

# JSPS Stockholm Newsletter

English Edition Vol. 24



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## A New Life in Stockholm - In Expectation of a Slow Passage of Time

Tadaharu Tsumoto, Director, JSPS Stockholm Office

In many countries in the world it is said that aged people perceive the passage of time very fast. In Japan, probably in other countries too, old people often complain that one year was over too soon in the twinkling of an eye, while few young people make such a complaint. According to a theory proposed by many people, the perception of passage of time is related to the amount of new memories, in particular, episodic memories. For example, almost all experiences in the childhood and youth are new and often accompanied by some emotional feelings such as surprise, joy or sorrow. Thus a lot of new memories accumulate during the days of young age. On the other hand, the experience of new exciting episodes becomes relatively rare with age, and thus perception of the passage of time becomes fast. Recent findings in brain science suggest that the retention of memory, in particular episodic memory, is enhanced when episodes are accompanied with emotion such as joy or fear. Thus, if you have many unexpected experiences with surprise, you will perceive the passage of time as slow, and thus your life in this period as long.



I have a couple of personal experiences consistent with this theory: I spent two years in a small town in north Germany, Göttingen when I was in my early thirties and then nearly one year in the west coast of USA, Berkeley when I was in my late thirties. Later when I was in my middle and old ages, I spent about 20 years in Osaka and about 10 years in Tokyo. My perception is that the passage of time in Osaka and Tokyo was very fast and the periods of life there were not five to ten times longer than those in Germany.

A couple of months ago I was unexpectedly asked to serve as Director of the JSPS Stockholm Office. As a principle I like to have new, unexperienced life, and make a contribution to international collaboration in science. Therefore I decided to contribute time and energy to science in the requested manner. Stockholm was a completely unknown town for me, and thus I am expecting many new unexpected experiences. According to the above-mentioned theory, my perception of time in Stockholm will become slow. I hope this expectation will be realized and I can make a contribution to further collaboration in science between Nordic/Baltic countries and Japan.

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## A Farewell

By the Former Director **Hideo Akutsu**, JSPS Stockholm Office



My term as the director of JSPS Stockholm Office expires in the end of April, 2016. I enjoyed our job to promote scientific exchange between Japan and Nordic/Baltic countries. Hopefully the relationship between Japan and these countries has been further strengthened. I could get acquainted with many new friends in the last two years. I would like to thank these friends for their support to the activities of our Office.

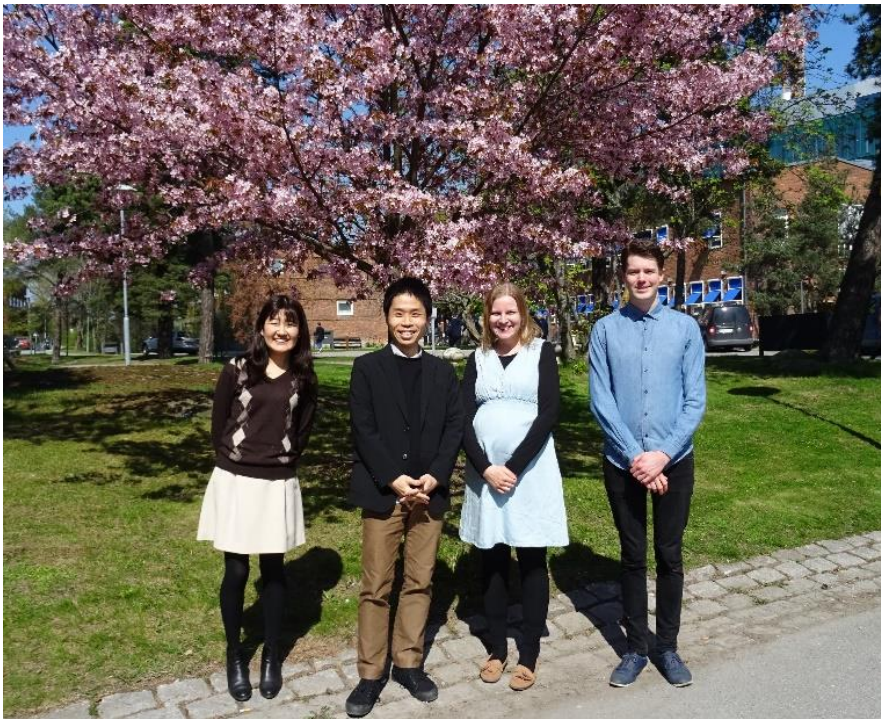
Two years flew very fast. Nevertheless, I also could enjoy our private time together with my wife. We visited many places in Sweden from south to north, and found fascinating life and nature in towns, lakesides, and forests.

Now, it is time to say goodbye. I wish all of you all the best.

Hideo Akutsu



## Staff Changes at JSPS Stockholm Office



*From left to right: Eriko Kitajima, Yusuke Nakakane, Marika Tashima and Oskar Nielsen*

### **Nice to meet you!**

#### **Yusuke Nakakane**

Hej! My name is Yusuke Nakakane, originally from Yokohama National University. I started to work as an international program associate at JSPS Stockholm Office from April 1<sup>st</sup>. This is the first time to live abroad. I really like Stockholm, which reminds me my hometown Yokohama. Through my stay in Stockholm, I would like to learn about the Scandinavian and Baltic countries. Tack så mycket.

#### **Eriko Kitajima**

Hej! I am Eriko Kitajima, originally from Tokyo Institute of Technology. I am excited to work as an international program associate at JSPS Stockholm Office and enjoying the precious experience as living in such beautiful Stockholm. I love singing and jogging so would like to try chorus and marathon racing here.

#### **Oskar Nielsen**

Hi! My name is Oskar Nielsen and I am the new office assistant at the JSPS Stockholm Office. I have always had a great interest in languages and literature, which resulted in a master's degree in translation studies from Japanese to Swedish at Stockholm University. Prior to my master's degree I have been doing Japan related studies at Lund University and Keio University. I am looking forward to work at the JSPS.

### **Thank you and see you again!**

#### **Marika Tashima**

During my three years working as an office assistant here at JSPS Stockholm Office, I have had the fortune to participate in several events and met many fascinating people. From the end of May, I will take some time off to prepare for the upcoming challenge of motherhood, with expected return date in October 2017. I am positive my new colleagues will do a great job and I wish them an exciting year!

## IVA-JSPS Seminar Held With Mr. Hiroshi Nakaso, Deputy Governor of the Bank of Japan



*From left to right: Mr. Stefan Ingves, Mr. Hiroshi Nakaso and Mr. Klas Eklund*

On March 21, the second seminar of the IVA-JSPS seminar series FY2015 was held on “The Japanese Economy - Challenges and Future Perspectives” at the Royal Swedish Academy of Engineering Sciences (IVA). The seminar was organized by IVA, Sweden-Japan Foundation (SJF), Embassy of Japan and JSPS Stockholm Office. Invited speaker from Japan was Mr. Hiroshi Nakaso, Deputy Governor of the Bank of Japan.

The seminar was opened with welcome remarks by Mia Horn af Rantzien, Chairman of IVA’s Division for Economics, followed by a speech by Mr. Edvard Fleetwood, Secretary General of SJF, commemorating the late Swedish banker Robert Stenram. In the 1990’s,

Robert Stenram was the Tokyo representative of Swedbank during Japan’s financial crisis, and he was a close friend of Mr. Nakaso.

Following Mr. Fleetwood’s speech, a moment of silence for Robert Stenram was held before the seminar, and moderator Klas Eklund, Senior Economist at SEB, continued to introduce the day’s special invited guest Mr. Nakaso. Mr. Nakaso’s speech was titled “Challenges toward Financial Stability and the Policy Frontier”, and he discussed issues such as the economic growth after the bursting of Japan’s financial bubble, and the possible effects of a negative interest rate. His speech was followed by the comments of Mr. Stefan Ingves, Governor of Sweden’s central bank the Riksbank, who mentioned the similar economic challenges Japan and Sweden are facing. The key concern in both countries is low inflation, and Mr. Ingves shared the Swedish experiences of a negative interest rate.

The well-attended seminar was wrapped up with a Q&A session, which actively engaged the participants in a fruitful discussion with the two central bankers.

The seminar is available for viewing online at:

<http://www.iva.se/event/the-japanese-economy-outlook/>

## Gathering for Japanese Researchers Held in Sweden

On April 19, the gathering for Japanese researchers was held in Stockholm, with 22 researchers from various academic research institutions participating. The gathering was organized by First Secretary Masafumi Sato, Embassy of Japan in Sweden, together with Deputy Director Yuriko Kawakubo.

The gathering provided an opportunity to further strengthen the ties between the Japanese researchers, as well as welcome those who had newly arrived in Sweden. Each researcher briefly introduced themselves and their field of research. Director Hideo Akutsu informed of his leave in the end of April, thanking everyone for their kind collaboration. He also introduced his successor, the new Director of JSPS Stockholm Office, Dr. Tadaharu Tsumoto, who was visiting Sweden on a business trip to prepare for his employment as Director. The office’s new International Program Associates Mr. Yusuke Nakakane and Ms. Eriko Kitajima were also introduced, and Office Assistant Ms. Marika Tashima informed that she will go on parental leave from late May.



*Participants getting acquainted with each other.*

The gathering was a success with participants enjoying the exchange of information on life and research in Sweden, in a relaxed atmosphere.

### JSPS Summer Program Pre-Orientation Held in Stockholm

On April 25, 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 STINT is the nominating authority in Sweden. The purpose of the pre-orientation was to inform and prepare the FY2016 Summer Program participants of their upcoming research tenure in Japan.

Opening remarks were given by Dr. Andreas Göthenberg, Executive Director of STINT, followed by the self-introductions of each participant. After the self-introductions, Deputy Director Yuriko Kawakubo informed of necessary preparations prior to the Summer Program participants' departure to Japan, and of the recent earthquake in Kumamoto, southern Japan. Five participants from the JSPS Summer Program FY2015 attended and acted as advisors, and two of them gave presentations on their experience of the program. After the presentations, the floor was open for questions and discussions about the daily life and research environment in Japan.

Director Hideo Akutsu gave an introduction to JSPS Stockholm Office and its activities, which was followed by an introduction of STINT by Dr. Hans Pohl, Programme Director of STINT.

The pre-orientation was closed with a few words of encouragement given by Director Akutsu, and the participants could continue their lively discussions during the lunch that followed.



*Group photo with happy Summer Program participants together with staff of STINT and JSPS Stockholm Office.*



### SAC Board Meeting Held at JSPS Stockholm Office

On March 4, the JSPS Alumni Club in Sweden (SAC) held a board meeting at JSPS Stockholm Office. It was the first meeting gathering 7 old and new board members, either online or in person. The topics of discussion on the meeting agenda included the review of the Club's articles, administrative roles of board members, the activity- and budget plan of FY2016, as well as the selection of the SAC Activity seminars FY2016.

The board members had several ideas and suggestions on how to involve young alumni and how to increase the member attendance in the Club's future activities, and it was agreed that these topics would be further discussed.

The new board consists of the following members:

- Chair: Prof. Göran Thor, Swedish University of Agricultural Sciences (SLU)
- Vice-Chair: Dr. Elin Palm, Linköping University
- Prof. Imre Pázsit, Chalmers University of Technology
- Prof. Mohammad Asadzadeh, Chalmers University of Technology
- Prof. Lars Öhrström, Chalmers University of Technology
- Dr. Joel Peterson, Borås University
- and Dr. Thomas Lennerfors, Uppsala University.



*From left to right: Deputy Director Yuriko Kawakubo, Chair Prof. Göran Thor, Vice-Chair Dr. Elin Palm, Prof. Imre Pázsit, Prof. Lars Öhrström, and Director Hideo Akutsu.*

### ACF Board Meeting Held at Tampere University of Technology

The JSPS Alumni Club in Finland (ACF) held a board meeting at Tampere University of Technology, and six of seven of board members participated in the meeting either in person or online. Topics such as possible amendments to the Club's articles, the Club's Activity plan and budget plan for FY2016 were discussed. It was decided that the General Assembly was to be held in autumn together with a symposium. The details such as theme and speakers would be discussed at the next board meeting.

The new members were accepted and welcomed to the Club, and the board also selected an activity seminar proposal submitted by a member. JSPS Stockholm Office would like to encourage all regular members to take the next opportunity to apply for ACF activity seminar funding support with the possibility of inviting one Japanese speaker.

Before the meeting was closed, Director Hideo Akutsu informed the board of his return to Japan in the end of April, and thanked everyone for their collaboration during his two years as the Director of JSPS Stockholm Office.

## Three Decades of Japanese-Danish Research Collaborations on Carbohydrate-Active Enzymes

Prof. Birte Svensson, Enzyme and Protein Chemistry, Department of Systems Biology,  
Technical University of Denmark

Japan has outstanding tradition both for applications of enzymes acting on carbohydrates and for using microorganisms in different industrial fermentations for manufacture of food products, ingredients and beverages. There has been a long-standing contact between Department of Chemistry at the Carlsberg Laboratory in Copenhagen and Japanese researchers starting almost 100 years back.

Since 1989 I have been visiting Japanese universities, government institutions and industries many times. In the beginning because of the shared interest in carbohydrate active enzymes and for more than a decade also due to research in cereal crop proteomics and most recently on interactions between beneficial dietary fibers (prebiotics) and probiotic bacteria. It's been wonderful to come around and discuss the science and enjoy the hospitality and friendship bringing me to visit fantastic places and learning about traditions as well as the daily life. I am grateful to all the colleagues who have been looking after me in Japan as well as to the Japanese postdoctoral fellows and visiting scientists joining our research group both at the Carlsberg Laboratory and since 2004 at the Technical University of Denmark.

Professor Takeo Sakai from Osaka Municipal University was the first Japanese scientist whom I worked with. Over a couple of summer months in the early eighties we determined physico-chemical properties of the starch degrading enzyme glucoamylase purified from a commercial *Aspergillus niger* product from the Novo company, which at that time was used in brewing. Actually glucoamylase is even more important in glucose and starch syrup manufacture and pioneering fundamental research on this enzyme was done at Kyoto and Kyushu Universities since the early seventies. I published its complete protein amino acid sequence in 1983 and from thereon had scientific contacts with several leading research groups in Japan. Mid 1983 Katsuhiko Asano from the Kirin Breweries, later president of Kirin Pharmaceuticals, joined the Carlsberg Laboratory as a visiting scientist for two years. We discovered a ribosome inactivating protein in barley seeds, a comprehensive study that later awarded Dr. Asano a Japanese doctoral degree. Dr. Jun-ichi Abe, now professor, from Kagoshima University joined us in 1989 for two years to work on protein-protein interactions involving barley  $\alpha$ -amylase inhibitory proteins and starch debranching enzymes.

Senior Scientist Ikuo Matsui from AIST in Tsukuba focused on protein engineering of barley  $\alpha$ -amylase, which was also the topic of Dr. Haruhide Mori, now professor, at Hokkaido University and Dr. Kenji Fukuda, now associate professor at Obihiro University. Dr. Hiroyuki Nakai 2008-2010 developed with us new enzymatic processes for synthesis of valuable oligosaccharides and is now associate professor at Niigata University. Currently Dr. Yuya Kumagai from Hokkaido University is visiting JSPS fellow in our lab to study marine polysaccharide protein interactions connected with stimulation of the immune system. Both associate professor Maher Abou Hachem from our group and I enjoyed short-term JSPS visiting scientist fellowships. In 2014 Alexander Viborg a former PhD student of ours joined professor Shinya Fushinobu at Tokyo University as JSPS long-term postdoctoral fellow to work on crystal structures of a family of enzymes degrading milk oligosaccharide. We in 2015 established a collaboration with professor Takane Katayama at Kyoto University on enzymatic synthesis of human milk oligosaccharides.

I am confident that the future will bring many more fruitful interactions between our research group and our Japanese colleagues.

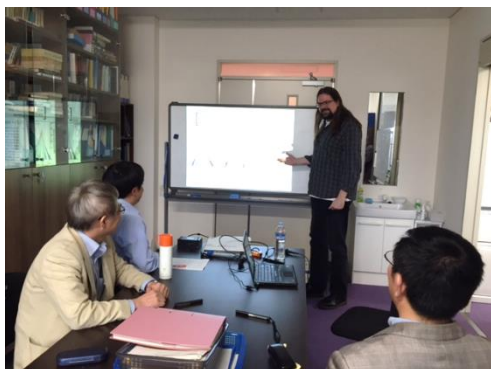


Prof. Birte Svensson at the Japan Alumni and Researcher Assembly

## JSPS BRIDGE Fellowship Research Report (SAC)

Dr. Johan Anderson, Department of Earth and Space Sciences, Chalmers University of Technology and SP Technical Research Institute of Sweden

My research focus is mainly on fusion plasma physics. Fusion energy is one of the viable environmentally friendly options for a clean and efficient energy source of the future. One of the main remaining challenges is to control the anomalously large transport generated by turbulence in fusion machines. This work was aimed at understanding and mitigating the anomalous transport in fusion devices. My current research is on models for multi-scale interactions in turbulence e.g. the interaction between drift waves (the main drivers of anomalous transport) and zonal flows (transport sinks) in tokamak plasmas and their interaction with an external mean flow. This work consists of among other things the determination of probability density functions of fluxes in non-linear models of turbulence. I have worked with numerical and analytical aspects of fluid modeling of anomalous transport in fusion plasmas for more than 15 years. During the recent years I have focused mainly on non-linear aspects of anomalous transport such as the effects of coherent structures, more specifically the generation of zonal flows and its interaction with other modes such as mean flow and GAMs. Some of the particular outcomes of the last JSPS period were that I studied different ways of modeling multi-scale interactions using the wave kinetic modeling and the coherent mode coupling models. We focused on interactions with external shear flows as well as purely toroidal effects.



*Dr. Johan Anderson lecturing at Kyoto University.*

More recently, I have focused on probabilistic models of intermittency in plasma turbulence. I have modeled the effects of intermittency on heat and particle fluxes inherently coming from non-linear physics. The analytical models have been compared with numerical simulations with very good agreement. Currently, advanced statistical methodologies for time series analysis have become more important, among those methodologies are the autoregressive integrated moving average or ARIMA models and Singular Spectrum Analysis methods. These modelling tools are used for noise (or stochastic part) modelling pertaining the numerically

**Name:** Senior Researcher Johan Anderson  
**Affiliation:** Department of Earth and Space Sciences, Chalmers University of Technology and SP Technical Research Institute of Sweden  
**Host Institution in Japan:** Kyoto University  
**Host Researcher:** Prof. Yasuaki Kishimoto  
**Title of research in Japan:** "Statistical analysis of global Gyro-Kinetic simulations of Turbulence in Fusion Plasmas"  
**Fellowship period:** 2016.03.28-2016.04.26

generated time traces for distinct comparisons with analytical theories.

One interesting development is to investigate the intermittent features of turbulence in global Gyro-Kinetic simulations of plasma turbulence as well as multi-scale turbulence where interaction between micro-scale drift waves and macro-scale MagnetoHydroDynamic (MHD) waves are present. The research group at Kyoto University has been studying such phenomena for a long time however by revisiting interesting work from other researchers in the field more physics can be added to the models enabling comparisons between analytical results and numerical work. In particular, statistical properties of particle and heat flux can be modelled by analytical means and compared with numerical results. Comparisons will be done using the Gyro-Kinetic based Numerical Experimental Tokamak (GKNET). This makes an excellent opening for collaboration and sharing knowledge between the researchers involved in the project.

The long term purpose of this project is to improve the understanding and predictive capability of turbulent transport in fusion devices. This was initiated and will continue to be done by developing an entirely new methodology for constructing predictive transport models that improves on and goes beyond the quasi-linear transport models that are currently in use. The modelling is relevant for the description of anomalous or turbulence driven transport of heat and particles in magnetically confined plasmas in the major fusion experiments in operation such as W7-X, JET and the future experimental efforts of ITER.



*Dr. Johan Anderson along the Philosopher's road.*



## March

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### Visit to KTH Royal Institute of Technology

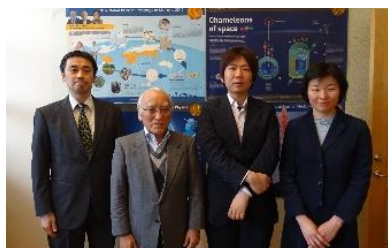
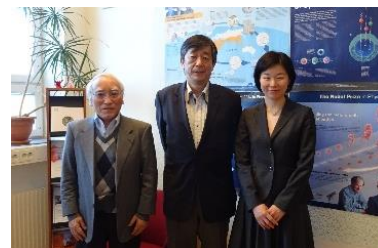
Director Hideo Akutsu, Deputy Director Yuriiko Kawakubo and International Program Associate Michiko Murakami, visited KTH Royal Institute of Technology to meet with Mr. Magnus Lindqvist and Mr. Torkel Werge, Advisors, International Relations.

Mr. Lindqvist and Mr. Werge explained the international exchange with universities in Japan and the Summer School project by the European Institute of Innovation and Technology (EIT), in which KTH participates in. Views on workshops, researcher and postdoc exchange were discussed.

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### Visit by Prof. Yoshihiro Narita, Director of Hokkaido University Helsinki Office

Prof. Yoshihiro Narita, Director of Hokkaido University Helsinki Office Director visited JSPS Stockholm Office to exchange information and views on the international exchange activities of Hokkaido University. Director Akutsu and Deputy Director Kawakubo provided information about the activities of JSPS Stockholm Office and the international exchange situation in the Nordic-Baltic countries.



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### Visit by Mr. Yasushi Hara, National Graduate Institute for Policy Studies

Mr. Yasushi Hara, Specialist, Science for RE-designing Science, Technology and Innovation Policy Center (SciREX Center), National Graduate Institute for Policy Studies, visited JSPS Stockholm Office and introduced his research related to the Nobel Prize. First Secretary Mr. Masafumi Sato, Embassy of Japan, also participated in the meeting and views on the research environment in Japan, the US and Europe were exchanged.

## April

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### Visit to the Embassy of Japan

With the arrival of JSPS Stockholm Offices' new International Program Associates of FY2016, Mr. Yusuke Nakakane and Ms. Eriko Kitajima visited the Embassy of Japan in Sweden to introduce themselves. Office Assistant Ms. Marika Tashima informed that she will go on parental leave from late May.

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### Visit by Dr. Daichi Suzuki, Karolinska Institutet

Dr. Daichi Suzuki, Postdoc at the Department of Neuroscience, Karolinska Institutet, visited the office. Dr. Suzuki had recently arrived in Sweden through the JSPS Postdoctoral Fellowship for Research Abroad. Director Akutsu and Deputy Director Kawakubo provided him with information on the Japanese Researchers in Sweden Network, and topics such as life in Sweden were discussed.



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### Visit by Dr. Bun-ichi Shimizu, Karolinska Institutet

Dr. Bun-ichi Shimizu, Graduate School of Life Sciences, Toyo University, visited the office. Prof. Shimizu had recently arrived in Sweden to research at the Department of Medical Biochemistry and Biophysics, Karolinska Institutet.

Director Akutsu and Deputy Director Kawakubo provided him with information on the Japanese Researchers in Sweden Network.

19-20

### Visit by Dr. Tadaharu Tsumoto, new Director of JSPS Stockholm Office

Dr. Tadaharu Tsumoto, Professor Emeritus of Osaka University and Science Coordinator of Brain Science Institute/RIKEN, has been appointed as the next Director of JSPS Stockholm Office. He visited the office to exchange information before beginning his appointment.

Director Akutsu and Deputy Director Kawakubo explained the activities and main tasks of JSPS Stockholm Office.

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### Meeting with Dr. Svante Lindqvist, Marshal of the Realm

Director Akutsu and Deputy Director Kawakubo visited the Royal Palace in Stockholm to meet with Svante Lindqvist, Marshal of the Realm. They learned the events related to H.M. the King of Sweden's birthday and upcoming academic related events. Director Akutsu and Deputy Director Kawakubo explained the activities of JSPS Stockholm Office and informed of the Sweden-Japan University President's summit held in October 2015 and its follow-up.

## May

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### Visit by Prof. Kohei Miyazono, the University of Tokyo

Prof. Kohei Miyazono, Dean of Graduate School of Medicine, the University of Tokyo, visited Sweden for preparatory meetings related to the upcoming "KI Cancer Retreat" in September, organized by Karolinska Institutet (KI) and guest organized by the University of Tokyo and JSPS Stockholm Office. After the meetings with the organizers of KI and Deputy Director Kawakubo, Prof. Miyazono visited JSPS Stockholm Office to discuss the details of the joint symposium and how the office can contribute.



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### Visit by Ms. Sari Kodama, Japan Airlines

Ms. Sari Kodama, senior sales representative for Finland, Northern and Eastern Europe, Japan Airlines Co., Ltd. (JAL) visited the JSPS Stockholm Office and explained the products of Japan Airlines. Deputy Director Kawakubo and International Program Associate Eriko Kitajima explained the office's travel routines.

## 4. Column

### Japanese Anime "Ronja, the Robber's Daughter" Winner of the 4th International Emmy Kids Awards

On April 6, the 4th International Emmy Kids Awards took place in Cannes, France, and the Japanese anime series "Ronja the Robber's Daughter" (Sanzoku no musume Ronia) won in the category of animation. The anime is based on the Swedish children's book of the same name by author Astrid Lindgren. The book was published in 1981 and has been translated into over 40 languages. The anime was directed by Gorō Miyazaki, son of Hayao Miyazaki, animator and co-founder of Studio Ghibli. The anime was first broadcast in Japan in 2014 with 26 episodes.

The story revolves around Ronja, the only daughter and heir to Mattis, who is the chief of a bandit clan. The clan lives in a castle and on the day Ronja is born, the castle is split into half by a thunder of lightning, limiting the clan's living space to one half. Ronja grows up under the watchful eye of her protective family, and as she gets older, she is allowed to enter the forest alone where she discovers its beauty and danger. Meanwhile, the other half of the castle is soon occupied by the Borka clan.



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Despite the animosity between the two clans, a friendship secretly blooms between Ronja and Birk, the son and heir of the rival clan's chief Borka.

The anime is closely following the storyline of the book, and is currently being re-broadcast on NHK's E TV channel. For Swedish residents, it is also available online for viewing in Swedish at <http://www.svtplay.se/ronja-rovardotter>.

Sources:

- [http://iemmys.tv/news\\_item.aspx?id=207](http://iemmys.tv/news_item.aspx?id=207)
- <http://www.mynewsdesk.com/se/saltkraakan-ab/pressreleases/swedish-world-premiere-for-goro-miyazaki-s-ronja-the-robber-s-daughter-1303143>

### The 2016 Gregori Aminoff Prize Awarded to Prof. Chikashi Toyoshima and Prof. Poul Nissen

On September 10 2015, the Royal Swedish Academy of Sciences (KVA) announced that the Gregori Aminoff\* Prize in crystallography 2016 was awarded to Prof. Chikashi Toyoshima, the University of Tokyo, and Prof. Poul Nissen, Aarhus University “for their fundamental contributions to understanding the structural basis for ATP-driven translocation of ions across membranes”. The prize amount is in total 100 000 SEK, and since 1979 rewards documented, individual contributions in the field of crystallography, including areas concerned with the dynamics of the formation and determination of crystal structures.

The Gregori Aminoff Prize Symposium was held on March 30 at the University of Gothenburg, and from JSPS Stockholm Office, Director Hideo Akutsu attended. Laureate Prof. Toyoshima gave a lecture titled “Structural biology of P-type ion translocating ATPases: towards complete understanding of the mechanism”, while Laureate Prof. Nissen gave a lecture titled “The structure and mechanism of transporters of the P-type ATPase family”. Other speakers participating in the Prize symposium were from Denmark, Norway, Israel, the United Kingdom and Sweden.

On March 31, Director Akutsu and Deputy Director Yuriko Kawakubo attended KVA’s annual gathering at the Stockholm Concert Hall, where the two Laureates were awarded their prize by Prof. Christina Moberg, President of KVA.

At the annual gathering, new academy members elected in 2015 were also officially welcomed, and a lecture by the 2001 Nobel Laureate in Physiology or Medicine Sir Paul Nurse, Director of the Francis Crick Institute, was held. The annual gathering was concluded with a dinner for the invited guests at the Nordic Museum.

JSPS Stockholm Office congratulates Professors Toyoshima and Nissen for their remarkable achievements!



*Prof. Chikashi Toyoshima  
at the Gregori Aminoff Prize Symposium*



*Prof. Nissen and  
Prof. Toyoshima at the Award Ceremony*

\*Swedish artist and scientist Gregori Aminoff was born in 1883 and died in 1947. He was a member of the Royal Swedish Academy of Sciences. In 1918, he introduced X-ray crystallography and later in 1930, he introduced electron diffraction in Sweden. In 1950, his wife provided for the establishment of the Prof. Gregori Aminoff Memorial Fund in her will, and an annual prize was to be awarded in the field of crystallography.

Source: <https://www.kva.se/en/Prizes/Gregori-Aminoff-Prize/Gregori-Aminoff/>



### Prof. Barbara Cannon Receives the Order of the Rising Sun, Gold and Silver Star

On April 29, the Ministry of Foreign Affairs of Japan announced that the Government of Japan has conferred decorations to 90 foreign nationals, of whom 19 were women. From Sweden, Prof. Barbara Cannon, former President of the Royal Swedish Academy of Sciences (KVA), has been recognized for having “contributed to the promotion of scientific and technological exchanges and mutual understanding between Japan and Sweden”. She was awarded the Order of the Rising Sun, Gold and Silver Star.

The Order of the Rising Sun was established in 1875 and is awarded twice a year to foreign nationals as a recognition of their excellent contributions to the promotion for the exchanges between Japan and other countries. The award recognizes fields such as research and education, medicine and social welfare, economy and industry, and culture and sports.

JSPS Stockholm Office would like to congratulate Prof. Cannon on her remarkable achievements!



Photo from the Embassy of Japan, ©Erik Huss

Sources:

Ministry of Foreign Affairs of Japan

<http://www.mofa.go.jp/announce/info/conferment/index.html>

The Royal Swedish Academy of Sciences (KVA)

<http://www.kva.se/en/News/2016/barbara-cannon-recieves-japanese-order/>

The Embassy of Japan in Sweden (Swedish)

[http://www.se.emb-japan.go.jp/nyhet\\_160429.html](http://www.se.emb-japan.go.jp/nyhet_160429.html)

### Malaria Elimination on Islands in Lake Victoria, Kenya

**Prof. Akira Kaneko**, Department of Microbiology, Tumor and Cell Biology (MTC), Karolinska Institutet

In 2013, an estimated 437 000 African children died from malaria before their fifth birthday. Islands provide natural ecological experiments and a great potential for intervention studies. On Aneityum Island in Vanuatu, we have successfully sustained malaria elimination since 1991 [Kaneko A, et al. Lancet 2000]. In this project, we will implement a malaria elimination package in the Lake Victoria basin in Kenya to determine if malaria freedom can be sustained in a population of 70,000 on five islands and in part of the mainland by a stepped wedge trial design. This package combines a short-term mass drug administration of artemisinin-based combination therapy and small-dose primaquine with long-term community-directed vector control measures and case surveillance. In January – March 2016 we started a pilot study on Ngodhe Island, where the SVT film was taken.

This collaborative project will seek to resolve questions about elimination by MDA such as community compliance and emergence of drug resistance, as well as methods to prevent parasite importation and resurgence and evaluate its impacts. Results from this operational research will provide key insights for the potential adoption of the elimination package as part of the national malaria elimination strategy in Kenya, and proof of concept for malaria eradication in tropical Africa to save many children.

It should be also noted that Kenya will host the 6<sup>th</sup>

Tokyo International Conference on African Development Summit (TICAD VI) in Nairobi 2016, the first ever in Africa. For this historical moment the proposed project will cast an important cornerstone to one of the new UN Sustainable Development Goals, to end malaria by 2030.

This project is based in the collaboration with the Kenyan Office of Nagasaki University Institute of Tropical Medicine.

Prof. Akira Kaneko and his malaria elimination project was featured on Swedish Television program “*Vetenskapens Värld*”. Please find the segment online, starting from 30:14

<http://www.svtplay.se/video/7584080/vetenskapens-varld/vetenskapens-varld-avsnitt-11-1>



Photo from <http://ki.se/en/mtc/akira-kaneko-project>

### New International Partnership Project: The Norwegian-Japanese Aluminium alloy Research and Education Collaboration

On March 18, an agreement for a three-year International Partnership project was signed at the Royal Norwegian Embassy in Tokyo. The project is new and funded by the Research Council of Norway, Norwegian Centre for International Cooperation in Education, and higher education, research institutions and other academic environments in countries outside of Europe. The project consists of the long-time collaborative partners the University of Toyama, Tokyo Institute of Technology, Hydro Aluminium, SINTEF and Norwegian University of Science and Technology (NTNU). The partners recently completed a successful research project through which collaborative relations in education were established and further developed. The INTPART project's leader is Prof. Randi Holmestad of the Institute of Physics at NTNU, and the essence of the project is the use of advanced transmission electron microscopes for the development of aluminium alloys.

Joint workshops, collaborative research, and the exchange of students and lecturers will also be implemented. Master and Ph.D. students from both countries will be exchanged with stays varying from short to long periods, and Japanese students will also be doing internships at Hydro R&D Centre at Sunndalsrøra in Norway.

In conjunction with the project agreement's signing ceremony, the first workshop was held on March 15 at Tokyo Institute of Technology with 110 participating students from said university, NTNU and University of Toyama, discussing topics such as cultural exchange, gender equality, energy and environment.

Source:

<http://japan.noralumni.no/japan-norway-collaboration-aluminum-alloys-connecting-education-research/>

### iPS Cell Research Entering the Second Stage

Prof. Shinya Yamanaka, Nobel Laureate in Physiology or Medicine 2012 and Head of Kyoto University's Center for iPS Cell Research and Application (CiRA), said at a recent conference that induced pluripotent stem cells research has entered the second stage and will in due time reach hospitals, opening doors to the treatment of multiple diseases.

The cells were first put to clinical use in 2014 when a patient received retinal tissue developed from iPS cells. Prof. Yamanaka said he expects that iPS techniques will be used to treat Parkinson's disease and other diseases affecting blood and cartilage in the near future. Prof. Yamanaka aims to develop a method to transplant nerve tissue grown from iPS cells into patients to treat Parkinson's disease which will be tested on patients by Kyoto University within this year or next. Regenerative medicine for blood platelets and cartilage is also nearing the application stage. According to the Ministry of Education, Culture, Sports, Science and Technology (MEXT), clinical research on liver diseases is expected to start in 2019 or 2020, and in 2025 for kidney diseases.

Prof. Yamanaka said that he wants to pursue new life-science research using iPS cells and utilize existing methods to study new techniques turning cancer cells back into normal cells.

Prof. Yamanaka also expressed wishes to research on infectious diseases such as the Zika fever, and he dreams that a young scientist will come upon the ideas he has not thought of and win the Nobel Prize.

Source: <http://asia.nikkei.com/magazine/20160331-ASIA-S-ACCELERATING-ARMS-RACE/Tech-Science/iPS-cell-research-is-moving-in-new-directions>



*Prof. Shinya Yamanaka, Kyoto University, together with Dr. Yuichiro Anzai, President of JSPS during the Nobel Week in December 2012.*

# 6. Notice

## Upcoming Seminars & Symposia

### June 7-8 KVA-JSPS Seminar

Since 2009, JSPS Stockholm Office has together with the Royal Swedish Academy of Sciences (KVA) organized seminars with Japanese lecturers. The 1st seminar in the FY2016 series will be held with Prof. Osamu Nureki, the University of Tokyo. The theme of the seminar is "Membrane Protein Structural Biology". Prof. Nureki will talk about channels/transporters at Stockholm University, and about CRISPR at SciLifeLab.

#### **Date and Venue:**

- June 7, 12:00-13:00  
Frescati Campus, Geovetenskapens hus Nordenskiöldsalen, Level 3, Stockholm University
- June 8, 11:00-12:00  
Conference hall Air & Fire, Floor 2-gamma, SciLifeLab Stockholm, Karolinska Institutet

Registration to the seminar is not required.

Please find more information on <http://www.jsps-sto.com/activities.aspx>



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