

WEBINAR 3: WHAT INTERNATIONAL EFFORTS/PROCESSES ARE NEEDED TO FACILITATE PROGRESS IN UNDERSTANDING THE ARCTIC SYSTEM AND ITS GLOBAL IMPACTS?

THURSDAY, 24 MARCH 2022

TRANSCRIPT (RECORDING AVAILABLE ON THE [UNITAR WEBSITE](#))

Prof. Paul Arthur Berkman – 00:00:19

Great. Excellent. Well, good morning, everybody. Good afternoon. Good evening. For wherever you are, welcome to this webinar series on Enhancing International Scientific Cooperation: Arctic Science and Technology Advice with Ministries.

My name is Prof. Paul Arthur Berkman and I have the honour as well as pleasure to coordinate this webinar series that is funded by the Ministry of Foreign Affairs of Japan, concluding today with Webinar 3.

Our open and inclusive dialogue today is far more important than was ever imagined – under the gathering clouds of world war – but with hope that informed decisionmaking will prevail in the spirit of science diplomacy “to balance national interests and common interests for the benefit of all on Earth across generations.” This is a time for all of us to be brave; cherishing and preserving the integrity of humanity to pursue knowledge and wisdom; recognizing that doors of dialogue shut among academic communities when militaries dictate the fate of humanity.

I thank the Japanese Consulate in Boston and excellent team of collaborators with the webinar series: Dr. Jenny Baeseman at Baeseman Consulting and Prof. Akiho Shibata at the Polar Cooperation Research Center, Kobe University for their core partnership; Ms. Clara Lopez and her team at the United Nations Institute for Training and Research (UNITAR) for superbly managing the logistics of this webinar series; and wonderful team of scholars from the Harvard Kennedy School (including Mr. Teruaki Fujii and Ms. Nadia Filimonova) and the Arctic Challenge for Sustainability (ArCS II) program in Japan (Dr. Zia Madani, Dr. Osamu Inagaki and Mr. Jugo Sato).

Importantly, I thank each of you from across the 21 nations and many time zones, with deep appreciation for sharing your insights today with inclusion, championing the transdisciplinary as well as transboundary capacities of the scientific community to build bridges between the present and the future.

We are living through an important moment in human history, which relates to the aspirations of this webinar series to enhance international cooperation with science, applying the Arctic as a global case study. Just after this webinar series was proposed, the COVID-19 pandemic erupted with devastating consequences worldwide. Now, just after the first webinar in this series last month, events in Ukraine have created new peril that has the potential to cascade into world war, something we all have responsibilities to prevent forever

after the 20th century.

Circumstances in Ukraine already have created significant instabilities in international relations, including for the Arctic region, jeopardizing dialogue, cooperation and progress among the eight Arctic states, six Indigenous Peoples' Organizations and international community of observers participating in the Arctic Council. Our informal dialogue today, convened with inclusion, is a timely opportunity to contribute substantively to informed decisionmaking, short-to-long term, especially in view of the Joint Statement on Arctic Council Cooperation Following Russia's Invasion of Ukraine on 3 March 2022, considering "the necessary modalities that can allow us to continue the Council's important work in view of the current circumstances." Closely coupled to our webinar today also is the International Science Council Statement on Ukraine from 28 February 2022, noting bravely that: "Science has proven to act as a platform for dialogue even in times of war."

As previously, this webinar will involve an opening plenary session for an hour with keynote presenters who will introduce expert insights, addressing a set of questions, designed to build common interests. I will facilitate the panel dialogue among these experts, welcoming questions and comments from the audience in the chat for consideration toward the end of the panel, addressing the framing questions for today:

What international efforts/processes are needed to facilitate progress in understanding the Arctic system and its global impacts?

- ❖ What are the mechanisms that exist?
- ❖ Are these mechanisms adequate?
- ❖ How could enhanced science cooperation impact other areas of international relations?

To reflect on these questions, it is an honour as well as pleasure to briefly introduce the three keynote presenters for today:

- **Hon. Fran Ulmer** (Former Lt. Governor, Alaska; Former Chair, US Arctic Research Commission; Senior Fellow, Arctic Initiative, Belfer Center, Harvard Kennedy School.)
- **Amb. Anton Vasiliev** (Russia's Senior Arctic Official 2008-2014; Ambassador to the Republic of Iceland 2014-2020.)
- **Dr. Hiroyuki Enomoto** (Vice Director-General, National Institute for Polar Research, Japan; Co-chair 3rd Arctic Science Ministerial (ASM3) Advisory Board; Vice-President, International Arctic Science Committee (IASC).)

This plenary session is being recorded and will placed on the UNITAR platform, as with the plenary dialogues from the first two webinars.

Unfortunately, Dr. Andrey Bryksenkov sent me a note this morning that he has come down with COVID and will be unable to contribute today. Andrey apologizes for "the objective reasons and hopes for further cooperation."

In the first two webinars, after the plenary session, we turned off the recording, and moved into pre-assigned breakout sessions for open dialogue among the webinar participants. As a consequence of this unexpected change among the keynote presenters today – recognizing that doors are rapidly shutting for inclusive dialogue across the global scientific community – we will turn off the recording after the plenary session and have an open dialogue off-the-record (Chatham House guidelines) for the 70 minutes among all of us. For the remaining 20 minutes in Webinar 3, I will then invite closing 5-minute summary comments from our three keynote presenters in the final plenary session, as with previous webinars, which will be recorded.

With appreciation for the scholar-rapporteurs, reporting from this webinar will be further distilled into a Science Diplomacy Action publication, capturing insights from the webinar series to help enhance international scientific cooperation in the Arctic with global lessons to both promote cooperation and prevent conflict as the umbrella goal.

This webinar series and its journey reveal common-interest building as a necessary complement to conflict resolution to operate across a ‘continuum of urgencies’ from security time scales that are immediate to sustainability time scales across generations. Perspectives about time are the bread-and-butter of science, considering: months-years in view of our global pandemic; years-decades with the acceleration of high-technologies; and across decades-centuries with exponential changes in human-population size and atmospheric carbon associated with Earth’s climate.

Today’s concluding webinar has direct application to the challenges we collectively face as a globally-interconnected civilization – enhancing international scientific cooperation as a central interaction among great powers to both promote cooperation and prevent conflict – building dialogues among allies and adversaries alike inclusively based on our common interest to survive.

With that as opening remarks, it is an honor as well as pleasure to invite the Honorable Fran Ulmer to share her comments. Fran please. You are on mute.

Hon. Fran Ulmer – 00:10:08

There we go. Can you hear me now?

Paul Arthur Berkman – 00:10:10

Yes. Thank you very much, Fran.

Hon. Fran Ulmer – 00:10:12

Thank you, Paul. And thanks to all of the organizers for this opportunity for us to discuss a very important topic, which you point out has become increasingly timely as we look for ways that countries with shared goals, particularly as it relates to the Arctic and to scientific research, can still find ways to have not only conversations but also opportunities to brainstorm about the future, not just the past.

When I was asked if I would participate in this gathering, I said yes, because I do believe that the way in which the Arctic countries and frankly, many countries all around the world have

spent a great deal of time, energy, money, and effort to better understand the changing conditions of the Arctic, and that although we've already done a lot in that regard, that there are ways in which we could potentially do a better job. And as the changing conditions are going so rapidly in the Arctic, it's important for us to be open to other ways in which we could actually work together internationally.

So just very briefly, all of the people on this call, I suspect, are very familiar with why all those changes in the Arctic are important not only to the people who live in the Arctic, but to people literally everywhere in the world. So the role of scientific research organizations that support that research, countries that support that research is not only to understand what is changing, but to use that information to adapt, to prepare, to make decisions, policy decisions, investment decisions, decisions about infrastructure, decisions about how to avoid risk to the environment and to the people being able to take what we learn and apply. It is obviously why much scientific research is done everywhere, but is particularly important in a place like the Arctic region, which is experiencing such a rapid rate of change and such a dramatic change from what the Arctic was 50 years ago to what it is today to what we know it will be quite different 50 years from today.

Over the years, in addition to the individual efforts of countries and of universities and of many organizations to do that kind of research that would help guide decision-making and improve our ability to face an uncertain future, many countries and many organizations have found ways to bridge across the nations to be able to more effectively, efficiently, comprehensively do that research, sharing across borders, not only resources and research capabilities, but also data, information, and results that are relevant all across the Arctic.

Why is this so important in the Arctic? It's a huge area. Again, as everyone who is on this call understands that you can't really understand one part of the Arctic, you have to think more holistically because it is a system, and because it is such a huge area, it is obviously important to spend resources wisely and share the information, share the resources and share the access to the entire Arctic region to be able to fully understand it. So that is why over the years, many things have evolved. Special events, like the international polar years that started all the way back in 1882 and then 1932, and then 1957 and then more recently, 2007, were literally the world focused on the challenges of both doing research and understanding the polar regions. There have been many, many specialized events that have looked at Arctic science cooperation recently.

A couple of examples of the Arctic science ministerials one, two, and three, and hopefully there will be a fourth at some point. These not only for the Arctic Nations, but for all the nations who are doing Arctic research, provides these specialized moments when there is a convening of those who are interested in Arctic science research to really focus the attention of not only those who are doing the Arctic science and Arctic research and Arctic countries, but literally the world. And, of course, there are numerous organizations, some that bridge in an interdisciplinary way Arctic science research, like the International Arctic Science Committee, or some that are specialized, like the International Permafrost Association that just focuses on bringing together permafrost researchers, or IASSA, the International Arctic Social Sciences Association.

There are specialized and there are interdisciplinary general organizations that through the years have provided a forum for dialogue and exchange of information and the opportunity for scientists to network in a way that really enables them to expand their sphere of understanding and the way in which they do research with partners across borders. I could go on for quite a while describing all of these, but I'm not going to I'm just going to stop by saying these are important building blocks toward what I would describe as an extremely important overarching goal, which is to build the bridges necessary, not only across disciplines but across borders, to do what society needs, which is a better understanding of how the Arctic is changing, how those changes are impacting the people of the Arctic, as well as globally, and to be able to prepare societies, governments, businesses, individuals, communities for the rapid rate of change ahead, being able to use that information to improve decisions, to reduce risk, to enable society to adjust and adapt in a way that minimizes the pain, suffering, and expense of not being prepared for what lies ahead.

I will close by simply pointing out, as I'm sure we will discuss the importance of the ministerials from all of the countries that have leaned into supporting these efforts, and particularly as it relates to the Arctic Council, which I'm certain that Anton will talk about after his long experience with the Arctic Council, which is, I think, where we first met years ago.

Clearly, the Arctic Council, since its formulation in 1996, also provides one of these important building blocks of infrastructure that has enabled, supported, and encouraged the kind of international scientific cooperation that is so essential that, of course, was the body that really put in place the International Arctic Science Agreement back in 2017 which was focused primarily on assuring access to the other Arctic regions. But it again describes and shines a light on the importance of different parts of society, both different parts of government, different parts of scientific operations, different parts of the Indigenous communities of the Arctic being able to participate in a meaningful way to advance our goals for science cooperation. I will stop there. Thank you again, Paul for inviting me and thanks to all of the organizers for putting together this series of webinars back to you.

Prof. Paul Arthur Berkman – 00:19:16

Thank you very much, Fran for your eloquent observations, insightful and helpful as always. And now it's a pleasure and an honor to introduce to you, Ambassador Anton Vasiliev. Anton, please.

Amb. Anton Vasiliev – 00:19:29

Thank you very much, Paul and thank you very much for your kind invitation. It's my pleasure to be here and share my views about the Arctic and past and its present and its future. I think it's really very important subject and it really has global dimension, and the importance of things is being understood would become aware by many people in the world now. So you don't need to be so eloquent to describe that. I think it's now clear for everyone. But quite briefly, I think the two things have changed the Arctic in the last couple of decades. One is climate change and the second is technological progress. Both have made accessible many things in the Arctic that were not accessible from the economic point of view, from political point of view, from security point of view. So we have found ourselves in front of a vast area which possesses a lot of mineral resources and accessible now and which is open for transportation for whatever purpose it may be used.

So there are two major things that have changed the face of the Arctic. And there are two major magnets that have ignited the interest to the Arctic in the world. So in parallel to this process of changes in the Arctic, I think the Arctic States themselves have arranged themselves and arranged the dialogue. Fran open dialogue based on one simple foundation which I felt for many years of my work in the Arctic constant the commonality of interests of all Arctic States. We all Arctic States. We all face the same challenges, huge challenges because of the changing in the climate and also the huge potential. And all of us, we agreed to the understanding that it is much more efficient, better and perspective to fight these challenges and use these opportunities collectively in unison with the others.

So this is the basis of the work of many Arctic for us, including the ministerials. And I shared the view that ministerials of course important. And it was a great pleasure for me to work in the Arctic Council because I felt this unity of interests of Arctic Council States every day of my life. Arctic Council is my professional life in the Arctic Council. Arctic Council is the key mechanism of international Arctic scientific cooperation, by the way. And the agreement on enhancing such cooperation is one of the three legally binding agreements elaborated under the Arctic Council. And quite frankly, in my judgment, about 90% of everything the Arctic Council does is scientific collaboration.

If you open the web page of the Arctic Council, we will find that there are around 100 projects currently underway in six working groups of the Arctic Council. It is a unique combination of science and traditional knowledge of Indigenous people. And of course, the key areas are climate change and environment. And the important part of this, a scientific preparation, is that it's not art for the arts sake, it's not the science for the science's sake, although it may be important for many. But it's a unique combination of science and practical recommendations on many, many things such as, for example, extraction of natural resources or shipping in the Arctic, many other practical areas. And what's important about the Arctic Council that is that recently we have adopted strategic vision of our common movement forward. That is the Arctic strategic plan. It's set of research priorities for ten years ahead.

Apart from the Arctic Council there are many other mechanisms of the Arctic scientific cooperation. Yes, International Polar Year is one of them and we support the idea of arranging the fifth international polar year in 2032-33. And I think that would be a great way to move on with globalization of Arctic research.

In a nutshell, IPY International Polar Year is an international coordinated research project over long term geophysical, hydrometeorological, environmental and other monitoring and analyzing of the situation in both poles. And its value is in comprehensive, sufficient, systematic, and prolonged measurements of changes that produce a more detailed and solid picture and thus producing more solid basis for political decision making.

So, it allows us to use efficiently the limited resources of individual countries, however big they are, including Russia to concentrate on key areas and have the research and share this research results among many participants. So, we can talk more about that later. But I also agree that the initiative of the Arctic Circle, this is one of the NGOs in the Arctic, one of the non-governmental organizations which is to arrange the Arctic Science Ministerial during each

period of a two-year chairmanship of a country in the Arctic Council by the chair itself, plus by one of the observations. It's a very good initiative.

We had three Arctic science ministries already. They were quite effective. And we had the last one, the third one in Tokyo, coverage by Icelandic Chairmanship of the Arctic Council and Japan as observer of the Arctic Council. That was quite an effort because it was very hard to arrange by itself. Plus there were so many limits because of transportation, has hazards, because of COVID. But still it was a very effective and very useful meeting.

We as chair of the Arctic Council this year we are working together with our French colleagues and we have already agreed preliminary agreed that yes, we are going to arrange the ASM4 in spring of 2023. I'm part of the organizing community of ASM4, so I'm working closely I've been working closely with our French colleagues till the very last moment and still resolute in arranging the ASM4 four whatever the circumstances. And we shall bear responsibility for that as the shares of the Arctic Council now. So, we feel it is our responsibility to do. We are working, we are preparing everything, and I hope we should succeed.

So are many other forums. There are many Arctic Circle, very successful NGO, very informative and very high-level meetings. Regular meeting is important here. So other conference, regular Council such as Russian Arctic Territory of Dialogue or the Norwegian Arctic Frontiers. There are many. I think there's even a sort of competition between the Arctic States to have their own regular NGO meeting. I think there's one in Alaska as well. I forgot the name, but it's Arctic something. But I don't want to offend anyone. But I think Russia was the first. Nevertheless, I think all of this is important and we're not really competing that, and I think it's very much more than the self-supporting, let me finish here and tell you that.

I think that we have many mechanisms of Arctic scientific cooperation and, yes, the challenges we face are really very serious and we need to have a very serious and open dialogue and we have a very good basis for cooperation and scientific area among the Arctic States, which is the agreement on enhancing cooperation in the Arctic and we are open to cooperation with everyone in the world of who have interest or stake in the problems that we are discussing in the Arctic in various form. So yes, we are there.

We have problems now currently, but I hope that taking a broader picture in our mind thinking about broader I think we share a huge common interest here and I think climate change is one of the most important things. This is something that knocks at our door everywhere in the world now in form of floods, wildfires et cetera, melted permafrost and other many things.

So we need to move forward. And with this I would simply like to welcome the idea of discussion of international scientific operation in the Arctic about Arctic and hope that it will bring even more attention to this issue and bring more interested scholars and expert and researchers into the field, and we will be more than happy to cooperate with them. Thank you.

Prof. Paul Arthur Berkman – 00:31:09

Thank you very much Anton for your important and helpful observations. Certainly, in the spirit of building common interests it is an honor as well as a pleasure to introduce and welcome observations from Professor Hiroyuki Enomoto. Please.

Dr. Hiroyuki Enomoto – 00:31:26

Thank you very much. Paul. As Paul introduced me, I'm those natural scientists and also Vice President of the International Arctic Science Committee and I was the co-chair of the ASM3 science advisory board. I worked at the individual scientist Institute administration and IASC member and ASM3 organizer. There is many participants today and from the national interest there is a wide range of interest and intent to know. I from the individual condition to the international action. And also I'm from Japan, not Arctic country and not the member of the Arctic Council. But we are acting as a scientist in the Academy IASC and ASM3.

We organized ASM3 with Iceland, that dimension out of the Arctic Council member. What we can do is also one idea from me. So the picture behind you can see that is "unclear". We start observation there from 1991. IASC established in 1990. Since then, we start observation there and almost the same period of IASC and Arctic Council established and researchers who are academic movement of IASC are almost same timing. So the scientist is very much proud of the good starting to the international Arctic science in the 1990s.

Why 1990s? It is the end of the east west of political suspension with eastern countries. We started peaceful station in the Arctic region. We could start the international cooperation over the Arctic. So we are aiming to continue this situation for coming decades. That is so on the behind of the starting IASC international science activity the peaceful condition is very essential. The previous webinars already introduce.

So I want to introduce some main action of the ASM3 and please use that legacy to the ASM4. And I work also as leaders of the IPCC and IPCC is global wide, but I joined a special report on ocean and crisis in climate exchange. It's focused in polar region and also focus on the continuous knowledge and recent knowledge how to work together. It's also a very unique issue of that special report on ocean changing climate. That is my thought behind.

And I will talk about the ASM3 procedure, each correct member countries information on the activity of the Arctic, and ASM analyze the activities. ASM Also so the Arctic science ministerial meeting every two years. Also proposing recommendation and deduction and each country approves them. Then all agree must start. But not yet all was done. So it's a black problem. Many research activities of 434 registered projects were submitted at ASM3 2021, last year in Tokyo and ASM3 calls the importance of observation, understanding, response, and strengthen. So it is many important suggestions from the previous ASMs. But ASM3 tried to concise that message. So this is the first step observation.

We know that we must understand and not only the understanding that is maybe Academy is fine only for understanding. But ASM must respond and strengthen the next generation of international cooperation. That is sustainable Arctic and development. So that's the first step is very important. And in many stages of national or the international individual activities. We are trying to implement these four steps. They were enhanced those actions under the same knowledge or Sustainable Arctic. So knowledge was very essential point IPCC knowledge is

based then regarding what not to transfer the aggregated knowledge to realization. ASM3 proposed long-term and near-term realization. So then comes to the practical problem. As a practical problem. There remains an issue of system who insensibly invested in station resources for strengthening the network of international cooperation. So cooperation, observation and survey must be done in a short period with a very integrated system. So when we observe the world, Europe as Atlantic area cooperation action, European Power Board and many different groups exist in Europe. But in Asia and or Pacific region it is still developed thing. So Japan, China, Korea and Mauritius and India has a polar science. And we are developing that system. And maybe future we can connect east and west.

And the scientist is already working north and South Arctic and middle Arctic issue is already established as international important Arctic activity. Then the implementing system we need the mechanism across the world including Asia, command coming from the Asian country. So we have a room and it is not so difficult. And then. So Hawaii, Japan, no Arctic countries are working in the Arctic. That is the number of countries now it's increasing. I asked Arctic Council is eight countries. But I asked has 24 countries member and ASM3 had 28 countries and region. So not only the closing circle inside. So the issue is expanding globally. So Arctic science cooperation goes beyond solving problems surrounding the Arctic. The problem is now a global issue. Through this attempt or through this challenge, through the method of discussion, probe solutions, and spreading Arctic problem, we can get maybe a good example of how to solve the problem and to get a good example of the human nature balance. So good models can be seen from Arctic activities.

So now Arctic researchers can also see what Arctic members are doing, such as the link between the recent or modern science and traditional knowledge mentioned in the IPCC. So I already talked and also ASM3 is also enhanced in community, decision-making by themselves and that is a way to move towards achieving the SDGs. So the community's work is very important and Arctic issue is trying to make a good example of that. So it's not only the Arctic issue, but you can learn from the Arctic what they are doing and how you can apply that.

And finally I want to mention there is a many big committee IASC or ASM3 organizers. But if you attend that you can find the very key person. So today the panelists Anton and Fran is a very good example of the key person and also some individual continuous effort is moving all organization hard. So then come to how Japan or Asian can do or any Arctic country can do is that is there any key person we have or a key person that stands out or is there any platform where he can stand out? And the point is how we activate him or her properly that is the next generation development and through the Arctic issue, we want to find that very good model case. Thank you very much.

Prof. Paul Arthur Berkman – 00:43:49

Thank you. Hiroyuki for your important comments. I have a couple of questions to pose to Fran, Hiroyuki and Anton, but perhaps with the first question just following on Hiroyuki last observation about how to cultivate; who to cultivate. We as a generation have responsibility, I think to create capacities among next generation leaders.

And I would reflect recently on the association for Polar Early Career Scientists. And they're relatively brave and I would say statement on circumstances with Ukraine seeking to facilitate

dialogues rather than closed doors as we move forward and think about how to cultivate those key persons, as you identified Enomoto-san.

With consideration, Fran and Anton, how do we do that? How do we elevate the next generation leaders, given that the people that are placed in positions of influence generally have worked through their careers? But can we figure out mechanisms to elevate next generation leaders because of their passion and insights and quite honestly, their skills to think in terms of common interests?

Dr. Hiroyuki Enomoto – 00:45:22

Can I answer very quickly, please? I have no good answer yet. But we are trying and the implementation of the ASM3 ideas come to Japan they implement the next generation. So Japanese government or Japanese Arctic research club project, is investing in the next generation training was not very sharp, narrow science area, but we want to try to make the leader person who's the next generation. But it is a very big challenge, and we want to run, for example, and also oversee Arctic scientists to work together. And very good example. We are trying to run and also, we have a homeport system which has a very good continuous support system. And we want to run from those ongoing system to apply able to new Japanese activities. So I have not yet good solution. But we are working.

Prof. Paul Arthur Berkman – 00:47:15

The passion is the key. So, thank you very much for your leadership. Fran or Anton, do you have observations? Please? You're muted, Fran, you're muted.

Hon. Fran Ulmer – 00:47:32

There we go.

Prof. Paul Arthur Berkman – 00:47:34

Good.

Hon. Fran Ulmer – 00:47:35

Yeah. Three quick comments on your question. First of all, the pipeline of people who are young and interested in the Arctic and also obtain information about it and become active in it is many different paths. One, of course, is the University of the Arctic. And the University of the Arctic has been for a number of years been a mechanism for connecting universities across the world with Arctic programming to make it easier for people, regardless of where they live or where they are going to school, to be able to take deeper dives into Arctic programming and understand the issues and the potential research questions associated with the Arctic.

And similarly, many institutions, including Harvard, where I am with the Arctic Initiative at the Kennedy School, definitely provides opportunities for young scholars to find not only colleagues, but also get to know mentors who can help open doors for them. So I just want to basically thank the University of the Arctic and the many universities like my own that are really trying very hard to find mechanisms to both bring more students who may be interested in both scientific research, but also policy, governance, law, economics, and the other aspects of Arctic issues that are important in terms of better understanding the Arctic.

Also, I would just say that as you pointed out, the association for early-career scientists in polar regions is an important thing for all of us who have been around Arctic meetings for a long time. To always be looking for younger people to pull in to the meetings, to speak on panels and to provide them avenues to be able to effectively engage.

And I guess one example of that Anton mentioned another Arctic gathering that is happening in Alaska next month. The Arctic Encounters is actually organized by a young woman who is in her early 30s. Arctic encounters which will happen in Anchorage is a great example, frankly of a young person who found Arctic issues interesting and has gone on to organize efforts that really bring both nationally and internationally people together to better understand the challenges of the region and to work on problem-solving. So those are just a few quick thoughts but it is a very important question that you have raised and something that I think we all have an obligation to attempt to work on in whatever way we can.

Prof. Paul Arthur Berkman - 00:50:42

Thank you very much, Fran for your helpful observations. Anton please thank you.

Amb. Anton Vasiliev – 00:50:48

First of all, bringing youth in research of the Arctic to live in the Arctic and to participate in decision making in the Arctic about Arctic is one of the priorities of the Russian Championship in the Arctic Council. We already have a lot of events already taken and planned for the future for this particular purpose. I agree with Fran. I think that we have nearly everything we have it's enough for us, nearly enough. Of course, there's always a room for perfection. We should think about any new routes, new pipelines and new incentives.

But I think that the key thing here is to make Arctic interesting for the young researchers because as we remember from our childhood that as we grow we see the whole world around us. There are so many attractive things. So I think the important in a very general sense the important thing is while fighting to bring to the Arctic the best, the brightest minds, the best way is to make it interesting. You can do it by many ways, but I think the key idea is to do that. We have many apart from the Arctic Council. We have many other for us which are doing that. There's a lot of things that have been done already within the Arctic Council.

A lot of things have been done in the forest such as Arctic Frontiers in Norway or Arctic Circle in Iceland. And it's important everywhere I talk about in nearly all these forests I can tell you that huge attention is paid to participating of young scholars and they're making speeches, bringing out their ideas, whatever answer they are and they raise the discussion and they feel that what they are doing is interested and they are in demand and this is the most important thing. This is the most important thing. That's a very interesting and very important question. And I think while arranging new initiatives such as International Polar Year or expedition such as last year, the year before we had a fantastic MOSAiC expedition, international expedition there.

We should always bear it in mind and bring young scientists, the young scholars in I think that as we are arranging the Arctic science ministerial are building on the experience of our predecessors, including the fantastic experience, very helpful experience of our Japanese call it

and part of the huge work that they have done, which is reproduced in this big booklet. This is the outcome of ASM4, there's a very big part devoted to the bringing of young scholars into the Arctic and the cooperation of science ministers around the world in bringing young scholars to this particularly interesting and fascinating subjects. I think I will limit myself.

Prof. Paul Arthur Berkman – 00:54:55

Thank you very much, Anton. As I mentioned in my opening comments, this initial Plenary panel was intended to go for an hour and then to open it up for a general dialogue among all participants off the record. But before going to that general dialogue, open dialogue that will be off the record, I have a last question to ask Fran, Hiroyuki, and Anton, in view of your comments, both introducing the Arctic Science Ministerial process with Arctic Science Ministerial 1,2 and 3, beginning in the United States in 2016; in Germany in 2018; in Japan in 2021; and presumably in France in 2023. With the Arctic Science Ministerial process, you also mentioned in your comments the Agreement on Enhancing International Arctic Scientific Cooperation, which is a binding agreement among the eight Arctic States.

When this webinar series was initially convened, proposed it was a question was, are there relationships, are there synergies that can emerge in terms of the spirit of international scientific cooperation between the Arctic Science Ministerial process, which is a process, and the Arctic Science Agreement, which is a binding agreement that's enforced among the Arctic States? Are there synergies that would be self-reinforcing, that would enhance the capabilities to enhance international scientific cooperation between these two complementary activities that both involve the Arctic science and ministries? So it's a question in terms of seeking synergies to enhance international scientific cooperation, are there synergies relationships between the Arctic Science Agreement and the Arctic Science Ministerial Process?

Hon. Fran Ulmer – 00:57:17

Am I off mute? Can you hear me?

Prof. Paul Arthur Berkman – 00:57:19

Yes, please.

Hon. Fran Ulmer – 00:57:20

Okay, fine. I would add one more to that list of whether or not there are synergies and what are they, and it would be the Arctic Observing summit and all of the efforts associated with Arctic observing efforts. I think those three things, in a way, fit together in the sense that they all, as you point out, support the spirit of Arctic research cooperation across borders, but they are all different in terms of what they are actually trying to achieve and how they might achieve it.

The International Arctic Science Agreement is really intended to bring down any doors or barriers to access to the Arctic region so that researchers, regardless of where they come from, have the opportunity to do the research necessary in the region and have access to data, information and be able to share it. So for me, it's the equivalent of opening up the doors and windows. It's basically saying there aren't going to be barriers that artificially restrict the ability of the Arctic research community to be able to do the kind of collaborative and cross-

disciplinary and cross-border research, which is essential, that is, different than the Arctic science Ministerial's purpose, which is really to focus the world's attention on what Arctic research is being done and by whom and where might there be potential synergies so that countries can work together, perhaps along the lines of the mosaic project, but even if not the mosaic project at a different level, being able to connect dots and over time have that kind of continuity that will really enhance the ability of the science community to be able to do the research, whether it's on a specific topic like permafrost or more general topic of understanding how the Arctic ocean is changing.

And the third piece of what I added, which is the observing summit and the Arctic observing efforts, is this notion that if you do not have sustained overtime funding and resources and a structure that will organize the way and which the way in which the various observing efforts, which really basically just gives you the basic data, it doesn't necessarily tell you what to make of that. It just allows the observing networks to be able to integrate their information, their data, their ability for others to take advantage of that information and do research with it. That third piece is also very important to any of these discussions about how to enhance and improve and strengthen the science community and the science effort at understanding Arctic change. So, yes, Paul, they are connected, but they're not the same, and they each play a different role in the spirit of enhancing, supporting, improving, strengthening all those things.

And I know that as the Arctic Science ministerial three left with some recommendations for how to go forward and whether or not those will be topics taken up at an ASM4 or in a different setting. I think it's very important because one of the limitations that was identified was the lack of funding across borders to actually do the necessary planning and collaboration. In other words, many countries fund their researchers, but they don't fund these large international projects across borders. And that's understandable at one level, that's sort of in countries trying to do the research that's in their national interest. But when you're talking about a region like the Arctic where understanding the entire ecosystem and the entire system is so important, we need to find ways that not only organize those projects but fund them. And that seems to me something that could logically grow out of these three things that we've identified, the ASMs and the International Arctic Science Agreement and the effort to build an observing network. That's all for now.

Prof. Paul Arthur Berkman – 01:02:26

Outstanding. Thank you very much for bringing in the Arctic Observing Summit, which will happen on the 1 April in Tromsø. So, Hiroyuki, or Anton, do you have additional comments? Anton, please?

Amb. Anton Vasiliev – 01:02:41

Yes, of course. I was one of the initiators of the Arctic scientific operation agreement. So I can say that, yes. The one common thing about where you can find the synergy among the two is the spirit is the spirit of enhancing cooperation in the important area. But there are, of course, different areas that the two processes, two documents to events, the target it the agreement is about moving the barriers, moving the barriers of movement scientists across the board of moving research equipment, of issuing visas, et cetera, et cetera. But this is an agreement among the Arctic Council States, and it is agreement among them. And this is important to understand the nature because we, the Arctic States, took these obligations visually each

other, understanding that we shall open our borders and for movement of people, movement of researchers, moving of scientific documents and scientific equipment, et cetera, in exchange for the others opening their borders for us, that was a sort of multilateral agreement with one common interest. I will not repeat myself, but what Fran has said about the purpose of ASM3. It's exactly that different thing. But again, the purpose of both is to stimulate the foster Arctic scientific research.

But the agreement, it doesn't exclude the fostering of international preparation beyond the sphere of the Arctic circle. And if you read carefully the agreement, there's an article about preparation with observers in Arctic research which is welcome. And I would also say that in the practical performance of the Arctic counselor many scientific projects which include the observers and nonmembers of the Arctic Council. And this is also important. And another thing, one more thing to insert here is that it is important in all scientific research processes. It's important to sustain cohesion and to sustain continuity. And this is why we as ASM4 are building on what has been already achieved by previous isms and especially by ASM3. And in this way, we want to use the spirit of the agreement of cooperation in the Arctic, applying it to ASM process. So this is really important. Yes, I agree totally with funding. This is one of the key problems that all scientists are solving. And I think it's the work with funders potential funded. There is really one of the important issues under all activities of ASM processes and even the realization of the Arctic science capacity and also many other things. I think one of the answers to the question why are you proposing an international polar year ten years ahead of the dates is that we should have enough time to work with potential funders to interest them, to convey them the idea of the importance of the exercise. Thank you.

Prof. Paul Arthur Berkman – 01:07:09

Thank you very much. Anton. Hiroyuki, please, if you have a response.

Dr. Hiroyuki Enomoto – 01:07:14

Thank you very much. So Arctic Science Agreement is a critical rule to realize cooperation. And then the question comes to what do we want to realize? There is a gap of the observation area in the Arctic. The research analyzes the gap of the observation area and hook can fill that area and how they can fill that area. ASM2 recommended. Still separating arctic science. The new mechanism is now initiating. Who can fill that gap or area? Depending on the design, ASM3 strongly recommended sustainable Arctic observing network system for all countries of 28 countries should join not only the Arctic country, but 28. Then we can start, and we can ask to no Arctic country to fill some point so Japan can fill some area. So that is not only the Arctic country but including the member countries of the ASM3, 28 we can feel more efficiently that is moving forward from the agreement and the ASM3 implementation.

And one more point, the Arctic Observing Summit, so there was a global issue session in 2016. Some people noticed 2016 is also a very difficult condition to implement Arctic reason so Arctic observation so also political is a difficult situation. So in that case researchers try to collaborate over the border of the country. Someone please fills the data. Continue observation. Even the country and country are not accessible. So that country is researcher. Please keep that data and continue. If the situation changes, we can collaborate again our experience in 2016 and discuss in AOS 2016 in Fairbanks. Thank you very much.

Prof. Paul Arthur Berkman – 01:10:40

Thank you very much. Hiroyuki. At this point what I would like to do and recognizing take health breaks and so on. So we're not programming that into the schedule.

Dr. Hiroyuki Enomoto – 01:10:52

Sorry. Sorry. So in the chat box I put the ASM3 digital database you can access and yourself analyze that data which country what they are doing what is a newly database we are expecting ASM4 organizer use to expand that system. Sorry.

Prof. Paul Arthur Berkman - 01:11:14

No. No. No. This is very important and welcome other observations to put in the chat in the spirit of transparency and sharing with all involved. At this point, what I'd like to do is ask Clara to turn off the recording please.

SUMMARY SESSION**Prof. Paul Arthur Berkman - 01:11:24**

And this is an opportunity an invitation to Fran, Hiroyuki, and Anton to provide their summary comments and observations from this third webinar which was designed to address what international efforts and processes are needed to facilitate progress in understanding the Arctic system and its global impacts. Certainly, we have had a very rich discussion stimulated by opening comments from yourself Professor Enomoto, Ambassador Anton Vasiliev and the Honorable Frances Ulmer. So I would leave it to the three of you to provide summary comments please. How would you like to proceed? Just raise your hand and I will choose you first hear. Hiroyuki. Please.

Dr. Hiroyuki Enomoto – 01:12:32

I want to state only a small comment. There are many big countries' projects but the reading effort is done often by some individuals. So, in the current situation and previous situations. And in the coming situation, For example, COVID-19 limitations of the local observation. Scientists have a good contact and asked the local scientist we could not go to Greenland but Greenland scientists in Greenland supported our instrument maintenance and taking data and a new system is we asked the Indigenous people to maintain our instrument. They learned how to use, and the new collaboration has started during COVID-19, and also most sensing can cover that area. So it's a Norwegian activity to try to compensate and cover other countries' observations, not to miss the data. Talking to Russia, big part is Russian database. The 1990s, ran data rescue. had a very good quality data and it is a very dangerous condition or disappears that data. So, US researchers tried to data rescue and still, we have used as climatic data. I hope the current situation is not the case of missing data. So using the individual connection with we can find some solutions but try to continue the data, not by the national but using the communication effort. That is my final comment.

Prof. Paul Arthur Berkman – 01:15:10

Thank you very much Enomoto for those important observations. Anton, please.

Amb. Anton Vasiliev – 01:15:17

Thank you very much for an interesting webinar. I think I will not repeat myself and sum up what I said but another contribution, one contribution to our discussion. I would like to tell

you that I am by a growing a group of Russian scientists who are signing a letter addressed to me in my capacity of Vice President of the Russian Association of Polar Explorers. This is why my hats I'm wearing now and they are trying to solve the question that is in the air that we have been discussing that didn't touch upon yet what to do in the current situation, what is our way out of the pores in the working of existing mechanism of international arts scientific operation. And I can read out such some points of this letter and they addressed to me and the scientists.

Many scientists signed a letter with a request to head an initiative to create an international move in the field of joint international scientific activities, scientists for further strengthening of international cooperation, among other things. What is being addressed to me is the phrase that in recent days, despite the difficult geopolitical situation, a number of Russian universities and scientific institutions have received requests from scientists from Western Europe, the US, Japan, and to continue working together in international scientific cooperation, including the Arctic region and the context of the Russian chairmanship of the Arctic Council.

We clearly understand that the development of science as a field of activity for creating new knowledge requires the expansion and strengthening of scientific ties between scientists from all the countries. The implementation of the international collaboration Science initiative. Scientists for the further strengthening of international cooperation should lead to the development of forms of what is commonly called open science, unified platforms where data from observations and experiments are collected and open access to publication international for us and the preparation of special monograms and reports could be events. So now I am contemplating, I'm considering this very interesting interest public initiative and this is why I'm putting the, as they say, putting a beer in your ear and asking you to think about this thing. If you further support these people to people scientific cooperation, that could be one of the possible layouts of the pause in international Arctic scientific cooperation in the current geopolitical situation. Thank you very much for a very successful webinar.

Prof. Paul Arthur Berkman – 01:18:30

Thank you very much, Anton, for sharing that letter and those observations. Certainly as one in this group, as just an individual, it would be an honor and a pleasure to contribute to those people to people interactions going forward in the spirit of preserving the integrity of the scientific community. Fran, please, I leave the closing comments to you.

Hon. Fran Ulmer – 01:18:54

Well, first of all, let me say, Anton, I'm very grateful that you read that and shared it with us because I think many of us were hoping that there may be some sort of initiated dialogue at this level among not only the science community, but frankly, the people to people community that for a very long time has provided the kind of continuity of positive relationships, even when our national governments find many things to disagree about. So I would just note that many of the scientists with whom I have dialogue on a regular basis express very similar sentiments that it is so important that for those of us who believe in science diplomacy, for those of us who believe that it is in the best interests of all of our people, for these lines of communication and collaborative work to continue that we can individually do whatever we can to foster that, to explain to the rest of our governments and people as to why this is important. Obviously, the

scientific research that is being done in the Arctic must be done collaboratively if it's going to be effective.

We must continue to honor the institutions that have served us so well, like the Arctic Council, like the University of the Arctic, like so many of the other entities that have really erased borders as a problem and rather emphasize what it is that we share as common needs and values and experience and understanding and resources. And it is my hope that dialogues like the one we have had today will continue the momentum for strengthening these organizations, as well as shining a light on things where additional entities or organizations or funding would be helpful, like the discussion we've just had about the Central Arctic Ocean.

I do believe that more can be done to create the platforms for Arctic observing that would, over time, enhance the ability of scientists, regardless of what country they are in, Arctic or non-Arctic, to be able to do the work they do. And I do hope that over time, we can strengthen things like the International Arctic Science Agreement to make certain that there aren't boundaries and unnecessary barriers put up to making sure that that kind of scientific research can benefit all humanity.

So with that, I will just say thanks again to Paul, to Jenny, to all of the organizers that made this possible. And may we all remain optimistic that the Arctic science community will play an important and positive role during not only these difficult times, but long into the future. Thank you.

Prof. Paul Arthur Berkman – 01:22:12

Thank you very much, Fran. It is an honor and a pleasure to thank you, Fran. Honorable Fran Ulmer, Professor Hiroyuki Enomoto, and Ambassador Anton Vasiliev, for your important, insightful observations during this third webinar.

By way of concluding the webinar series, again with appreciation to the Ministry of Foreign Affairs of Japan, there is a synthesis that will emerge. The scholars from the Harvard Kennedy School and from the Japan ArCS II program have been thoughtfully compiling observations that have been circulated to the keynote presenters from each of the webinars. We will turn those observations, along with the transcripts that are presented as part of the recording into a publication through Science Diplomacy Action. And we certainly invite the keynote presenters to assist us in completing that synthesis and invite you to serve also as co-authors if that is appropriate.

With that, it has truly been an honor. And it is a pleasure to convene these three webinars on Enhancing International Scientific Cooperation with the Arctic as a case study, but certainly with global relevance and with hope and inspiration as a primary responsibility that all generations have to think short term to long term for the benefit of all on Earth, across generations.

With that, I thank each of the participants for your thoughtful observations and comments. I thank the team for being a team for having fun together and producing this in a way that has resonated with hope and inspiration for all of us and to that I wish everybody good health going forward and look forward to our next meetings. Thank you very much. Thank you. Thank you. Bye.