



Session Proposal

PROPOSED SESSION NAME:

ARCTIC SCIENCE AND TECHNOLOGY ADVICE WITH MINISTRIES

ORGANIZING BODIES:

Science Diplomacy Center™
United Nations Institute for Training and Research (UNITAR)
Program on Negotiation at Harvard Law School
MIT-Harvard Public Disputes Program
Fulbright Arctic Chairmanship 2021-2022
Baeseman Consulting and Services, LLC

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SESSION DESCRIPTION (250 WORDS):

The session will assess the Arctic Science Ministerial process (Appendix 1) in relation to the 2017 *Agreement on Enhancing International Arctic Scientific Cooperation* (Arctic Science Agreement) that entered into force in 2018 with the eight Arctic states as signatories. Both the Arctic Science Ministerial (ASM) process and the Arctic Science Agreement involve national ministries, focusing on science and scientific cooperation with the natural sciences, social sciences and Indigenous knowledge. However, only the Arctic Science Ministerial process includes non-Arctic states, notably Japan and other nations that are observers to the Arctic Council (Appendix 2). Addressing the following question will complement syntheses in various venues supporting the “*Science-to-Policy Process*” that was emphasized with the 3rd Arctic Science Ministerial (ASM3), which was co-hosted by Iceland and Japan in Tokyo in May 2021.

What are the relationships and synergies between the Arctic Science Ministerial process and the Arctic Science Agreement?

This international, transdisciplinary and inclusive session will involve two moderated panel dialogues with institutional leaders, modelled after the:

- a) 2018 Arctic Circle Assembly session in advance of the 2nd Arctic Science Ministerial (ASM2)¹; and
- b) 2022 webinar series – before-through-after the inflection point² of the Ukraine invasion by Russia³ – about ENHANCING INTERNATIONAL SCIENTIFIC COOPERATION: SCIENCE AND TECHNOLOGY ADVICE IN FOREIGN MINISTRIES that was funded by the Ministry of Foreign Affairs of Japan with hosting by the United Nations Institute for Training and Research (UNITAR).^{4,5,6}

The ARCTIC SCIENCE AND TECHNOLOGY ADVICE WITH MINISTRIES session will build on questions and observations stimulated by the Arctic Science Agreement⁷, which have accelerated into theory, methods and skills to operate short-to-long term with informed decisionmaking⁸, which now are being trained with Ministries of Foreign Affairs and the United Nations (Appendix 3). Insights from this session with science diplomacy at the Arctic Circle Japan Forum will contribute to Open Science with inclusion from research into action “*for the benefit of all on Earth across generations.*”

LIST OF SPEAKERS (WITHOUT RUSSIAN PARTICIPATION UNLESS CIRCUMSTANCES CHANGE):

1. **Mr. Henry Burgess** – Head, UK Arctic Office, British Antarctic Survey; President, International Arctic Science Committee (IASC), United Kingdom (CONFIRMED)
2. **Dr. Hiroyuki Enomoto** – Vice Director-General, National Institute for Polar Research, Japan; Co-chair ASM3 Science Advisory Board; Vice-President, International Arctic Science Committee, Japan (CONFIRMED)
3. **Prof. Larry Hinzman** – Assistant Director for Polar Sciences, White House Office of Science and Technology Policy; Professor, University of Alaska Fairbanks; Former President International Arctic Science Committee (IASC), USA (CONFIRMED – PENDING APPROVAL FROM THE WHITE HOUSE, OFFICE OF SCIENCE AND TECHNOLOGY POLICY)
4. **Mr. Morten Høglund** – Norwegian Senior Arctic Official (SAO) with the Arctic Council, Ministry of Foreign Affairs, Norway (INVITED)
5. **Dr. Margareta Johansson** – Coordinator, International Network for Terrestrial Research and Monitoring in the Arctic (INTERACT), Sweden (CONFIRMED)

¹ Arctic Science Agreement Dialogue Panel. 2019 Supporting Implementation of the Arctic Science Agreement. [Science Diplomacy Action 3:1-58](#).

² Berkman, P.A. 2020. ‘The Pandemic Lens’: Focusing Across Time Scales for Local-Global Sustainability. [Patterns 1\(8\):1-4](#).

³ Brigham, L.W.B. 2022. Ten ways Russia’s invasion of Ukraine impacts the Arctic and the world. [The Hill 15 November 2022](#).

⁴ UNITAR. 2022. [Enhancing International Scientific Cooperation: Arctic Science and Technology Advice with Ministries](#). United Nations Institute for Training and Research (UNITAR), Switzerland.

⁵ Berkman, P.A., Shibata, A. and Baeseman, J. 2022. Arctic Science Diplomacy Maintains Russia Co-Operation. [Nature 604:625](#).

⁶ Webinar Series Team. 2022. Enhancing International Scientific Cooperation: Arctic Science and Technology Advice with Ministries. [Science Diplomacy Action 6:1-82](#).

⁷ Berkman, P.A., Kullerud, L., Pope, A., Vylegzhanin, A.N. and Young, O.R. 2017. The Arctic Science Agreement Propels Science Diplomacy. [Science 358:596-598](#).

⁸ Berkman, P.A., Young, O.R., Vylegzhanin, A.N., Balton, D.A. and Øvretveit, O. (eds.). [BUILDING COMMON INTERESTS IN THE ARCTIC OCEAN WITH GLOBAL INCLUSION. VOLUME 2. INFORMED DECISIONMAKING FOR SUSTAINABILITY](#). Springer, Dordrecht. 454p.

6. **Dr. Kirsi Latola** – Vice-President Networks, University of the Arctic (UArctic), former Chair, European Polar Board, Finland; (CONFIRMED)
7. **Dr. Jennifer Mercer** –Arctic Section Head, National Science Foundation, USA; Chair, Forum of Arctic Research Operators (INVITED)
8. **Ms. Sara Olsvig** – President of the Inuit Circumpolar Council (ICC), Greenland (INVITED)
9. **Prof. Andrey Petrov** - Associate Professor, University of Northern Iowa, US; Former President, International Arctic Social Sciences Association (IASSA) (TENTATIVE)
10. **Dr. Volker Rachold** – Head of the German Arctic Office, Alfred Wegener Institute, Germany; ASM2 Representative (CONFIRMED)
11. **Prof. Akiho Shibata** – Professor of International Law and Director, Polar Cooperation Research Centre (PCRC), Kobe University, Japan (TENTATIVE).
12. **Dr. Atsushi Sunami** – President, The Sasakawa Peace Foundation; Director, SciREX Center, Executive Advisor to the President, National Graduate Institute for Policy Studies (GRIPS); Distinguished Fellow, The Asia Pacific Foundation, Canada; Guest Professor, Waseda University Research Organization for Nano & Life Innovation, Japan (CONFIRMED);
13. **Amb. Keizo Takewaka**; Ambassador in Charge of Arctic Affairs, Ministry of Foreign Affairs, Japan (INVITED)
14. **H.E. Fran Ulmer** – Senior Fellow, Arctic Initiative at the Harvard Kennedy School Belfer Center; Former Lt. Governor, State of Alaska; Former Chair, US Arctic Research Commission; ASM1 Representative, USA (TENTATIVE)
15. Representative from Iceland (co-host ASM3 and Arctic Circle Japan Forum) (TBD)
16. Representative from Denmark (Depositary with the Arctic Science Agreement) (TBD)
17. H.E. Mary Simon (Governor General, Canada) (TBD)

LIST OF SPEAKER TOPICS:

Speaker Topics	Speaker ID																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Arctic Science Agreement	X		X	X						X	X		X	X		X	X
Arctic Science Ministerial	X	X	X			X			X	X	X	X	X	X	X		X
Arctic Science Infrastructure	X		X	X		X	X	X		X	X				X	X	X
Arctic Science Organization	X	X	X	X		X	X		X	X	X						X
Natural Sciences	X	X	X		X	X	X			X	X	X					
Social Sciences	X					X	X		X	X	X	X					
Indigenous Knowledge								X									X
Arctic State			X	X	X	X	X	X	X					X	X	X	X
Non-Arctic State	X	X								X	X	X	X				
Male	X	X	X	X					X	X	X	X	X				
Female					X	X	X	X						X			X

APPENDIX 1

TABLE 2: ARCTIC SCIENCE MINISTERIAL (ASM) PROCESS INVOLVING MINISTRIES OF THE EIGHT ARCTIC STATES WITH THE SIX ARCTIC INDIGENOUS PEOPLES' ORGANIZATIONS AND NON-ARCTIC STATES INCLUSIVELY					
Process	Year	Location	Host(s)	Participants	Themes
1st ASM¹	2016	Washington, DC (US)	United States	24 Nations and European Union (EU)	<ol style="list-style-type: none"> 1. Arctic-Science Challenges and Their Regional and Global Implications 2. Strengthening and Integrating Arctic Observations and Data-Sharing 3. Applying Expanded Scientific Understanding of the Arctic to Build Regional Resilience and to Shape Global Responses 4. Empowering Citizens through Science Technology, Engineering, and Mathematics (STEM) Education Leveraging Arctic Science
2nd ASM²⁻³	2018	Berlin (Germany)	Finland and Germany with EU	23 Nations and EU	<ol style="list-style-type: none"> 1. Strengthening, Integrating and Sustaining Arctic Observations, Facilitating Access to Arctic Data, and Sharing Arctic Research Infrastructure 2. Understanding Regional and Global Dynamics of Arctic Changes 3. Assessing Vulnerability and Building Resilience of Arctic Environments and Societies
3rd ASM⁴⁻⁶	2021	Tokyo (Japan)	Japan and Iceland	27 Nations and EU	<ol style="list-style-type: none"> 1. “<i>Knowledge for a Sustainable Arctic</i>” is the overall theme with sub-themes: 2. Observe the status of Arctic changes 3. Understand the local and global impacts 4. Respond to the changes based on a shared understanding 5. Strengthen these efforts through education and capacity-building for future generations
4th ASM⁷	2023	TBD	Russia (and France postponed)	TBD	TBD

¹ *Supporting Arctic Science: A Summary of the White House Arctic Science Ministerial Meeting (September 28, 2016, Washington, DC).* ([https://asm3.org/library/Files/Supporting Arctic Science 1.pdf](https://asm3.org/library/Files/Supporting%20Arctic%20Science%201.pdf)).

² *Report of the 2nd Arctic Science Ministerial: Co-Operation In Arctic Science – Challenges and Joint Actions (26-28 October, 2018, Berlin).* ([https://asm3.org/library/Files/190402 ASM2 Bericht V2 bf.pdf](https://asm3.org/library/Files/190402_ASM2_Bericht_V2_bf.pdf))

³ *Joint Statement of Ministers on the Occasion of the 2nd Arctic Science Ministerial (26 October 2018, Berlin).* ([https://asm3.org/library/Files/ASM2 Joint Statement.pdf](https://asm3.org/library/Files/ASM2_Joint_Statement.pdf)).

⁴ *Knowledge for a Sustainable Arctic 3rd Arctic Science Ministerial Report (8–9 May 2021, Tokyo).* ([https://asm3.org/library/Files/ASM3 Final Report.pdf](https://asm3.org/library/Files/ASM3_Final_Report.pdf)).

⁵ *Joint Statement of Ministers on the Occasion of the 3rd Arctic Science Ministerial (9 May 2021, Tokyo)* ([https://asm3.org/library/Files/ASM3 Joint Statement.pdf](https://asm3.org/library/Files/ASM3_Joint_Statement.pdf)).

⁶ *The ASM3 Project Database.* (<https://ads.nipr.ac.jp/ASM3DB/>).

⁷ Planning for the 4th Arctic Science Ministerial has been paused because of the Ukraine invasion by Russia.

APPENDIX 2

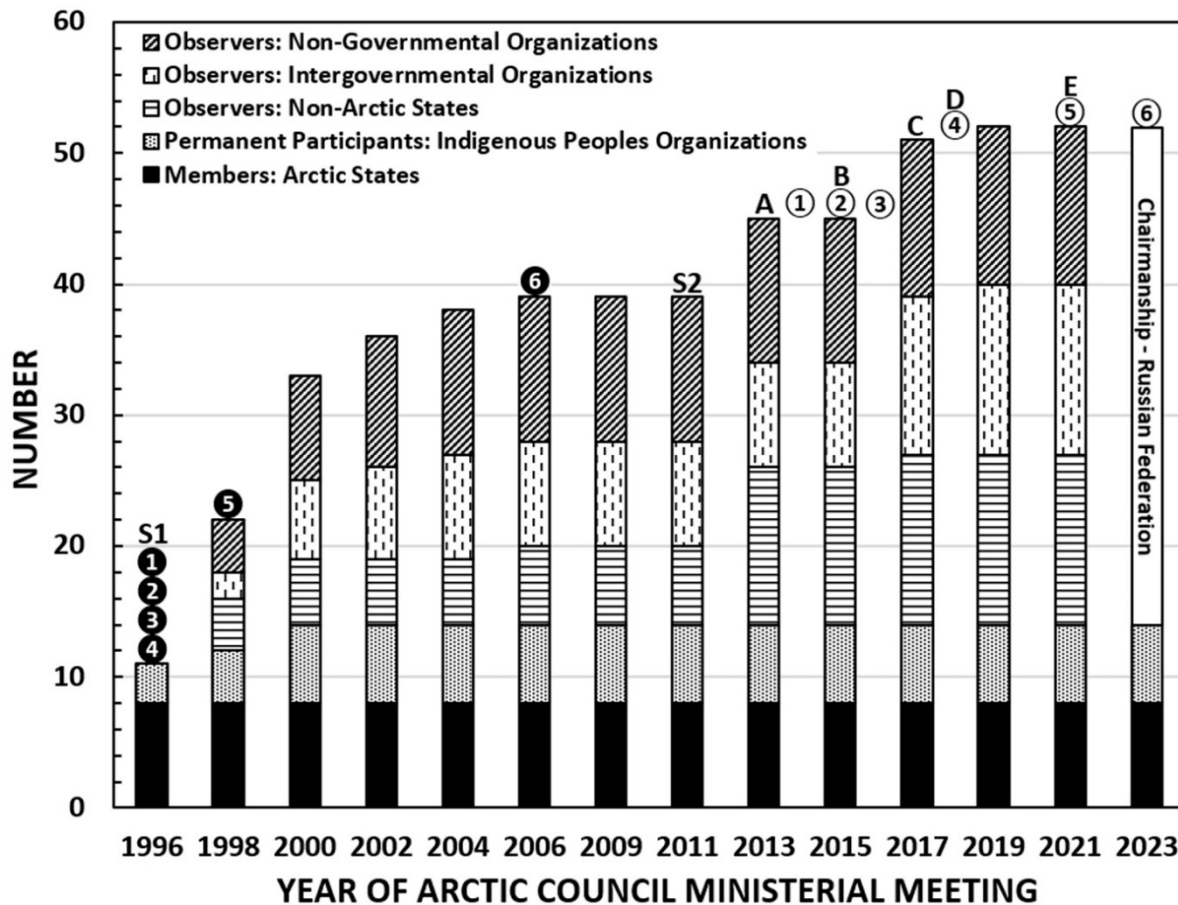


FIGURE 1: HISTORY OF THE ARCTIC COUNCIL SYSTEM⁹ during its first 25 years after the 1996 *Ottawa Declaration*, showing the number of Members (Arctic States), Permanent Participants (Indigenous Peoples Organizations) and Observers (Non-Arctic States, Intergovernmental Organizations and Non-Governmental Organizations) associated with the Arctic Council Ministerial Meetings (ACMM) based on details from the Arctic Council website (<https://arctic-council.org/en/>). Note all ACCM were two years apart except with 2006 and 2009. Also shown are years the six Arctic Council working groups (circles with black backgrounds), which began contributing to the Arctic Council: Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency Prevention, Preparedness and Response (EPPR) and Protection of the Arctic Marine Environment (PAME) in 1996 along with the Sustainable Development Working Group (SDWG) in 1998 and Arctic Contaminant Action Program (ACAP) in 2006. Also shown are years when secretariats became associated with the Arctic Council: Arctic Indigenous Peoples Secretariat (S1) and Arctic Council Secretariat (S2). Affiliated initiatives that now align with rotation of the Arctic Council chairmanship are shown (circles with white backgrounds): Arctic Economic Council (2014); Arctic Coast Guard Forum (2015); 1st Arctic Science Ministerial (2016); 2nd Arctic Council Ministerial (2018); 3rd Arctic Council Ministerial (2021); and 4th Arctic Council Ministerial (2023). Also shown are the year of ‘Entry into Force’ of binding Arctic agreements that have emerged since the Arctic Council was established in 1996: 2011 *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* in 2013 (A); 2013 *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* in 2016 (B); *International Code for Ships Operating in Polar Water (Polar Code)* adopted through the International Maritime Organization in 2017 (C); 2017 *Agreement on Enhancing International Arctic Scientific Cooperation* in 2018 (D); and 2018 *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* in 2021 (E).

⁹ Vylegzhanin A.N., Young O.R., and Berkman P.A. Russia in the Arctic Chair: Adapting the Arctic Governance System to Conditions Prevailing in the 2020s. *Polar Record* 57(e37):1–10.

APPENDIX 3



FIGURE 2: PYRAMID OF INFORMED DECISIONMAKING¹⁰ as the engine of science diplomacy, initiated with questions inclusively to reveal questions of common concern that require Open Science to address with holistic integration, building common interests short-to-long term while enhancing research capacities as a positive feedback at local-global levels “for the benefit of all on Earth across generations.” Informed decisions operate across a ‘continuum of urgencies’, as introduced during the 1st International Dialogue on Science and Technology Advice in Foreign Ministries¹¹ in 2016.

¹⁰ Berkman, P.A., Vylegzhanin, A.N., Young, O.R., Balton, D.A. and Øvretveit, O. (eds). 2022. BUILDING COMMON INTERESTS IN THE ARCTIC OCEAN WITH GLOBAL INCLUSION. VOLUME 2. INFORMED DECISIONMAKING FOR SUSTAINABILITY. Springer, Dordrecht. (<https://link.springer.com/book/9783030893118>).

¹¹ Vienna Dialogue Team. 2017. A Global Network of Science and Technology Advice in Foreign Ministries. *Science Diplomacy Action* 1:1-20. (https://scidipl.org/wp-content/uploads/2020/11/Synthesis_1.pdf).