

JSPS STOCKHOLM Newsletter

English Edition



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01 Prologue

The critical role of diversity in the sustainable society

I wish I could talk about a bright year, 2021, in the Prologue of the first Newsletter this year. However, we cannot foresee a sign of the end of the pandemic, Covid-19, even in the last week of January when I am writing this essay. Of course, this pandemic is not the first similar experience in the long human history. As a relatively recent event, it is well known that the so-called "Spanish flu" was globally widespread in 1918-1920. About 600 million people were reported infected and 30-50 million dead all over the world ⁽¹⁾. Such dreadful pandemics must have taken place in prehistoric times as well, although there are no written reports. Since the beginning of recorded history, awful pandemics have struck the human being many times. One of the well-known pandemics is the widespread infection of the plague, known as the Black Death, in the 14th century and thereafter. In this pandemic, it was reported that about 25-30 million people, corresponding to one-third of the whole population in Europe at that time, died ⁽²⁾. There are many other infectious diseases such as cholera and smallpox which also lead to terrible epidemics all over the world. In the case of smallpox, severe epidemics attacked the Japanese society 87 times in a thousand year from the year of Tempyou 7 (corresponding to 735 AC) to the end of the Edo period (1867 AC) ⁽¹⁾.

Many books, reports and articles regarding pandemics in general have been published, so it is practically impossible to cite all of them. To my big surprise there were many people who survived pandemics. In the ancient and medieval times there was no reasonable understanding of environmental sanitation. Sanitary systems such as the flush toilet, tap water etc. did not exist at those times, so people were surrounded by filthy and insanitary environments. Nevertheless, some people survived the pandemics. There were people who were not

TSUMOTO Tadaharu, Director, JSPS Stockholm Office

infected, infected without obvious symptoms, suffered from light or severe symptoms, or finally passed away, although the proportion of these groups was variable depending on the pathogens. The reason why there was such a great variability is one of the important questions of modern virology and genetics. I am not a specialist of these fields, so I will skip that interesting question in this essay. Rather I would like to emphasize that human beings are remarkably variable and diverse, not only in the immunity against infectious diseases, but also in body constitutions such as color of skin and hair, pitch of voices, height and weight, alcohol tolerance, tastes of foods and so on. Also, the more mental constitutions or dispositions such as beliefs and thoughts, and principles of life are remarkably variable from person to person. In the democratic society the majority principle prevails, but the minority should not to be ignored. The opinions of the minority are expected to be respected in the mature, well developed society.

As mentioned above, the human society was challenged many times by natural disasters and pandemics of several types, but so far flourished by overcoming them each time because of the variability or diversity of human beings. In other words, diversity is a key to provide the human society with stability and resilience. Under the current pandemic with Covid-19 we have to consider the crucial importance of the diversity of people in our society more seriously.

References

- (1) Ikuhiko Hata, Modern Japanese history of diseases. Bungeishunjusha 2011 (in Japanese)
- (2) <https://en.wikipedia.org/wiki/Pandemic>

02 Greetings from Liaison Officers

Ms. Marika Tashima, Liaison officer of JSPS Stockholm Office, resigned at the end of December 2020, then Ms. Hedda Hansson join as her successor in January 2021.



Marika Tashima

It is with a heavy heart that I have decided to leave my position at JSPS after 7.5 years. The pandemic has made me re-evaluate certain parts of my life, and my work being one of them. As much as I have enjoyed working for JSPS and am grateful

to have been able to use my Japanese skills, I feel that it is time to go back to nursing where my initial background is. Therefore, I have decided to enroll in a nursing program at university, which is the first step to pursue an old dream of mine. I still feel scared for quitting a job I have had so much fun doing, but I know that it is time to pass the torch to someone new.

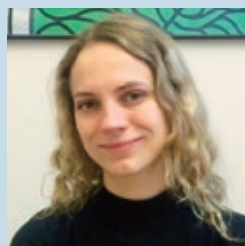
With this, I would like to thank all the wonderful researchers and alumni club members for your collaboration and for taking the time to chat. It has been lovely to hear your interesting stories and I have learned so much. I wish you all the best and hope to see you again someday.

I would also like to thank staff at the Japanese Embassies, Nordic and Japanese universities and other institutions for your partnership. Please continue to support JSPS.

And finally, to all my current and former colleagues of JSPS Stockholm Office, thank you for all the memories and good times. I will never forget your professionalism and hard work. I wish you all the best.

Hedda Hansson

I began working at JSPS Stockholm Office in January 2021, happy to be back since I worked here part-time some time ago. As of now, the world still seems to be on hold, but I think we all hope that 2021 will be a year where we can meet in person again. In the meanwhile, I am glad that webinars and other online events allow us to meet in the digital world. Hope to see you there!



03 Webinar Reports

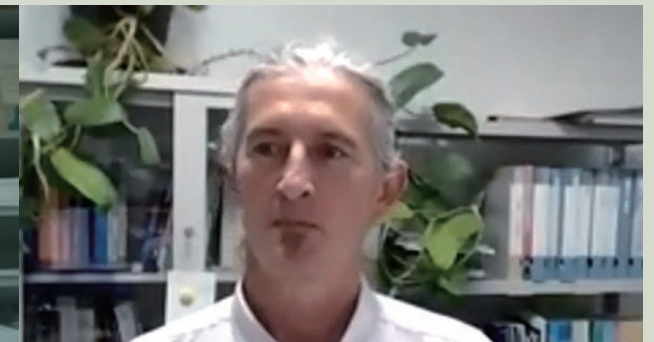
Webinar organized by JSPS Alumni Club in Denmark(ACD) and JSPS Stockholm Office

November 13, 2020 Bridge Fellowship Webinar

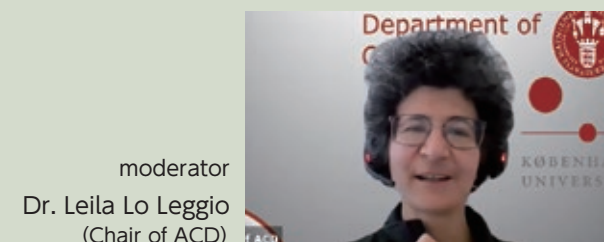
The BRIDGE fellowship gives Alumni Club members an opportunity to re-visit Japan. At this webinar, a fellow and host researcher from the previous year shared their research and experiences from the stay in Japan. Participants also got to interact with the presenters through a Q&A.



Dr. Lars Jørn Jensen
(University of Copenhagen)



Dr. James Pearson
(National Cerebral and Cardiovascular Center, Japan)



moderator
Dr. Leila Lo Leggio
(Chair of ACD)



ACD
JSPS Alumni Club in Denmark

BRIDGE Fellowship Webinar

Regular members of a JSPS Alumni Club can get a fellowship to go to Japan for 14-30 days! Join online to hear the fellow and host researcher of 2019 share their wonderful experience.

Date 13th November 2020 (Fri)

Time 9:15-10:30 (Danish Time)

Place Online (Zoom)

BRIDGE fellow 2019
Lars Jørn Jensen
(University of Copenhagen)

"Networking activities, vascular proteomic research, and plans for synchrotron radiation research in Japan initiated by a JSPS Bridge fellowship"

BRIDGE host 2019
James Pearson
(National Cerebral and Cardiovascular Center, Japan)

"Application of synchrotron microangiography to fast high-resolution cardiopulmonary vascular imaging"

9.15- 9.20	Opening remarks
9.15- 9.25	Presentation about JSPS programs and activities, Mr. IDE Shinji, Deputy Director of JSPS Stockholm Office
9.25- 9.30	Presentation about Bridge Fellowship Program, Ms. Hoshimoto Sachiko, Program Associate of JSPS Tokyo Head Office
9.30- 9.40	Introduction of ACD and speakers, Prof. Leila Lo Leggio, Chair of ACD
9.45-10.00	Presentation by BRIDGE Fellow FY2019 Assoc. Prof. Lars Jørn Jensen, University of Copenhagen "Networking activities, vascular proteomic research, and plans for synchrotron radiation research in Japan initiated by a JSPS Bridge fellowship"
10.05-10.20	Presentation by BRIDGE Host FY2019 Prof. James Pearson, National Cerebral and Cardiovascular Center, Japan "Application of synchrotron microangiography to fast high-resolution cardiopulmonary vascular imaging"
10.25-10.30	Concluding remarks

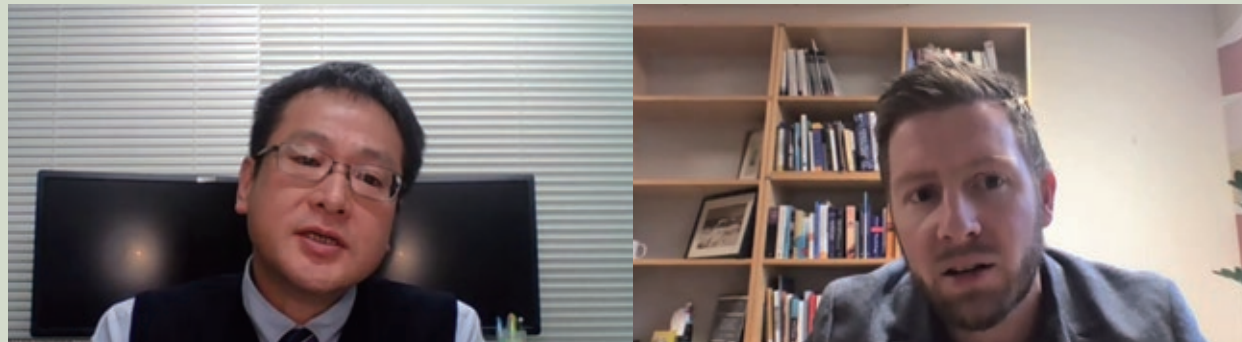
03 Webinar Reports

Webinar Reports

Webinar organized by JSPS Alumni Club in Norway(ACN) and JSPS Stockholm Office

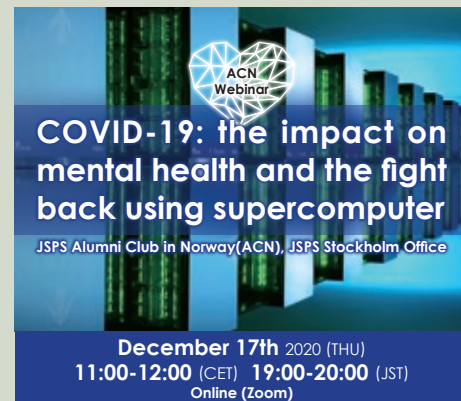
December 17, 2020 COVID-19: the impact on mental health and the fight back using supercomputer

Researchers from Japan and Norway presented results of using the world's fastest super computer "Fugaku" to research coronavirus droplets and the effect of the pandemic on mental health.

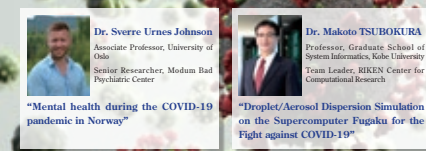


Dr. Makoto Tsubokura (Kobe University/RIKEN)

Dr. Sverre Urnes Johnson (University of Oslo)



moderator
Dr. Bruno Laeng
(Board Member of ACN)



11:00-11:05 Opening Remarks: Dr. Anders Øverby, Chair of ACN, Dr. Tadaharu Tsumoto, Director of JSPS Stockholm Office

11:05-11:25 Dr. Sverre Urnes Johnson, University of Oslo/Modum Bad Psychiatric Center
"Mental Health during the COVID-19 Pandemic in Norway"

11:25-11:45 Dr. Makoto Tsubokura, Graduate School of System Informatics, Kobe University/RIKEN Center for Computational Research
"Droplet/Aerosol Dispersion Simulation on the Supercomputer Fugaku for the Fight against COVID-19"

11:45-12:00 Questions and Discussion

12:00 Closing Remarks: Dr. Bruno Laeng, Board Member of ACN

Webinar organized by JSPS Alumni Club in Norway(ACN) and other relevant institutions



ACN has together with The Norwegian Embassy in Tokyo held a series of webinars. Various themes offered an opportunity to deepen academic exchange.

- June 22 Key to success in Japan - stories from research and business
- November 11 - Hydrogen - bridging us to a sustainability society: Japan-Norway collaboration for value creation
- November 14 Cooperation with Japan in higher education

04 Alumni Reports

Alumni Reports



Online board meetings of the Nordic JSPS Alumni Clubs Despite the ongoing pandemic, the Nordic JSPS Alumni Clubs have continued to actively share ideas at online board meetings.

December 17 - ACD Board Meeting
October 21 - SAC Board Meeting
October 12 - ACN Board Meeting
October 5 - ACD Board Meeting
September 10 - ACN Board Meeting

September 9 - Pan Nordic Alumni Club Chair Meeting
August 31 - ACD Board Meeting
July 6 - ACD Board Meeting
June 4 - ACF Board Meeting

Kie Horioka

Karolinska Institutet, Postdoctoral researcher



Academic background
 2012 Faculty of Health Sciences, School of Medicine, Hokkaido University
 2015 Graduate School of Health Sciences (Master's program), Hokkaido University
 2020 Graduate School of Medicine (Doctor's program), Department of Medicine, Asahikawa Medical University
 2020 Postdoc researcher, Division of Forensic medicine, Department of Oncology and Pathology, Karolinska Institute



We interviewed postdoctoral researcher Kie Horioka, who visited Sweden through the JSPS Overseas Challenge Program for Young Researchers. She conducted her research at Karolinska Institutet from February 2020 to September 2020.

What are you currently researching in Sweden?

Platelets, which are involved in the bleeding arrest, are activated when they are exposed to low temperatures in vitro. Based on this phenomenon, I hypothesized that platelets might also be activated in the human body exposed to hypothermia. My research goal is to determine the mechanism of platelet activation during hypothermia in Sweden, using samples taken from autopsy cases of frozen death.

How did you get interested in forensic medicine?

In forensic medicine, various examinations are performed as same as they are performed on patients in a hospital. The results obtained from the examinations are very important to know the cause of death. As a clinical laboratory technologist, I was interested in solving the problem, "Why people die?". Therefore, I decided to pursue a career in forensic medicine.



Dr. Horioka slicing an autopsy sample.

Why did you apply to this program?

Overseas Challenge Program for Young Researchers of JSPS is a new grant program that was launched in 2017. I first learned about this program when I was looking for a postdoctoral research grant for overseas research. I applied for this program because I thought it was the best way to take the first step towards studying abroad, and it was a good point that the adoption rate of this program is relatively high.

Why did you choose your current institution to conduct your research ?

I talked to a Finnish forensic scientist at the International Forensic Society conference held in Toronto four years ago. I found the level and quality of forensic research in the Nordic countries to be very high. The next year, I attended the Nordic Conference of Forensic Medicine, and I asked the Finnish forensic scientist to give me a tour of the forensic facilities. At the same time, she introduced some researchers to me in forensic science at the University of Helsinki. This opportunity made my interest in Scandinavian forensic science even stronger. At the meeting, scientists from the department of forensic science at Karolinska Institutet presented their data about the diagnostic markers for frozen death. I thought that the need for research on frozen death in Sweden is substantial because it is a cold country. By chance, I saw a Japanese researcher at the conference who worked for the Swedish National Forensic Science Board and had a connection to the Karolinska Institutet.

Compared to Japan, what is your impression of the research environment in Sweden?

In Japan, the autopsy rate of unnatural death cases (those who died at home or outdoors) is approximately 12%, which is one of the lowest in developed countries. It is difficult to collect specimens for my research interests because autopsies and research are performed in each prefecture and university. On the other hand, the rate of autopsies is more than 90% in Sweden. Also, the Ministry of Forensic Science has been established as a national institution and shares information with the university. It makes it easier to obtain data and samples. I believe that Sweden has established an excellent system that makes research very efficient and practical.

What has been the most challenging in your research so far?

I started my research in Sweden in February 2020. Soon after I arrived here, the coronavirus infection spread in Europe, and many countries decided to go on lockdown. However, Sweden did not go into lockdown. The number of infected and dead people continued to rise in Sweden, and even some lab staffs were infected with coronavirus so that we had to face the unknown fear. The researchers studying abroad face a lot of difficulties to achieve their goal. However, the most challenging point at this time is to avoid the infection.

Finally, do you have any advice for young scientists who dream of going to Sweden?

It has been an extremely valuable experience for me to stay in Sweden. I believe that studying abroad is not only an important experience in achieving our research goals but also as an opportunity to think about how we should spend our life in the future. I loved Scandinavia, of course, but this stay made me love Sweden even more! I often had a Fika with coffee and cinnamon rolls while looking at the beautiful city. Fika is the best solution to both the problems and fatigue of research. I hope that all of you who are about to start your studies in Sweden will be able to enjoy a good life there.

(August, 2020)



Takeshi Watanabe

Aarhus University, Visiting Researcher



Academic background

01/04/2020 – Present Visiting researcher, Department of Psychology and Behavioural Sciences, Aarhus University (Research Fellowship, The Uehara Memorial Foundation)
 01/04/2018 – 31/03/2020 Research Assistant Professor, Psychosomatic Dental Clinic, Tokyo Medical and Dental University Dental Hospital
 01/04/2017 – 31/03/2018 Clinical Fellow, Psychosomatic Dental Clinic, TMDU Dental Hospital
 01/04/2016 – 31/03/2017 Dental Clinical Resident, TMDU Dental Hospital
 01/04/2014 – 31/03/2016 DDS and B.S. in Tokyo Medical and Dental University (TMDU), Tokyo, Faculty of Dentistry (return to 5th grade)
 01/04/2010 – 31/03/2014 Ph.D. in Dentistry (received 17/01/2018), TMDU, Tokyo (01/04/2011-31/03/2013 JSPS Research Fellow (DC2))
 01/04/2008 – 31/03/2010 Faculty of Dentistry, TMDU (transfer to 3rd grade), Tokyo
 01/04/2004 – 31/03/2008 B.S. in Economics, Hitotsubashi University, Tokyo

We interviewed Dr. Takeshi Watanabe, who is staying in Denmark as a Visiting Researcher at Aarhus University from April 2020.

What kind of research are you doing in Denmark?

It could be observed that patients with positive expectation tend to get well easily, while patients with negative expectation of side effects tend to experience severe side effects. These phenomena are called placebo and nocebo effects respectively. I am studying about the impact of placebo, nocebo effects on dental treatment.

Why are you interested in the placebo or nocebo effect?

In Japan, I have worked as a dentist since I obtained my dental license. In particular, I treated the patients with chronic oral pain and oral discomfort without visible dental disease, such as caries and periodontal disease by using low-dose psychotropics. I got interested in the placebo, nocebo effect because I realized that the explanation I gave to the patients in the clinic had a significant impact on the treatment

outcome. In addition, patients with such symptoms often complain about their previous dentist, for example, "I've had pain ever since they drilled my teeth without explanation," and I began to think that the placebo effect and the nocebo effect might have a significant impact on how they feel pain in dental practice and how the symptoms remain.



Why did you choose your current institution?

When I decided to study abroad, I would like to perform interdisciplinary research from several aspects such as psychology and dentistry. The professor in my current group are one of the famous researchers in the field of placebo research and usually collaborated with dental researchers. I sent her my motivation letter and CV. Fortunately she got interested and kindly send me a message. After that, I was able to meet and talk to members of the group at the conference in the Netherlands. The experience helped me choosing the current institution.

What is the biggest challenge you face in conducting your research?

The most recent challenge is to obtain a grant to continue my research in the current group in the next year and beyond. Although, it is important to write papers in order to share my research with the world, I think it is necessary to be able to obtain stable funding to continue my research at first. In the future, I would like to become the Principal Investigator who can perform the research, which helps solving the problems that occur in dentistry from various perspectives, using my experience in biochemistry, economics and psychology.

Does your experience as a JSPS Research Fellow (DC2) at the Tokyo Medical and Dental University help you during your research in Denmark?

When I was DC2 research fellow, I have experienced biochemical and molecular biological research. Although I am currently in a psychology group, I would like to examine the association of genetic polymorphisms in patients and placebo, nocebo effect. I believe that interdisciplinary research will be possible by discussing with researchers in different fields while I have what I learned during DC2 as my speciality.



How do you think about the research environment in Denmark compared to Japan?

It's difficult to make simple comparisons because we often work from home due to the corona situation, but I think that all of my Danish colleagues tend to take sufficient vacations. So I naturally try to keep myself in line with the plan to work with them. Also, maybe it's more of a characteristic of group than a characteristic of Denmark, but I can ask the librarian to do the literature search and assistants to do the screening work of systematic review. I belong to the Department of Psychological and Behavioral Sciences, and we are currently collaborating with the Department of Dentistry and Oral Health. Moreover, we will collaborate with the Department of Biomedicine. Although I will keep track of and check the work I asked collaborators to do, it is easy to collaborate with someone who has expertise in each field. These collaborations make it easier to carry out research.

Finally, do you have a message for researchers who are thinking of starting their research in Denmark?

There are many attractive cities in Denmark, not only the capital city of Copenhagen, but also Aarhus where I live and Odense, etc. Please feel free to contact me when you arrive in Denmark. I am looking forward to meeting you!
(November, 2020)

Nobel Prize 2020

Even in pandemic times, the Nobel Prizes of 2020 were announced as usual in October. The announcements and the December Nobel Week events were held online, but the city hall of Stockholm and other areas were festively illuminated and the people of Stockholm celebrated nonetheless.

Physiology or Medicine

Harvey J. Alter
Michael Houghton
Charles M. Rice

“for the discovery of Hepatitis C virus”



Harvey J. Alter © Nobel Prize Outreach. Photo Joy Asico

Chemistry

Emmanuelle Charpentier
Jennifer A. Doudna

“for the development of a method for genome editing”

Peace

World Food Programme (WFP)

“for its efforts to combat hunger, for its contribution to bettering conditions for peace in conflict-affected areas and for acting as a driving force in efforts to prevent the use of hunger as a weapon of war and conflict.”

Physics

Roger Penrose
Reinhard Genzel
Andrea Ghez

“for the discovery that black hole formation is a robust prediction of the general theory of relativity”



Andrea Ghez © Nobel Prize Outreach. Photo Anette Buhl

Literature

Louise Glück

“for her unmistakable poetic voice that with austere beauty makes individual existence universal.”



Louise Glück © Nobel Prize Outreach. Photo Daniel Ebersole



Paul R. Milgrom and Robert B. Wilson © Nobel Prize Outreach. Photo Elena Zhukovan

Economic Sciences

Paul R. Milgrom
Robert B. Wilson

“for improvements to auction theory and inventions of new auction formats.”



1. Nobel Week Lights 2020 © Nobel Prize Outreach. Photo Clément Morin
2. Nobel Week Dialogue 2020 © Nobel Prize Outreach. Photo Clément Morin
3. Nobel Prize Concert 2020 © Nobel Prize Outreach. Photo Niklas Elmehed



Prof. Takehiko Kitamori elected as new KVA foreign member Prof. Yoshiyuki Sankai elected as new IVA international fellow



Prof. Takehiko Kitamori
(University of Tokyo)



Prof. Yoshiyuki Sankai
(University of Tsukuba)

On September 21st, 2020, the Royal Swedish Academy of Science (KVA) announced that they elected Prof. Takehiko Kitamori, University of Tokyo, as a new KVA foreign member. On December 10th, 2020, the Royal Swedish Academy of Engineering and Science (IVA) announced that they elected Prof. Yoshiyuki Sankai, University of Tsukuba, as a new IVA international fellow.