

JSPS Stockholm Newsletter

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The Wind in Stockholm

By JSPS Stockholm Office Director Hideo Akutsu

When I stepped on the soil of Arlanda Airport of Stockholm in the end of April, cold breezes hit my face in jet-lag, reminding me they might travel from the north-pole. People on the street were enjoying the snow in May in a variety of wares, some in down jackets, and others in T-shirts. In spite of the cold atmosphere, the spring was already there in view of green trees, colorful flowers and blossoms, and birds singing in love. Nature and people in Stockholm were enjoying the spring in their ways.

The cold and unstable weather I encountered should have been a heavy burden for the primary industry such as agriculture and forestry in the Nordic countries. They were among the poorest countries in Europe for a long time. To survive severe conditions, they had to send off Viking worriers to European, African, and Arabic countries, and a huge number of immigrants to the North America. However, unbeatable Nordic people found out a way to overcome the unfriendly weather in commerce, modern industries and scholarships emerged from the Renaissance. The social impact of the modern industries independent of the unstable weather for the Nordic countries should have been much more significant than that for the southern Europe, which enjoyed high productivity because of good weathers. Therefore, the development of the modern industries was rapid in spite of later introduction than other European countries. Thus, Nordic countries have transformed themselves from the poorest into the wealthiest ones through these centuries. They are now always ranked in the top group in terms of GDP/person, competitiveness of the economy, and feeling of happiness. Since they are small countries in terms of population, they are far from the superpower in the world. However, they are leading the discussion on the sustainable economy and human life in future. They may have learned the importance of the environment for the human life from their long-standing communication with the severe weather. Their ways of thinking on economy, politics, and sciences are quite suggestive to us, Japanese.

The economic development in the Nordic countries has been driven by the development in science and technology. Actually, many distinguished scientists have appeared in Sweden and other countries. Prof. Carl von Linné (1707-1778) at Uppsala University established the plant taxonomy and provided the classification methodology of the plants. I have been working on the structural analysis of proteins for long time. This field also owed quite a lot to Swedish chemists. Prof. Theodor Svedberg (1884-1971) at Uppsala University, who was awarded a Nobel Prize in chemistry, invented the ultracentrifuge analysis. This is still an important method



for protein purification, molecular weight determination and analysis of protein interactions. Electrophoresis is also an indispensable method for purification and analysis of proteins, nucleic acids, and other molecules. This was developed by Prof. Wilhelm Tiselius (1902-1971) at Uppsala University, who was also a Nobel laureate. The best example of the strong connection between an industrial activity and science in Sweden would be the invention of dynamites by Alfred Nobel (1833-1896). I was impressed by a photograph of a chemistry laboratory set up by Nobel in the tour of the Nobel Museum kindly guided by the director, Dr. Amelin. Nobel learned chemistry, prepared a chemistry laboratory, and carried out dangerous chemical experiments not for research but for earning money for everyday life. As a matter of fact, he lost his younger brother and five assistants and injured himself in an explosion during one of those experiments. Through these activities he could invent the dynamite and earned astronomic amount of money. Here, we can see that science and technology were deadly resources for the improvement of life in Nordic countries. Furthermore, the fact that the Nobel Prizes are awarded to the improvement of life in Nordic countries. Further-more, the fact that the Nobel Prizes are awarded to only basic sciences beside the literature and peace prizes, reveals that Nobel and Swedish people appreciated the important role of the basic sciences in the struggles for improvement of life.

I have learned in my short stay in Stockholm so far that many Swedish systems are laborsaving and efficient. People have the confidence on the Swedish lifestyle and afford to help other people. Bus drivers are kind to disabled persons and even kind enough to wait for the people hurrying to the bus by reopening the once-closed door. The people and organizations are open-minded, although the security is very tight. I was surprised by the openness of the Swedish Embassy





➔ in Tokyo. There was no check at the gate. The security system started to work, when I came to the department of interest. Is this because they think they have no enemy in the world, or they have the confidence

on their security systems?

In spite of their advantageous status established so far, Nordic economies are facing new difficulties raised by the globalization. Even their major companies such as Volvo and Nokia are now the subsidiaries of foreign enterprises. Aging society is also a serious problem as in Japan. They are trying to overcome these problems by innovation and building a sustainable society. Globalization and aging are also the major issues for the Japanese society. The mutual exchange of the ideas in many fields may call a new wind providing the breakthrough. JSPS Stockholm office would like to contribute to these efforts through promoting the scientific exchange between Japan and the Nordic and Baltic countries.

IVA-JSPS Seminar was held with Prof. Akasaki of Meijo University

On May 21, the first seminar of FY2014's IVA-JSPS Seminar series was held with the theme "Blue LED, scientific breakthrough with real world impact". The seminar was co-organized by IVA, Sweden-Japan Foundation (SJF), the Embassy of Japan in Sweden, The Chemical Society of Japan (CSJ), Meijo University and JSPS Stockholm Office. Welcome greetings were offered by Dr. Johan Weigelt, Executive Vice President of IVA, and CSJ's Executive Director Nobuyuki Kawashima further presented the seminar's keynote speaker, Prof. Isamu Akasaki of Meijo University. Prof. Akasaki was awarded the Order of Culture by the Emperor of Japan in 2011. Other speakers included Prof. Lars Samuelsson of Lund University, Prof. Bo Monemar of Lund University, and Dr. Christofer Sifvenius of the Swedish Energy Agency. The seminar was chaired by Prof. Satoshi Kamiyama of Meijo University.

Keynote speaker Prof. Akasaki gave a lecture on "Development of GaN-based semiconductors of excellent quality and their p-n junction blue-light-emitting devices". Prof. Akasaki and his group at Nagoya University created the first electronic-grade high-quality



Prof. Isamu Akasaki.

GaN single crystalline material in 1986 and further developed the first GaN p-n junction blue LED in 1989. These successes triggered the opening up of a new field of electronics.

The lectures were followed by interesting discussions and ended with a dinner reception for the participants.

The First KI-Osaka Univ. Joint Symposium (Immunology and Infection Biology) was held



On June 10, a collaboration symposium on Immunology and Infection Biology between Osaka University, Graduate School of Medicine and Karolinska Institutet (KI), Department of Microbiology, Tumor and Cell biology. The symposium was held at the premises of Karolinska Institutet. The symposium was sponsored by

KI's Doctoral Programme in Allergy, Immunology & Inflammation, KI's Doctoral Programme in Infection Biology and JSPS Stockholm.

Opening remarks were given by Prof. Klas Kärre and Ass. Prof. Jonas Sundbäck of KI. Greetings were offered by Prof. Toshio Hirano, President of Osaka University, and JSPS Stockholm Office Director Hideo Akutsu. Speakers on Osaka University's side included Prof. Shizuo Akira, Prof. Shimon Sakaguchi, Prof. Masaru Ishii and Prof. Kiyoshi Takeda. Speakers from KI included Prof. Birgitta Henriques-Normark, Ass. Prof. Mikael Karlsson and Ass. Prof. Benedict Chambers.

Students held a poster session which provided an opportunity for participants to mingle and exchange views.

After the successful symposium, a reception was held for the participants at the residence of the ambassador of Japan.

JSPS Alumni Club in Finland held a spring meeting

On May 23, the Alumni Club in Finland (ACF) held a spring meeting for alumni members at the University of Helsinki, Institute of Behavioural Sciences. The board members of ACF held first a board meeting to discuss topics such as the progress of the club, activity plans, and the result of BRIDGE. JSPS Stockholm Office Director Akutsu and Deputy Director Kawakubo attended the meeting to greet the members in Finland.

The board meeting was followed by an interesting seminar on the topic of language, translations and interactions. Invited speakers were Prof. Satoshi Nakamura of Nara Institute of Science and Technology (NAIST), and Dr. Graham

Wilcock of the University of Helsinki. Prof. Nakamura gave a lecture on “Multimodal Interaction and Speech-to-speech Translation”, and Dr. Wilcock on “Speech-based WikiTalk Robot Application”.

After both lectures, participants engaged in a fruitful discussion, and the day ended with the participants having a dinner where views and ideas were further exchanged.

New members were officially welcomed to the club, which has now a total of 75 members. JSPS Stockholm Office encourages all alumni to participate in the alumni activities!



Prof. Satoshi Nakamura lecturing.



Dr. Graham Wilcock lecturing.

Courtesy calls on JSPS Partner Institutions in Sweden

Since the arrival of JSPS Stockholm Office's new Director Hideo Akutsu and new Deputy Director Yuriko Kawakubo in April, they have made several courtesy calls on JSPS' partner institutions in Sweden to get acquainted and to discuss future collaborations. The Embassy of Japan in Sweden's First Secretary, Mr. Hideto Matsumoto joined these meetings.

JSPS Stockholm Office would sincerely like to thank our partner institutions for their time and hospitality.

2014.05.02

Nobel Museum

On May 2, JSPS Stockholm Office visited the Nobel Museum to meet with the Museum Director Olov Amelin, Administrative Director Eva Windrup, and Laura Sprechmann, Nobel Media Deputy CEO and Director of Partner Relations.

JSPS Stockholm Office learned that the aim of the Nobel Museum is to spread knowledge and interest in the natural sciences and culture through modern technology and creative learning. The museum has since 2001 produced several travelling exhibitions, and has until August 31 exhibited the "Sketches of Science: Photo sessions with Nobel Laureates" in Tohoku University. The exhibition could also be viewed from May 12 to July 6 at the Okinawa Institute of Science and Technology. Other topics discussed was the concept of the soon to be constructed Nobel Center, and the future collaboration with Japan.

2014.05.13

VINNOVA - Swedish Governmental Agency for Innovation Systems

On May 13, JSPS Stockholm Office visited the office of VINNOVA to meet with Dr. Joakim Appelquist, Director and Head of International Collaboration & Networks, and Dr. Jonas Brändström, Head of International Cooperation Department.

An introductory presentation of VINNOVA was given, showing the innovation agency's mission to promote sustainable growth by improving the conditions for innovations, and to make Sweden a world leading and attractive country to invest and make business in. VINNOVA also helps funding needs-driven research to strengthen Sweden's innovativeness and to benefit society. VINNOVA is one of the nominating authorities in Sweden for JSPS Postdoctoral Fellowship Program (standard) and the Invitation Fellowship Program (short).

2014.05.14

The Royal Swedish Academy of Engineering Sciences (IVA) and the Sweden-Japan Foundation

On May 14, JSPS Stockholm Office visited the office of IVA - The Royal Swedish Academy of Engineering Sciences and the Sweden-Japan Foundation (SJF). Participants included the President of IVA, Dr. Björn O. Nilsson, IVA's Secretary and Executive Vice President Dr. Johan Weigelt, IVA International Coordinator Dr. Maria Dollhopf, SJF Secretary-General Mr. Edvard Fleetwood.

They explained the history of IVA, its main purpose of initiating and stimulating contacts between experts from different academic fields and countries. Other topics discussed included details regarding the IVA seminar "Blue LED, scientific breakthrough with real world impact" and of future collaboration of the IVA-JSPS seminar series.

2014.05.16

The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)

On May 16, JSPS Stockholm Office visited the Swedish Foundation for International Cooperation in Research and Higher Education (STINT) and met the Executive Director Dr. Andreas Göthenberg, and Program Director Dr. Hans Pohl.

A presentation was given about STINT and its mission to promote internationalization of Swedish higher education and research. STINT has expert knowledge on the subject of international academic collaboration and offers funding support and scholarships.

STINT is also one of the nominating authorities in Sweden for JSPS Postdoctoral Fellowship Program (short-term) and the newly launched Summer Program. JSPS Stockholm Office expressed appreciation for STINT's cooperation on screening the applicants for the fellowship programs.

2014.05.22

Ministry of Education and Research

On May 22, JSPS Stockholm Office visited the Ministry of Education and Research and met Mr. Mattias Jennerholm, Head of Section at the Division for Research Policy, and Ms. Marija Milivojevic of the Division for Research Policy. The parties engaged in discussion on topics such as the student and researcher exchange between Japan-Sweden, current status of the countries regarding education and research.

2014.05.26

Swedish Foundation for Strategic Research (SSF)

On May 26, JSPS Stockholm Office visited the Swedish Foundation for Strategic Research (SSF) and met with Prof. Lars Hultman, Chief Executive Officer, and Dr. Joakim Amorim, Research Programmes Manager. JSPS Stockholm Office learned that the foundation was established in 1994 with a founding capital of 6 Billion SEK, and that SSF works for the development of internationally renowned research of high quality in Sweden. An objective of SSF is to support research in natural science, engineering and medicine. SSF is one of JSPS partner institutions and the nominating authorities in Sweden for JSPS Postdoctoral Fellowship Program (standard).

2014.06.05

The Royal Swedish Academy of Sciences (KVA)

On June 5, JSPS Stockholm Office visited the Royal Swedish Academy of Sciences (KVA) and met with Permanent Secretary Staffan Normark, Executive Director Per Hedenqvist, Research Fellow Administrator Anna Nycander, Programme Coordinator Magnus Lundgren and Scientific Secretary Heléne Sundström.

KVA is an independent organization with the aim to promote the sciences and strengthen their influence in society. KVA strives to support young researchers, to stimulate interest in mathematics and science, to reward outstanding scientific achievements among others.

KVA and JSPS have several collaborations such as the KVA-JSPS Seminar series, the Sweden-Japan Academic Network and JSPS Postdoctoral fellowship programs (short-term and standard), where KVA is one of the nominating authorities.



May 2, Nobel Museum



May 13, VINNOVA



May 14, IVA and the Sweden-Japan Foundation



June 5, KVA

Other meetings and visitors to JSPS Stockholm Office

May

19

International Coordinators Lotta Lundqvist and Maria Olsson of Karolinska Institutet visits the office.

Topics discussed: Future collaboration and upcoming symposia.

27

Meeting in Copenhagen with Prof. Carl Winsløw and Senior Adviser Trine Buhl Monty and Katrin Salomo of Copenhagen University, Mr. Takayuki Yamamoto, administrator of the Tokai Alumni Association in Demark, and Mr. Anders Christensen of the Embassy of Japan in Denmark.

Topics discussed: Preparations for the upcoming Japan-Denmark Scholarship Information event.

30

Lunch meeting with Prof. Ohtsu and Prof. Tabata of the University of Tokyo. Prof. Ohtsu was one of the coordinators of the Sweden-Japan Collaboration Symposium, held in June 2013. The ambassador of Japan, Mr. Seiji Morimoto and First secretary Hideto Matsumoto also participated in the meeting.

Topics discussed: Future collaboration and networking possibilities.

June

11

Lunch meeting with Uppsala University's Vice-Chancellor Eva Åkesson with delegation at the residence of the ambassador of Japan.

Topics discussed: The scientific exchange between Uppsala University and Japanese Universities.

12

Prof. Mikio Masaki from Hokkaido University visits the office.

Topics discussed: Future strategies and overview explanation of the program Hokkaido University has implemented, exchange of views and advice.

18

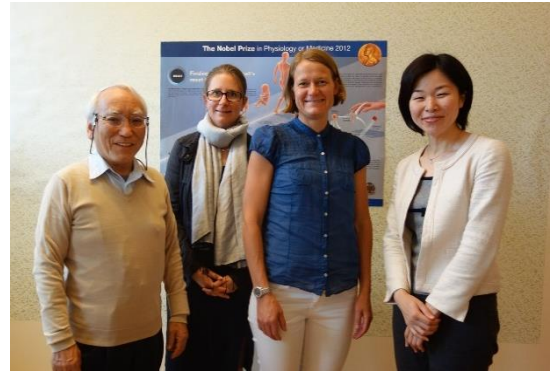
Dr. Stefan Noreén, Senior Advisor at the University of Tokyo visits the office.

Topics discussed: Information of JSPS fellowship programs were provided, views and details on the upcoming Nobel Dialogue Symposium to be held at the University of Tokyo in September were exchanged.

24

Lunch meeting with the head of the Swedish Higher Education Authority and University Chancellor, Prof. Harriet Wallberg, Vice-Chancellor Anders Hamsten and Scientific Coordinator Ulrika Widegren of Karolinska Institutet.

Topics discussed: The upcoming Nobel Dialogue Symposium to be held at the University of Tokyo in September, further development of the relationship of the two universities. JSPS Stockholm Office also congratulated Prof. Harriet Wallberg for being awarded the Order of the Rising Sun, Gold and Silver Star.



May 19, with International Coordinators of Karolinska Institutet.



May 27, meeting in Copenhagen.



May 30, with Uppsala University delegation.

26

Meeting at IVA with Dr. Johan Weigelt, Secretary and Executive Vice President (IVA), Dr. Maria Dollhopf International Coordinator (IVA), Mr. Edvard Fleetwood, Secretary General of Sweden-Japan Foundation.

Topics discussed: Details of the IVA seminar series, exchange of views on proposed candidates.

26

Tohoku University's Management Planning Manager and JSPS Stockholm Office's former staff member Mr. Kazutoshi Ono visits the office.

Topics discussed: Introduction of the Nobel Museum travelling exhibition at Tohoku University, questions on the IVA seminar series.

30

Deputy Director of Hokkaido University, Helsinki Office Mr. Tero Salomaa visits the office.

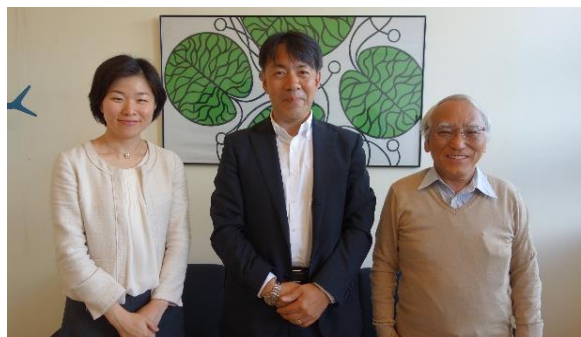
Topics discussed: Information about activities in Europe of Hokkaido University, exchange of opinions regarding the JSPS alumni seminars in Finland.

July

24

Lunch meeting with Mr. Edvard Fleetwood, Secretary General of Sweden-Japan Foundation, the Embassy of Japan in Sweden's First Secretary Mr. Hideto Matsumoto and his successor Mr. Masafumi Sato.

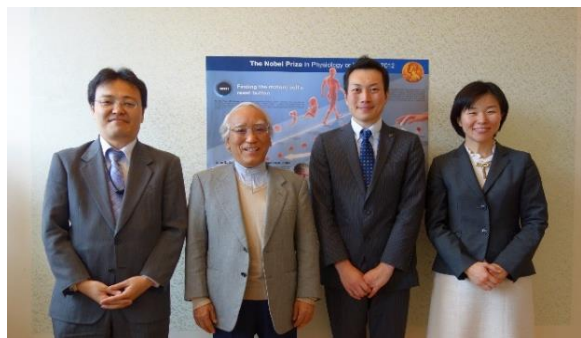
Topics discussed: Exchange of information on past and future collaborations.



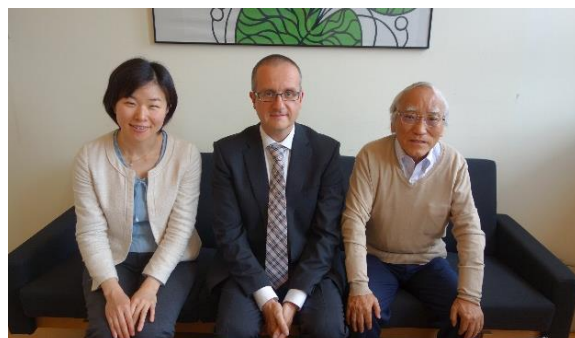
June 12, with Prof. Miki Masaki of Hokkaido University.



June 18, with Dr. Stefan Noreén, Senior Advisor at the University of Tokyo.



June 26, with Mr. Kazutoshi Ono, Management Planning manager at Tohoku University.



June 30, with Deputy Director Tero Salomaa of the Hokkaido University, Helsinki Office.

Report on the 1st IVA-JSPS Seminar of FY2014

By Satoshi Kamiyama, Professor of Meijo University

The 1st IVA-JSPS Seminar of FY2014, which was co-organized by the Royal Academy of Engineering Science (IVA) and JSPS, was held on 21st of May, 2014 at IVA in Stockholm. It was also supported by the Chemical Society of Japan, the Sweden-Japan Foundation, the Embassy of Japan in Sweden and Meijo University. In the seminar, Prof. Isamu Akasaki from Meijo University/Nagoya University, who established a high-quality GaN epitaxial growth method, p-type doping and n-type conductivity control technologies, and demonstrated the first pn-junction blue LED, was invited as a keynote speaker. The seminar was therefore focused on the subject, "Blue-LED, Scientific breakthrough with real world impact". Two distinguished researchers in the nitride-based LED field in Sweden were also involved as invited speakers.

After the opening address by Dr. Johan Weigelt, Vice President of IVA, on behalf of the organizers, Mr. Nobuyuki Kawashima, a director of the Chemical Society of Japan, introduced a personal history of Prof. Akasaki. Then, the seminar entered into the technical session chaired by me (S. Kamiyama). In the keynote presentation, Prof. Akasaki described his historical activities on GaN crystal growth technology development and the demonstration of the first pn-junction blue LED with his breakthroughs. His impressive talk extracted the stimulated discussion with some attendees.



Prof. Isamu Akasaki.

The seminar was followed by two Swedish distinguished researchers' talks. Firstly, Prof. Lars Samuelson from Lund University presented his recent activity on the growth technology of GaN nanowire, which is a small structure with a diameter of 200 nm and a height of 1 μm produced by nano-imprinting patterning and the selective growth techniques, and its application to green LEDs with



Speakers from left to right: Prof. Bo Monemar, Prof. Lars Samuelsson, Prof. Isamu Akasaki, Dr. Christofer Sifvenius, CSJ Executive Director Nobuyuki Kawashima and Prof. Satoshi Kamiyama.

a core-shell stacking structure. Secondly, Prof. Bo Monemar from Lund University/Linköping University, who has worked on the collaborating research with Prof. Akasaki for a long time and has more than 100 of co-authored publications, presented new findings in optical characterization of GaInN quantum wells, produced by Prof. Akasaki's group.

Finally, Mr. Christofer Sifvenius from Swedish Energy Agency provided a roadmap of LED lighting spreading plan in Sweden for a reduction of energy consumption. All the presentations indeed gave us an great expectation of the future blue LEDs and LED lighting, and the seminar was an impressive opportunity to provide a forum for Swedish and Japanese researchers.

Finally, I would like to thank all the participants and organizations including IVA, JSPS, the Chemical Society of Japan, the Sweden-Japan Foundation, the Embassy of Japan in Sweden. And I would also like to thank Mr. Kawashima for his hospitality during our stay in Sweden.

Sweden-Japan University Collaboration:

The first Karolinska Institutet—Osaka University Joint Symposium (Immunology and Infection biology)

By Sachiko Baba, MD, PhD

Vice Director, Center for International Relations, Osaka University Graduate School of Medicine

In addition to the long-standing academic agreement that has been in place between the Karolinska Institutet (KI) and Osaka University since 2001, we now also have a student exchange agreement; the only agreement of its kind between KI and a Japanese academic institution. To commemorate this, we held our first joint symposium at KI's Nobel Forum on 10th June, 2014, which was organized by the KI Department of Microbiology, Tumor, and Cell Biology (MTC), and Osaka University Graduate School of Medicine.

Demonstrating the popularity of the event, 99 of the 108 available seats were taken by participants registering in advance. The symposium was formally opened by Dr. Jonas Sundbäck, organizer and Chair, and was followed by opening remarks from Professor Klas Kärre on the history of KI and examples of academic exchanges between Sweden and Japan, and from President Toshio Hirano who gave an introduction of Osaka University and spoke about its vision for global expansion and exchange with KI. We also heard from Dr. Hideo Akutsu, Director of the Stockholm Office of Japan Society for the Promotion of Science (JSPS).

In the scientific sessions, oral presentations were given by Professors Shizuo Akira, Shimon Sakaguchi, Masaru Ishii and Kiyoshi Takeda from Osaka University, and by Professor Birgitta Henriques Normark, Assistant Professors Mikael Karlsson and Benedict Chambers. Four young researchers from Osaka, and 13 from KI, also gave poster

presentations. Time for networking was also enjoyed by all delegates.

After the successful close of the symposium, participants moved to the Japanese Ambassador's residency for a reception hosted by JSPS and Embassy of Japan. We were greeted by Ambassador Seiji Morimoto, and Dr. Akutsu proposed a toast. Speeches were also given by President Hirano, and by KI's Pro Vice Chancellor Kerstin Tham. Dr. Sachiko Baba from Osaka University, who formerly worked at KI as a post-doc, and Dr. Jonas Sundbäck, who was an undergraduate exchange student at Osaka University, gave thanks as the organizers of the symposium and, hand-in-hand, visually demonstrated the bridge between these two research institutions.

Given the success of the first symposium, we are planning to hold the second symposium at Osaka University in 2016. We will make every effort to forge stronger collaborations this year by initiating student exchange programs, making new research collaborations, and strengthening existing research collaborations.

Finally, thanks must go to the Stockholm Office of the JSPS for their support, as well as to Yuriko Kawakubo, deputy director at JSPS Stockholm Office, Akemi Osada at JSPS Headquarter, and Hideto Matsumoto, first secretary of Embassy of Japan in Sweden.



Reflections on visiting the Vision Group at Lund University

By Dr. Michiyo Kinoshita, Sokendai

At the end of February, I had a great opportunity to visit Lund University as a speaker for the KVA seminar, at the invitation of Prof. Dr. Nilsson. There were eight senior scientists, eleven postdoctoral fellows and eleven PhD students in the Lund Vision Group. During my short visit we enjoyed many fruitful discussions of our current studies and our shared interests in the visual worlds of animals.

Lund Vision Group is a world-leading team in invertebrate vision research. One of their more visible activities is organizing the International Conference on Invertebrate Vision (ICIV) since 2001. At ICIV, approximately one hundred scientists come together at Bäckaskog Castle to discuss their research on invertebrate vision. A wide array of topics are covered, from the molecular mechanisms of phototransduction to visually guided behaviors, and neuronal mechanisms to the evolution of vision. Because the intensive conference provides so many opportunities to discover new perspectives and meet new friends, I have made a point of attending every ICIV since its inauguration. The Lund group also organizes a biyearly sensory ecology course for PhD students. During the two-week course, forty selected international students get to meet and receive lectures from top scientists studying sensory systems in different animals. These high-profile activities have established Lund's place in the global invertebrate vision community.



Dr. Michiyo Kinoshita lecturing.

I was interested to experience the day-to-day research environment of the Lund Vision Group. Their focus is on

the ecology and evolution of vision in the animal kingdom. Their facilities are impressive with well-equipped behavioral laboratories and huge spaces for animal keeping. However, I was most struck by the atmosphere in the lounge. There, several postdocs were chatting over coffee and snacks about their research, new papers in journals, their future plans and so on. Senior staff would drop in from time to time to join the discussions and give some advice. Seeing these lively exchanges really inspired me.

In conjunction with the KVA seminar, Dr. el Jundi organized a small symposium on color and polarization vision in insects. Ever since the homing of honeybees was discovered to rely on detecting the polarization pattern of the sky (the "sun compass"), studies of insect polarization vision have tended to focus on orientation behavior for navigation. In the symposium, three young investigators from the group presented their work on the neuronal mechanisms underlying these behaviors. The first speaker was Dr. Henze. She started by using a liquid crystal display to demonstrate what polarized light is, because of course our human eyes cannot detect the e-vector angle of light. She then moved onto her PhD work on cricket polarization vision. The next speaker, Dr. Heinze, spoke on the theme of neural processing of polarized light information in the desert locust and monarch butterfly, both migratory insects. He focused on the functions of the central complex, where he has discovered "compass neurons" representing the orientation of the insect relative to the sun. He proposed that this system may be conserved across different taxa. For the final talk, Dr. el Jundi described orientation behavior in dung beetles. He has gone to great lengths to identify the crucial cues for orientation behavior in nocturnal and diurnal species through behavioral analysis, and to reveal the neural mechanism underlying the behavior. Although the orientation behavior of different species appears quite similar, it seems they utilize different cues. This comparative study among closely related species represents a promising opportunity to demonstrate adaptation to different environments and thereby further our understanding of evolution.

For the KVA seminar, I talked about psychophysical experiments demonstrating the cues used for foraging by the swallowtail butterfly, *Papilio xuthus*. *P. xuthus* is a potential pollinator of reddish flowers in Japan. This butterfly can learn to associate colored visual stimuli with a food reward, and thus their ability to discriminate between the training stimulus and others can be tested. By using this feature of *P. xuthus*, I demonstrated that their visual system exhibits phenomena such as



➡ color constancy, color contrast and brightness contrast.

In addition, the butterfly can discriminate between targets of different polarization angles when foraging.

My data suggest that their polarization sensitivity might serve to increase contrast between the target and background. After giving my presentation, I enjoyed discussing my work and plans for future research with the audience.

I also had time to give an impromptu presentation on the neuronal mechanism of vision in *P. xuthus*, as some postdoctoral fellows expressed an interest in this aspect

of my work. I have kept in contact with them, and lately one was accepted as a JSPS summer fellow. I am now looking forward to collaborating with him – another fruitful outcome of my visit to Lund. I hope that this international collaborative link will lead to many more in the future. I would like to thank Prof. Dr. Nillson for recommending me as a speaker for the KVA seminar, Dr. el Jundi for organizing the symposium, and Ms Futakami and Ms Osada of JSPS for facilitating my travel to Lund.



Invited guest at the Alumni Club in Finland's Spring meeting

Visit to Institute of Behavioural Sciences in University of Helsinki

By Dr. Satoshi Nakamura, Nara Institute of Science and Technology (NAIST)

It was my great honor to have the opportunity to visit Prof. Kristiina Jokinen of Institute of Behavioural Sciences in University of Helsinki and to introduce our recent research activities from May 19 to 23rd 2014. The project led by Prof. Jokinen is one of the world-leading research groups in the dialog systems research and quite unique in collaboration with the computational linguistic department with Prof. Graham Wilcock. It is also noted that there are lots of active researches not only dialog systems but also vision researches and automatic driving researches from behavioral sciences points of view.



Prof. Jokinen and I are the steering committee members of IWSDS, International Workshop on Spoken Dialog Systems launched in 2009. IWSDS covers from the mental modeling for the dialog, computational dialog modeling, data-driven dialog modeling and learning, dialog modeling for the robots, and multimodal dialog modeling.

This time I visited Prof. Jokinen for the international research collaboration, research discussions, and introduced our recent research activities on simultaneous speech-to-speech translation and multimodal speech-to-speech translation.

It is still not able to output translation results in simultaneous way. The reason for this is in the interaction between the three components of conventional speech translation systems: ASR, MT and TTS. Normally, the MT module is started after the ASR module finishes recognition and the TTS module is started after MT module finishes translation. This has caused a delay between the start of the speaker's utterance to the end of synthesis. The longer sentences require more time for MT decoding. In contrast, human simultaneous interpreters generally break sentences into

smaller chunks, resulting in a lower delay (or "ear-to-voice span"). We proposed a method for starting the translation process before the sentence finishes, allowing the MT module to start translation simultaneously. The method uses so-called Right Probability in the phrase table used in phrase-based MT. The Right Probability represents how much re-ordering of the phrases in MT could occur. We have developed a system which finds a chunk with a higher Right Probability than a threshold and translates the chunk. S2ST between Western languages and a non-Western language, such as English-from/to-Japanese, or English-from/to-Chinese, requires technologies to overcome the drastic differences in linguistic structures and expressions. Especially their word order and their coverage of words are completely different, among other factors. Figure 1 shows the experimental data used from the Basic Travel Expression Corpus (BTEC) for ja-en, Japanese-English and en-ja, English-Japanese, and NEWS [12] for fr-en, French-English. As the BTEC sentences are relatively short compared to NEWS, we also experiment with longer sentences that contain at least 11 words from BTEC. For evaluation measures, we use BLEU to measure translation accuracy with 12 references for ja-en, and 1 reference for fr-en. We also perform a manual evaluation using a 0-5 scale based on acceptability.

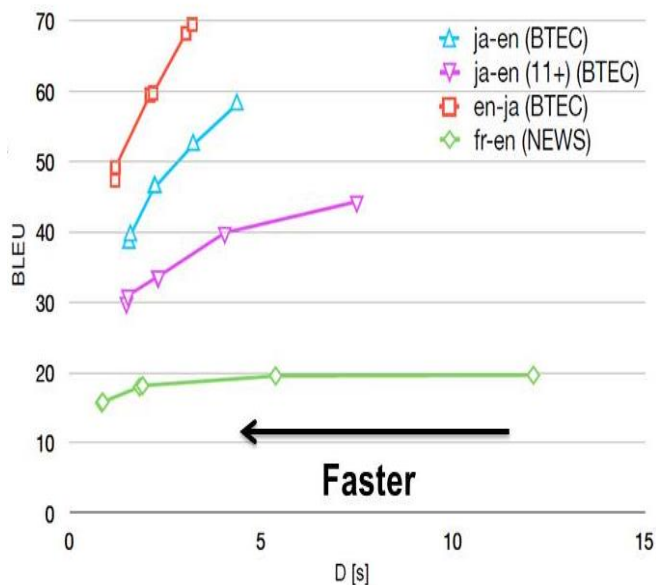


Figure 1 Translation Performance vs. Delay

We calculate translation delay D as $D = A + T$.



→ A is the ASR time per sentence, and we calculate this using the time of each wave file in the test set. T indicates the average MT decoding time per sentence. Comparing ja-en and en-ja translation we confirmed the fact that both achieve similar speed accuracy curves. In addition, BLEU is higher overall for en-ja because Japanese sentences are longer than English sentences, so the number of matches with the reference is greater than when the target language is English. Finally, we compare ja-en and fr-en translation to investigate the effectiveness for a language pair with small difference of word order. As can be seen from the graph for fr-en, by reducing the RP threshold from 1.0 to 0.8 we are able to achieve a decrease in delay from 12.1s to 5.4s with an almost no drop in BLEU (19.63 to 19.53 respectively).

Even when we set the threshold lower, the drop in accuracy is much smaller than ja-en or en-ja translation, confirming that the proposed method is particularly effective for languages with similar word order. This research results provide a core methodology for simultaneous speech-to-speech translation system.

Further researches could realize simultaneous speech translation of multilingual lectures, news, and meetings.

Finally I would like to express my appreciation to Prof. Kristiina Jokinen, Prof. Graham Wilcock, and other colleagues in University of Helsinki for their wonderful hospitality, to Director Dr. Akutsu and Ms. Kawakubo of Japan Society for the Promotion of Science and to colleagues of JSPS ACF Alumni Club for the opportunity.

Board members of the JSPS Alumni Club in Finland (ACF)

E-mail jsp-acf-board@helsinki.fi if you have questions to the board.

Chair: Kristiina Jokinen, University of Helsinki

Kristiina Jokinen is Adjunct Professor and Project Manager at University of Helsinki where she leads the 3I (Intelligent Interactive Informatics) Research Group. She is Adjunct Professor of Interaction Technology at University of Tampere, Finland, and Visiting Professor at University of Tartu, Estonia. Her research focuses on spoken dialogue systems, multimodal communication management (especially gesture recognition & eye-tracking), natural human-human and human-robot interaction.

She was a JSPS Postdoctoral Fellow at the Nara Institute of Science and Technology, and Invited Researcher at the ATR Research Labs in Kyoto in 1994-1999. She was Visiting Professor at Doshisha University in Kyoto in 2009-2010. Dr. Jokinen received a JSPS Bridge Fellowship in 2010.

She has keen interest in the Japanese life and culture. She has written several magazine essays in Finnish about Japanese swords, Buddhism, and Shikoku pilgrimage. She also actively practised aikido and kendo.



Vice-chair: Markus Valkeapää, PANalytical

Until very recently I was a lecturer at Aalto University's Department of Chemistry, where in addition of teaching, I have also done research in the field of transition metal based oxide materials. At the moment I work at PANalytical, a company which develops and manufactures X-ray diffraction and X-ray fluorescence equipment for use in research and industry. My relation to JSPS and Japan started during my Ph.D. studies in Sweden through a connection at Tokyo Institute of Technology. My wife, our son and myself lived in Tokyo for two years in 2004-2006, during my JSPS fellowship. Since then I've been twice in Japan, one month long work visit and one holiday trip with family. Also, four times we've had family friends from Japan to visit us in Finland.

Michael Gasik, Aalto University

Professor of materials technology at Aalto University Foundation's Department of Materials Science and Engineering (previously known as Helsinki University of Technology), Espoo, Finland. Main recent areas of research are biomaterials, hydrogen and fuel cells, metallurgy and general materials and processes modelling.

JSPS Fellow at Tohoku University in 1998; has later had numerous cooperation with Japanese universities, companies and organisations.



Tapani Jussila, Kanki International OY

Tapani Jussila is an academic entrepreneur, based in Helsinki.

His work contains educational consultancies in developing countries, educational technology research in Japan, participating in business activities between Japan and Finland, and coordinating, authoring and publishing guidebooks on Japan (www.kanki.fi).

Jussila has held university teaching posts in Finland, Nicaragua, South Africa, Sri Lanka and the Philippines. Jussila has also studied and done research in Japan on several occasions.

1981-84 he was a Mombusho scholarship student at the University of Tokyo (mathematics) and Osaka University of Foreign Languages (Japanese language).

He has been a JSPS fellow twice: 1987 at the University of Tokyo, working in the fields of complex analysis, Kleinian groups and Riemann surfaces, together with Prof. Oikawa and resulting in Dr. dissertation; and 1998 in Osaka University, working with Japanese virtual learning environments, together with Prof. Takanori Maesako and his research team.

He has done research in Tokyo Institute of Technology as a Japanese-German Center Berlin fellow.

Jussila has published several scientific papers together with Japanese and other researchers. During 1990-2010 Dr. Jussila has authored 8 editions of the leading Finnish guidebook on Japan, Tokio-Passi.

In 2014, a new extended guidebook on all of Japan is under preparation to be published.



Sanae Ito, University of Helsinki

After I studied in the Keio University for BA and in the University of Tsukuba for MA in Japan, I came to Finland to pursue my doctoral research on Assyriology, study of the languages and the civilization of ancient Mesopotamia. The University of Helsinki is one of the best institutes to study Assyriology. I am currently a Ph.D. student there and I am writing my dissertation concerning the letters from an Assyrian king that were written in cuneiform script on clay tablets in the 7th century BC. In 2011, I received research grant through the Young Researcher Overseas Visits Program for Vitalizing Brain Circulation financed by the Japan Society for the Promotion of Science (JSPS). In 2014, my

Finnish supervisor and my Japanese supervisor are planning to organize a joint seminar in Japan through a bilateral program between JSPS and the Academy of Finland. I would like to contribute to the Finnish Alumni Club as a new board member in order to promote international collaboration between Japan and Finland.



Joni Kujansuu, University of Helsinki

After I got my BSc in Finland on 1997, I moved to China. I studied 2 years of Chinese language and succeeded to pass the entrance exams to start MSc studies. I studied ecology and village forestry for 3 years in Beijing Forestry University and graduated at 2002. I met my Japanese wife in China and moved after her to Japan after graduation, where I started my doctorate studies in Gifu University as a JSPS fellow. After I got my PhD, I worked in Japan as an entrepreneur for forest-wood-food product industry for 3 years, and after that 1 year on sustainable nature management in Nagano. We decided to move back to Finland on 2010 and I am now working in University of Helsinki as a Science Coordinator. I speak, read and write Mandarin Chinese and Japanese quite fluently.

Lithuania-Japan (Tsukuba) Joint Science Symposium was held

On June 12, Lithuania - Japan (Tsukuba) Joint Scientific Symposium was held at the University of Tsukuba. The aim of the symposium was to deepen the mutual understanding and promote international exchange of research activities between Lithuania and Japan. Both parties engaged in discussion on the topic of energy in scientific industrial development, particular to Central and Eastern Europe.

The symposium was organized by the Research Council of Lithuania, the Embassy of the Republic of Lithuania in Japan, University of Tsukuba and JSPS. Thanks to the networking of our colleague in the JSPS Bonn Office, Director Keiichi Kodaira, and the Vice-Chairman of the Research Council of Lithuania, this symposium has started

and created a new fruitful collaboration between Lithuania and Japan.

A total of 16 researchers from both Lithuania and Japan gave one lecture each on their respective research projects. JSPS Executive Director Makoto Asashima attended the symposium and offered closing remarks, expressing his approval for bilateral research between the two countries. The symposium was followed by a reception where students from Lithuania and Japan mingled to further deepen their academic relationships.

Source:

<http://www.tsukuba.ac.jp/english/news/n201407100905.html>

Upcoming Seminars & Symposia

Please visit <http://www.jsps-sto.com/> for more information on the following activities.

September 10-12

Life Sciences Baltic 2014 (LSB 2014)

An international forum to be held in Vilnius, Lithuania.

Participants from over 30 countries include Nobel Laureates, world-class biotechnology, pharmaceutical and medical devices experts from all around the world. Registration in advance is required.

Date

September 10-12

Venue

Lithuanian Exhibition and Congress Centre LITEXPO, Vilnius, Lithuania

Register before September 8.

URL: <http://www.b2match.eu/lb2014>

September 11-12

Sweden-Kyoto Symposium

A collaboration symposium between Kyoto University, Stockholm University, Uppsala University, KTH Royal Institute of Technology and Karolinska Institutet will be held on September 11-12.

1) Joint Symposium

Date

September 11, 9:00-16:30

Venue

G-Salen, Arrhenius Laboratories, Stockholm University

2) Parallel Sessions

Date

September 12, 9:00-17:30

Venue

Stockholm University
Uppsala University
KTH Royal Institute of Technology
Karolinska Institutet

URL: <http://www.oc.kyoto-u.ac.jp/symposium/sweden-kyoto-symposium2014/en/>

September 16-17

KVA-JSPS Seminar

Since 2009, JSPS has together with the Royal Swedish Academy of Sciences organized seminars with Japanese lecturers. The second seminar in the FY2014 series will be held September 16-17 2014, with invited speaker Prof. Emiko Ochiai of Kyoto University.

1) Örebro University: "Asian Familialism Reconsidered: Comparative Studies of Care Regimes in Asia"

Date

September 16, 15:15-17:00

Venue

Center for Feminist Social Studies (CFS), Örebro University

URL: <http://www.oru.se/English/Research/Research-Environments/Research-environment/HS/Center-for-Feminist-Social-Studies-CFS/Seminars-autumn-2014/>

2) Stockholm University: "The Transformation of the Intimate and the Public in European and Asian Modernity"

Date

September 17, 13:00-14:30

Venue

Department of Sociology, Stockholm University

URL: <http://www.sociology.su.se/english/about-us/events/wednesday-seminar-1.201732>

External visitors: Due to limited seats, please e-mail JSPS Stockholm Office (jsps-sto@jsps-sto.com) your name and affiliation before September 12 (Friday) if wish to attend the seminars.

September 16-17

Uppsala University - Tokyo Tech Joint Symposium: Breakthroughs in Science & Technology for the 21st century

A collaboration symposium between Tokyo Institute of Technology and Uppsala University will be held to strengthen the collaboration of both universities. The symposium is divided into different sessions, focusing on Electronics & Materials Science, Physics/Nuclear Science & Technology, Lifescience & Biotechnology, Global Energy and Future Blue Sky possibilities and Renewable Energy.

Date

September 16, 8:30-17:30

September 17, 9:00-16:30

Venue

Uppsala University, Ångström Laboratory

Register no later than September 11.

URL: <http://www.teknat.uu.se/research/uu-tt-joint-symposium/>

September 18

The 1st Network Meeting for Japanese Researchers in Finland

Organized by the Embassy of Japan in Finland, Hokkaido University Helsinki Liaison Office and JSPS Stockholm Office, this event is held to provide an opportunity for Japanese researchers residing in Finland to network, to promote future collaborations and friendships.

Date

September 18, 17:00-19:00

Venue

University of Helsinki, City Center Campus, Porthania 2nd fl

Register no later than September 11. Contact JSPS Stockholm Office (jsp-sto@jsp-sto.com) for further information.

September 26

Japan-Denmark Scholarship Information

Several scholarship programs to Japan will be presented from representatives of the Embassy of Japan in Denmark, Tokai University Alumni Association, Denmark and JSPS Stockholm Office. The following socializing event, "the 1st Japan Alumni Assembly", will provide participants an opportunity to mingle and exchange views. Opening remarks will be given by the Embassy of Japan in Denmark's Ambassador Seishi Suei.

Date

September 26.

The 1st session: Japan-Denmark Scholarship Information, 13:00-15:00 at the Auditorium

The 2nd session: The 1st Japan Alumni Assembly, 15:00-17:00 at the Lobby

Venue

University of Copenhagen, Bülowsvej 17, Frederiksberg

Registration

Registration in advance is required. Please send an e-mail to info@ch.mofa.go.jp with the following information.

- Name

- Current occupation

- Scholarship Scheme (please indicate your affiliation: Tokai University, Embassy of Japan or JSPS)

Deadline: 19 September

October 16-17

Symposium – New Era of Life Science

The first joint symposium between RIKEN Center for Life Science Technologies (CLST) and Karolinska Institutet-SciLifeLab will be held at Karolinska Institutet. An information session for students will be held during lunch on October 17.

Date

October 16, 09:00 - 18:00

Venue

Gamma conference, Tomtebodavägen 23A, Karolinska Institutet Campus in Solna

Admission is free of charge.

URL: <https://www.scilifelab.se/events/symposium-new-era-of-life-science/>

October 30-31

CRC-SU Joint International Symposium on Chemical Theory for Complex Systems, Interplay Between Theory and Experiments: New Trends in Catalysis

A joint symposium between the Catalysis Research Center (CRC) of Hokkaido University, and Stockholm University, Department of Organic Chemistry will be held. The symposium is organized by Catalysis Research Center (CRC), Hokkaido University, Department of Organic Chemistry, Stockholm University, Fukui Institute for Fundamental Chemistry (FIFC), Kyoto University.

Date

October 30, 9:00 - 19:30

October 31, 9:00 - 17:35

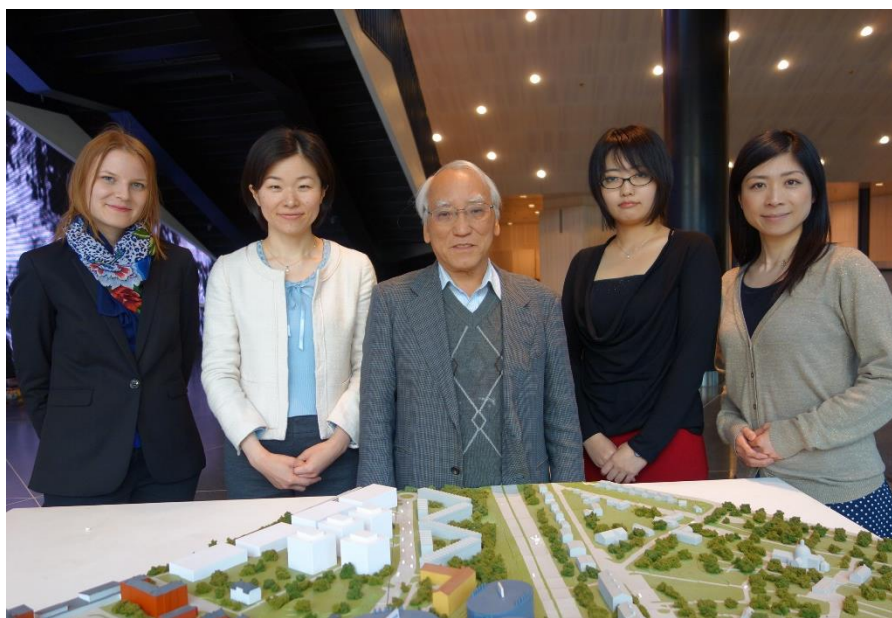
Venue

Stockholm University

URL: <http://www.cat.hokudai.ac.jp/crc-ctcs3/>

Introduction of JSPS Stockholm Office's New Director, Dr. Hideo Akutsu

Sweden is a unique country in terms of life-styles, sciences, economy, and cultures. Therefore, I am looking forward to working as a JSPS member in this country, looking over Nordic and Baltic countries. I have been working on a research elucidating the structure and function of energy-related proteins for long time. Since there are many distinguished researchers in not only life science, but also other fields, I feel the scientific exchange between Japan and those countries is very important. I am happy to contribute to it as a member of JSPS Stockholm Office. Although my ability would not be enough for this responsible work, I would like to do my best.



From left to right: Marika Tashima, Yuriko Kawakubo, Dr. Hideo Akutsu, Natsumi Kudo and Satomi Oe.

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