policy Studies (GRIPS), Japan
- Prof. Marie Söderberg, Director of European Institute of Japanese Studies, Stockholm School of Economics and others.

2) International Conference

Date: October 1-2

Venue: Ohlinrummet, Stockholm School of Economics

Organizer: the European Institute of Japanese Studies (EIJIS) at Stockholm School of Economics

Theme: "Japanese and Nordic Perspectives of Development Cooperation in a Post-MDG Era"

Speakers:

- Prof. Izumi Ohno, National Graduate Institute for Policy Studies (GRIPS), Japan
 - Professor Motoki Takahashi, Kobe University, (president of Japan Society for International Development), Japan
 - Professor Annette Skovstedt Hansen, Aarhus University, Denmark
 - Professor Yoneyuki Sugita, Osaka University, Japan
 - Professor Bart Gaens, The Finnish Institute for Foreign Affairs, Finland
 - Professor Paul Midford, Norwegian University of Science and Technology, Norway
- and others.

More information on these events to be announced on <http://www.jsps-sto.com/activities.aspx>

6. Notice

Staff Changes at JSPS Stockholm Office

JSPS Stockholm Office would like to express heartfelt thanks to FY2014's International Program Associates Ms. Satomi Oe and Ms. Natsumi Kudo for your hard work. We wish you the best of luck in your future endeavors!

From April 1 2015, we wish the new team members below a warm welcome.

International Program Associate

Ryoko Hirose



Hej. I am Ryoko Hirose.

I have just started working for JSPS Stockholm Office as a new international Programme Associate.

I am originally from University of Tsukuba, Ibaraki. I am very excited to work and to live in Stockholm. I would love to learn Swedish language while I am in Stockholm!

International Program Associate

Michiko Murakami



Hej! I am Michiko Murakami, originally from Tokyo Institute of Technology.

I started my work at JSPS Stockholm Office from this April and I am glad to work and live in Sweden. I would like to learn Swedish and join a chorus in Stockholm!



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