

# SCIENCE DIPLOMACY ACTION

An Incidental Serial for Rigorous Meeting Syntheses

August 2020



## Training Skills with Common-Interest Building

Paul Arthur Berkman and Alexander N. Vylegzhanin

Student-Ambassador Declarations (2016-2020) from the Joint Video-Conferencing Course on *Science Diplomacy: Environmental Security and Law in the Arctic Ocean* with the Fletcher School of Law and Diplomacy at Tufts University (United States) and International Law Programme at MGIMO University (Russian Federation)

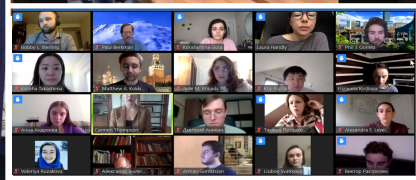


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# ***SCIENCE DIPLOMACY ACTION***

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## **Synthesis No. 4**

### **TRAINING SKILLS WITH COMMON-INTEREST BUILDING**

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**Student-Ambassador Declarations (2016-2020) from the Joint Videoconferencing Course on *Science Diplomacy: Environmental Security and Law in the Arctic Ocean* with the Fletcher School of Law and Diplomacy at Tufts University (United States) and International Law Programme at MGIMO University (Russian Federation)<sup>#1</sup>**

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# Compilation of Mock Arctic Council Ministerial Declarations produced from the course on *Science Diplomacy: Environmental Security and Law in the Arctic Ocean*, starting with The Fletcher School in 2016 and continuing with both The Fletcher School and MGIMO University from 2017-2020.

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<sup>1</sup> All views expressed are personal and do not reflect the views of any organisation, agency or government.

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## INTRODUCTION

This fourth Synthesis of the *Science Diplomacy Action* series involves that pedagogy of common-interest building among allies and adversaries alike as a negotiation skill to apply, train and refine. This serial edition also represents a journey with science diplomacy and its engine of informed decisionmaking among friends who facilitated the first formal dialogue between the North Atlantic Treaty Organization (NATO) and Russia regarding security in the Arctic,<sup>1</sup> which we co-directed at the University of Cambridge in 2010.

The starting point for that NATO-Russia dialogue was **science diplomacy**, as an *holistic (international, interdisciplinary and inclusive) process to balance national interests and common interests for the benefit of all on Earth across generations*. Operation of this holistic process became clear in 2016 during the *1<sup>st</sup> International Dialogue on Science and Technology Advice in Foreign Ministries*,<sup>2</sup> when the ‘continuum of urgencies’ was identified from **security time scales** (mitigating risks of political, economic, cultural and environmental instabilities that are immediate) to **sustainability time scales** (balancing economic prosperity, environmental protection and societal well-being across generations). The following year, the theoretical framework of **informed decisionmaking** (Figure 1) – operating across a ‘continuum of urgencies’ short-term to long-term – emerged with the case study published in *Science*<sup>3</sup> about the 2017 *Agreement on Enhancing International Arctic Scientific Cooperation*, which has entered into force among the eight Arctic states. With continuing acceleration, in 2020, Springer published the first volume in the new book series on INFORMED DECISIONMAKING FOR SUSTAINABILITY.<sup>4</sup>



**FIGURE 1: INFORMED DECISIONS** operate across a ‘continuum of urgencies’ as a scalable framework – illustrated for peoples, nations and our world from security to sustainability time scales – with ‘conflict resolution’ and ‘common-interest building’ as negotiation strategies to achieve balance with issues, impacts and resources at local-global levels.<sup>5</sup>

Facilitating international transparency with common-interest building – involving a former Foreign Minister of the Russian Federation – in 2019, we co-produced with our close colleague (Prof. Oran R. Young) the comprehensive *BASELINE OF RUSSIAN ARCTIC LAWS*, introducing the authentic English translation of

<sup>1</sup> Berkman, Paul Arthur and Alexander N. Vylegzhanin, eds. *ENVIRONMENTAL SECURITY IN THE ARCTIC OCEAN. NATO Science for Peace and Security Series – C: Environmental Security*. (Dordrecht: Springer, 2012).

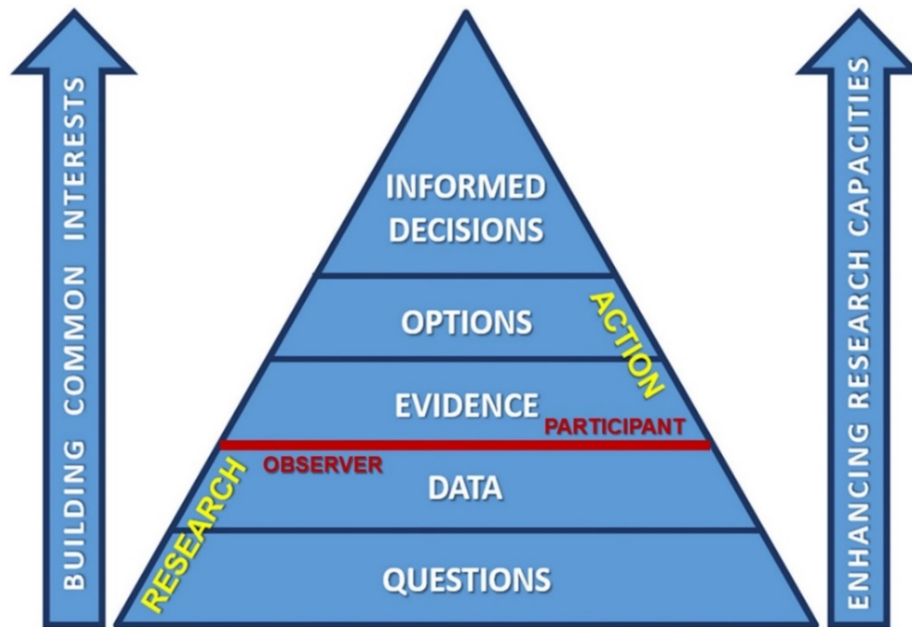
<sup>2</sup> Vienna Dialogue Team. ‘A Global Network of Science and Technology Advice in Foreign Ministries’. *Science Diplomacy Action* 1 (2017), 1–20. ([https://sites.tufts.edu/sciencediplomacy/files/2019/02/Synthesis\\_1.pdf](https://sites.tufts.edu/sciencediplomacy/files/2019/02/Synthesis_1.pdf)).

<sup>3</sup> Berkman, Paul Arthur, Lars Kullerud, Allen Pope, Alexander N. Vylegzhanin and Oran R. Young. ‘The Arctic Science Agreement Propels Science Diplomacy’. *Science* 358 (6363) (2017), 596–598. <https://science.sciencemag.org/content/358/6363/596>.

<sup>4</sup> Young, Oran R., Berkman, Paul Arthur and Alexander N. Vylegzhanin, eds. *INFORMED DECISIONMAKING FOR SUSTAINABILITY, VOLUME 1: GOVERNING ARCTIC SEAS: REGIONAL LESSONS FROM THE BERING STRAIT AND BARENTS Sea* (Dordrecht: Springer, 2020).

<sup>5</sup> Berkman, Paul Arthur ‘*Science Diplomacy and Its Engine of Informed Decisionmaking: Operating through Our Global Pandemic with Humanity*’. *The Hague Journal of Diplomacy* 15(3) (2020), in press.

Russian documents from the early 19<sup>th</sup> century to the present.<sup>6</sup> Throughout, these contributions with research and leadership have been complemented as well as enhanced by our team teaching, which has revealed common-interest building skills and methods to train with holistic integration (Figure 2).



**FIGURE 2: PYRAMID OF INFORMED DECISIONMAKING** as the underlying methodology that is being applied, trained and refined with informed decisions (Fig. 1) as the apex goal of science diplomacy. With holistic integration, the iterative stages of research and action facilitate common-interest building and enhanced research capacities.

The graduate course on *Science Diplomacy: Environmental Security in the Arctic Ocean* was introduced in 2016 with the Fletcher School of Law and Diplomacy at Tufts University, involving a Mock Arctic Council Ministerial Meeting as the culminating synthesis with the Student Ambassadors. Holistic integration in this course began with a ‘3-Word Assignment,’ progressing iteratively with increasing complexity across interconnected economic, environmental and societal systems that operate from security to sustainability time scales (Figure 1). Framed around their working papers for the Mock Arctic Council Ministerial Meeting, the Student Ambassadors negotiated a declaration, which they adopted by consensus and signed at end of that first semester. In subsequent years, additional holistic integration exercises were introduced into the course, including the *Common-Interest Building – Training Game* with the pedagogy of the seventeen *United Nations Sustainable Development Goals*,<sup>7</sup> each of which has international, interdisciplinary and inclusive relevance at local-global levels (APPENDIX 1: Syllabus – Spring 2020).

From 2017 through 2020, the graduate course was expanded to *Science Diplomacy: Environmental Security and Law in the Arctic Ocean*, involving The Fletcher School in Medford (Massachusetts, United States) and the International Law Programme at MGIMO University in Moscow (Russian Federation). Building on a Memorandum of Understanding between our institutions, this joint video-conferencing course was approved by the Russian Ministry of Education and involved Carnegie Corporation of New York funding that was directed by Prof. Paul Arthur Berkman, contributing to the soon-to-be Russia and Eurasia Program at The Fletcher School. Each year, Student Ambassadors from the United States and Russian

<sup>6</sup> Berkman, Paul Arthur, Alexander N. Vylegzhanin and Oran R. Young. *BASELINE OF RUSSIAN ARCTIC LAWS*. (Dordrecht: Springer 2019).

<sup>7</sup> UN General Assembly. *Transforming Our World: The 2030 Agenda for Sustainable Development*. Res. A/RES/70/1 (25 September 2015). (<https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>).

Federation adopted and signed joint declarations by consensus, as an exercise in common-interest building. Results of training skills with common-interest building are reflected herein with the compilation of consensus declarations crafted by the Student Ambassadors in their Mock Arctic Council Ministerial Meetings from 2016 to 2020.

The essence of common-interest building is to make informed decisions that operate across time in view of urgencies, short-term to long-term, tactical and strategic (Figure 1). Urgencies are embedded across diverse time scales with local-global relevance, as demonstrated by accelerating impacts through: month-years with our global pandemic; years-decades with high technologies; and decades-centuries with global human population size and atmospheric carbon-dioxide concentration in our Earth system.

The underlying process of informed decisionmaking involves holistic integration with **science as the ‘study of change’**, revealed with the natural sciences and social sciences as well as Indigenous knowledge, all of which characterize patterns, trends and processes (albeit with different methods) that become the bases for decisions. Contributing with research and action (Figure 2), the institutions involved with decisionmaking produce: **governance mechanisms** (laws, agreements and policies as well as regulatory strategies, including insurance, at diverse jurisdictional levels); and **built infrastructure** (fixed, mobile and other assets, including communication, observing, information and other systems that require technology plus investment). Coupling of governance mechanisms and built infrastructure contributes to progress with sustainability, which were weaved throughout the course with the Arctic Ocean as a case study.

Outcomes of the joint-video conferencing course between The Fletcher School and MGIMO University have accelerated globally into the training initiatives with diplomatic schools among foreign ministries as well as with the United Nations Institute for Training and Research (UNITAR).<sup>8</sup> Our hope is science diplomacy and its engine of informed decisionmaking will lead to lifelong learning across the jurisdictional spectrum with its subnational-national-international legal levels for the benefit of all on Earth across generations.

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<sup>8</sup> UNITAR (United Nations Institute for Training and Research). *Retreat for Directors of Arab Diplomatic Academies and Institutes*. Algiers, 12-13 June 2019 (<https://www.unitar.org/event/full-catalog/retreat-directors-arab-diplomatic-academies-and-institutes>); *United Nations Diplomacy 4.0 Training Programme*, Online, 2019-2020. (<https://unitar.org/about/news-stories/news/united-nations-diplomacy-40-training-programme>); *Science Diplomacy and Informed Decision-Making during Our Global Pandemic*. Online, 20-26 April 2020 (<https://www.unitar.org/event/full-catalog/science-diplomacy-and-informed-decision-making-during-our-global-pandemic>); *Executive Diploma on International Law*. Online, 25 May-5 June 2020. (<https://www.unitar.org/event/full-catalog/executive-diploma-international-law-online>) .

**FOLLOWING IS THE**

***MEDFORD DECLARATION***

***On the occasion of the Twentieth Anniversary of  
the Ottawa Declaration and the Establishment of  
the Arctic Council***

**ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE *MOCK ARCTIC COUNCIL MINISTERIAL MEETING***

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**12 MAY 2016**



**THE MEDFORD DECLARATION 2016**  
**Medford, Massachusetts**  
**May 12, 2016**

**On the occasion of the Twentieth Anniversary of the Ottawa Declaration and the  
Establishment of the Arctic Council**

1. We, select members of the Fletcher Arctic Initiative, have gathered in Medford, Massachusetts under the theme of Sustainable Development to celebrate the achievements of the Arctic Council over the past 20 years and to advance options for an improved approach to Sustainable Development in the Arctic,
2. **Recognizing** that Article 1 of the Ottawa Declaration draws on principles enshrined in the Charter of the United Nations, the Universal Declaration of Human Rights, and international human rights law,
3. **Celebrating** cooperation within the Arctic region since the formation of the Arctic Council in 1996 and its success in maintaining the Arctic as a zone of peace and cooperation, **recognizing** that previous Arctic Council declarations have not addressed security as a broad theme, **emphasizing** the Arctic Council's mission to promote a peaceful and stable Arctic in order to ensure human and environmental security in the future,
4. **Celebrating** that indigenous organizations have held Permanent Participant status within the framework of the Arctic Council since its inception, **expressing** concern that various member states have inconsistently supported indigenous communities' identity and rights as a peoples under international law, and **reaffirming** that such rights and responsibilities allow full and active partnership,
5. **Noting** with concern that the five Arctic coastal states make important decisions outside the framework of the Arctic Council's inclusive mandate, and **expressing** with particular concern that these meetings are not inclusive of the Permanent Participants,
6. **Noting** with concern the threat climate change poses to humans and the environment, and **calling** upon the global community to support resilient strategies to ensure human and environmental security in the Arctic,
7. **Celebrating** the creation of the six Working Groups, their Experts Groups, and Task Forces, **noting** the production of their framework documents and assessment reports, and **recognizing** the utility of these groups and documents as an initial framework to guide future research and development, further **celebrating** the two binding agreements signed by the members of the Arctic Council,
8. **Acknowledging** the importance that the Arctic Council gave to scientific research and observations of the Arctic, and **celebrating** the role of the Arctic Council in fostering scientific collaboration and data-sharing (Sustaining Arctic Observing Networks - SAON) even among non-Arctic states, especially around the International Polar Year 2006-2007,

9. **Acknowledging** that the Arctic Council has done much to support research into indigenous and local populations' adaptation strategies to the rapidly changing Arctic natural environment and economic conditions, and that Arctic indigenous and local populations can collectively integrate these strategies into approaches to future sustainable development efforts,

Hereby:

#### FOSTERING INCLUSIVE COLLABORATION FOR SUSTAINABLE DEVELOPMENT

10. **Acknowledge** the need to undergo a rigorous process of reflection aimed at constructing a more comprehensive and precise definition of what exactly characterizes a sustainable development process, including scientific research and infrastructure development,
11. **Recognize** that global cooperation secures both common and national interests and that impeding global cooperation will fundamentally undermine national interests rather than promote them,
12. **Welcome** close cooperation from the local to global levels to further enhance approaches to common issues between Arctic and non-Arctic parties who strive to protect and develop a prosperous Arctic,

#### BUILDING INFRASTRUCTURE AND PROMOTING ECONOMIC DEVELOPMENT

13. **Underscore** the urgent need for a comprehensive approach to sustainable infrastructure development that conceptualizes infrastructure as an ecosystem of institutions, systems, and built elements,
14. **Recognize** the need for infrastructure to match rapidly growing economic interests with respect to Institutions, including platforms for connection between government and business interests, such as the Arctic Economic Council; systems, including Arctic insurance, Public Private Partnerships (PPP), best practices repositories, and emergency preparedness response; and built structures, including transportation facilities, physical emergency preparedness assets, and renewable energy supply and broadband connectivity for rural settlements,
15. **Note** that duplicative action has hampered progress and significant gaps still exist, and **call** for improved inter-governmental and inter-organizational coordination and longer-term planning and investment horizons to ensure a sustainable strategic vision for development of pan-Arctic infrastructure,
16. **Call** for a partnership between the Arctic Council Sustainable Development Working Group, the Arctic Economic Council, and leading academic institutions dedicated to facilitating effective sustainable development predicated on coordination and collaboration,

17. **Recognize** work to date on the Arctic Investment Protocol and Arctic Permanent Investment Vehicle, and **call** for further development of protocols and financial vehicles, including a pollution response fund, a future generations fund, and a holistic approach to streamlined commercial licensing and approvals,
18. **Note** the Arctic Council's recognition of the link between oil resources and economic development, **encourage** the development of a comprehensive energy strategy in the Arctic and increased attention to regulation and enforcement, **encourage** dialogue on issues such as energy access for all, a transition to a clean energy future in line with the 2015 UNFCCC Paris Agreement, and increased knowledge sharing to achieve energy goals for sustainable development, **call for** continued capacity building opportunities for indigenous and local residents in the energy sector to allow them to participate in the economic activities of oil production, exporting, and the future of energy,

#### INCREASING THE ROLE OF SCIENTIFIC RESEARCH IN POLICY-MAKING

19. **Recognize** the momentum generated by the recent international agreements on climate change and that scientific research and technology can be used for adaptation, but **note with concern** the current lack of sufficient research data to inform sound policies and governance decisions in the Arctic Circle, especially regarding fish stocks and migration patterns as well as overall biodiversity,
20. **Note** that scientific and local knowledge provide useful data for solutions and that indigenous peoples in the Arctic are taking a leading role to use best available traditional and scientific knowledge to help understand and adapt to challenges related to climate change and other challenges in their societies, and **welcome** initiatives to build the capacity of local and indigenous populations with respect to knowledge transfer, education, and economic participation, in order to be an effective member of any Arctic sustainable development strategy,
21. **Recognize** the utility of the current Working Groups and documents as an initial framework to guide future research and development, and **acknowledge** the further need to strengthen this framework as a priority area,
22. **Recognize** that Non-Arctic states are already investing in Arctic research and could participate further in future developments to these frameworks,
23. **Call** for the creation of the Arctic Scientific Research Initiative as an umbrella group of all the science research working groups and **call** all stakeholders (public and private) to join, contribute and fund the new scientific research initiative.

**FOLLOWING IS THE**

***MOSCOW-MEDFORD DECLARATION***

**ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE *MOCK ARCTIC COUNCIL MINISTERIAL MEETING***

**JOINTLY AND SIMULTANEOUSLY**

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**AND**

**INTERNATIONAL LAW PROGRAMME  
MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION**

**27 APRIL 2017**

# MOSCOW-MEDFORD DECLARATION

On the occasion of the Twenty-First Anniversary of the  
Ottawa Declaration and the Establishment of the Arctic Council

ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS IN THE  
*2017 MOCK ARCTIC COUNCIL MINISTERIAL MEETING*

CONVENED AS PART OF THE VIDEO-CONFERENCING COURSE  
*SCIENCE DIPLOMACY: ENVIRONMENTAL SECURITY IN THE ARCTIC OCEAN*

BETWEEN THE

FLETCHER SCHOOL OF LAW AND DIPLOMACY, TUFTS UNIVERSITY  
(UNITED STATES)

AND

MOSCOW STATE INSTITUTE OF INTERNATIONAL RELATIONS, MGIMO UNIVERSITY  
(RUSSIAN FEDERATION)

27 APRIL 2017

1. **We, members of the Fletcher/MGIMO Science Diplomacy Initiative, have gathered virtually in Medford, Massachusetts and Moscow, Russia, to celebrate the achievements of the Arctic Council over the past 21 years, advance options for the sustainable development and environmental protection of the Arctic region, and reaffirm our shared commitment to maintain peace, stability, and constructive cooperation in the Arctic**
  - 1.1. **Noting** the substantial progress the Council has made to strengthen circumpolar cooperation, confirming the commitment of the Arctic states and permanent participants to respond jointly to new opportunities and challenges in the Arctic and affirming the important leadership role of the Council in taking concrete action through enhanced results-oriented cooperation;
  - 1.2. **Recognizing** the thematic working groups with the goal of representing specific interests and ensuring their inclusion in the discussion along with recommendations;
  - 1.3. **Endorsing** the elaboration of international framework based on all the existing documents adopted by the Arctic Council in 1996-2015;
  - 1.4. **Renewing** our mandate in a way the concept of security is understood to include dimensions of economic and environmental security in line with new challenges and opportunities in the Arctic Ocean, are appropriately added into the original mandate agreed in the Ottawa Declaration, in particular, the issues of sustainable development and environmental protection;

- 1.5. **Noting** the strengthened role of the Arctic Council as an international voice for the Arctic region, reflecting the dialogue involving national Governments, indigenous peoples, regional authorities, scientific experts, and civil society;
- 1.6. **Recognizing** the rights of indigenous peoples in the Arctic, emphasizing their role and increased participation and engagement of indigenous peoples as being fundamental to addressing circumpolar challenges and opportunities, noting the need for radical action in the wake of global warming, and affirming that development in the Arctic should always be either led by indigenous institutions or in partnership with them;
- 1.7. **Recognizing** that reduction of sea ice coverage and thickness enhances marine access to the Arctic and increases opportunities for outside investment, while affecting and restricting indigenous livelihood activities;
- 1.8. **Recognizing** that the changing climate has increased the challenges facing the Arctic, and affected the traditional livelihoods and food security of Arctic Indigenous Peoples;
- 1.9. **Noting** the impacts of climate change, including erosion and flooding, on Arctic indigenous communities, and emphasizing the importance of assessing options for adaptation and addressing displacement;
- 1.10. **Affirming** that the Arctic fragile environment needs to be preserved from global pollution and other environmental threats, while providing opportunities for international cooperation to ensure protection of the Arctic ecosystems;
- 1.11. **Acknowledging** parallel challenges between the Arctic nations and vulnerable countries across the globe, particularly small island developing states (SIDS) and coastal nations, with the goal of promoting knowledge and understanding through science to find collaborative solutions to today's economic, social and environmental challenges while ensuring global sustainable development;
- 1.12. **Attaching** importance to developing complementary and resilient infrastructures, which would lead to the sustainable use of resources, taking into account the participation of local communities in their development;
- 1.13. **Acknowledging** the need for a framework for sustainable investment in the Arctic based on the principle of equity and building and enhancing economic security through strengthening and operationalizing of existing platforms;
- 1.14. **Noting** the threat of organized crime, piracy, and terrorism in the Arctic and recognizing the need to address these issues;
- 1.15. **Recognizing** the valuable contribution of actors such as civil society, private sector, academic community, young people, and philanthropy organizations, to enhance coordination, monitoring, and evaluation for the sustainable development activities in the Arctic;
- 1.16. **Emphasizing** our commitment to addressing global concerns effectively, while protecting local interests;
- 1.17. **Recognizing** the need to identify factors that could limit the success of this declaration and be an inhibitor to future success of multilateral endeavors in the Arctic;
- 1.18. **Reaffirming** the necessity for interagency exchange and streamlined knowledge sharing by all stakeholders;
- 1.19. **Reaffirming** our commitment to sustainable development in the Arctic region;
- 1.20. **Taking** into account the positive contributions of Observers doing the work of the Council and take into account contributions to date and opportunities for further collaboration;

## HEREBY:

### 2. FOSTERING INVOLVEMENT OF INDIGENOUS PEOPLES IN SUSTAINABLE DEVELOPMENT AND INCREASING KNOWLEDGE RELATED TO CLIMATE CHANGE ADAPTATION

- 2.1. **Acknowledge** the importance of economic development in the Arctic, highlight the existence of the Arctic Economic Council and carefully explore pathways for sustainable community development driven by Arctic communities;
- 2.2. **Acknowledge** the value of the traditional knowledge held by indigenous peoples in the Arctic and further incorporate indigenous perspectives in the work of the Arctic Council;
- 2.3. **Support** the inclusion of projects initiated by Arctic residents, the effective involvement of Arctic indigenous peoples in different activities and recognize that their traditional and indigenous knowledge is an invaluable component of Arctic related research;
- 2.4. **Recognize** that climate change and indigenous rights are intrinsically linked;
- 2.5. **Acknowledge** the contributions of the Arctic Adaptation Exchange Portal and consider ways to increase the utility of this tool for Arctic indigenous communities and others, recognize the efforts within the project Adaptation Actions for a Changing Arctic to integrate climate projections with knowledge about other drivers of change in order to inform decisions and develop adaptation strategies, and consider expanding this project beyond the pilot locations;
- 2.6. **Note** the serious emerging issue of indigenous community displacement due to climate change and call for the creation of an Arctic Council Task Force on Indigenous Displacement to work with indigenous groups to assess current displacement vulnerability of communities and explore possible responses;

### 3. PROTECTING THE ENVIRONMENT IN THE FACE OF FUTURE DEVELOPMENTS AND THEIR EFFECT ON THE ARCTIC

- 3.1. **Recognize** that climate change causes significant changes in water, snow, ice, and permafrost conditions, negatively impacting biodiversity, ecosystems, and human living conditions in the Arctic with repercussions around the world. Substantial cuts in emissions of carbon dioxide, black carbon, and other long-lived greenhouse gases are necessary for any meaningful global climate change mitigation efforts, and commit to strengthen our efforts to find solutions;
- 3.2. **Note** that extractive industrial activity is bound to intensify in the Arctic, **adopt** framework to limit the environmental impact of future investments, and **encourage** member states to implement a carbon credit strategy;
- 3.3. **Reaffirm** the value of sustaining Arctic ecosystems and biodiversity recognized in Kiruna Declaration and that all members need to protect the Arctic environment as a basis for sustainable development, prosperity, lifestyles and human well-being;
- 3.4. **Consider** options for the sharing benefits gained from marine genetic resources in the Arctic, which have been newly recognized due to climate change, collaborating with expertise and stakeholders, including a mechanism to utilize their economic benefit for measures to adapt climate change, taking into account ongoing discussions in other international forums to ensure the legal consistency;

- 3.5. **Recognize** that climate change is a threat to the Arctic Ocean, in that the current increase of temperature in the Arctic is almost double that of the average global temperature rise;
- 3.6. **Commit** to ratifying and implementing the Paris Agreement, which instructs members to abide its regulations and actively prevent further damage through carbon-based materials, and encourage members to adhere to the timeline by which to achieve individually set targets that each member submitted to the UNFCCC;
- 3.7. **Design** a task force to monitor the yield rates of resources which are harvested from the Arctic. Regulate these resources to allow long term sustainability of that resource. Encourage the growth of habitats through appropriate management of ecosystems;
- 3.8. **Encouraging** member states to implement existing standards like the Polar Code for ships traversing the Arctic region and consider options for environmental regulations when installing future infrastructure that incorporate waste management and pollution prevention measures;
- 3.9. **Provide** assistance to communities which are disconnected from others or face concerns over coastal erosion. Instill a sense of awareness within communities of the threats of harsh storms and rising waters;
- 3.10. **Acknowledge** the indigenous peoples' ways of life are based around the environment-- to continue their lifestyle, environmental aspects must be maintained to allow for sustainable maintenance of economic well-being, culture, and health-- and ensure any regulations on the environment take these into account so that their ways of life may continue;

#### 4. **DEVELOPING A FRAMEWORK FOR SUSTAINABLE AND RESPONSIBLE INVESTMENT IN THE ARCTIC**

- 4.1. **Agree** to promote partnerships among state entities, the private sector, indigenous and local communities for responsible economic development in the Arctic;
- 4.2. **Reaffirm** the role of the Arctic Economic Council in providing a meaningful business perspective to the Arctic Council and other organizations through peaceful collaboration, partnership and innovation;
- 4.3. **Design** this platform to be multifaceted, including environmental, economic, and social risk assessments of investment projects in the Arctic and promote the development of specialized approaches in Arctic related to borrowing and insurance;
- 4.4. **Recognize** the urgency to agree towards operationalising the *Arctic Investment Protocol*, a charter of principles for responsible economic development in the Arctic, serving as a code of conduct for businesses to promote transparency and accountability, integration of science and traditional knowledge, identification of best practices;
- 4.5. **Decide** to conduct an infrastructure needs assessment/study for individual sectors like fisheries, shipping, ports, airports, energy, digitalisation, tourism and add to the inventory proposed. **Decide** to set up an expert group to develop such circumpolar infrastructure assessment as a first step in exploring ways to improve infrastructure development in the Arctic, and report to Ministers in 2019;



- 4.6. **Agree** to collaborate for the creation of an inventory which will serve as a shared database of infrastructure needs in the Arctic and pools of investment, facilitating matching of investments to projects that need to be built for the region thus promoting sustainable development. Identifying local priorities through participation of indigenous and local stakeholders;
- 4.7. **Resolve** to explore the feasibility of establishing an Arctic fund in the nature of Contingency Plus to be used firstly for the creation of contingency infrastructure like emergency preparedness and response, scientific research, navigation course chartering, navigation channel management and expanded in the second stage for the creation of sector specific infrastructure. The fund will be managed by a Fund Director, appointed by Arctic nations from a pool of qualified individuals on a nationality rotational basis;
- 4.8. **Decide** to study the format and viability of imposing fees on economic activity in the Arctic region where such funds will be utilised towards creating contingency infrastructure;
- 4.9. **Recognize** that complementarity and synergies among physical infrastructures, such as ports, airports, communications systems, will ensure effective utilization of resource and promote operational efficiency and agree to pursue this aim by developing a comprehensive plan of action to link and enhance coordination between;
- 4.10. **Recognize** that these steps are aligned with the UN Sustainable Development Goals and are important to achieve a better standard of living and resilient societies in the Arctic;

## **5. INCREASING SCIENCE AND TECHNOLOGY COLLABORATION BETWEEN THE ARCTIC NATIONS AND GLOBALLY**

- 5.1. **Establish** a permanent headquarters based upon the work and structure of the International Arctic Science Committee (an existing collaborative network of scientists engaged in Arctic science and technology endeavours) located in the Arctic with the goal of improving current global understanding of the role of the Arctic in global climate change with particular emphasis on informing sustainable development and investment across the region;
- 5.2. **Encourage** the newly established institution to work closely with other existing global institutions with similar missions, particularly the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and Sustainable Development Knowledge Platform with the goal of forming partnerships on data collection, analysis, convening, and other joint activities to promote low-carbon, climate-resilient development;
- 5.3. **Confirm** the need to cooperate on advancing communication and monitoring capacity by improving satellite and earth-based systems and internet connectivity that will facilitate extraction activities. search-and-rescue operations, food security, remote sensing and navigation as well as increase capabilities to monitor oil spills and other contaminants;
- 5.4. **Reaffirm** the necessity for streamlining interagency collaboration on Arctic data collection and defining tools for effective knowledge sharing, including but not limited to Information and Communication Technologies (ICTs), Earth Observation Systems (EOS), and Animal Telemetry devices;
- 5.5. **Seek** to leverage global climate financing funds, with particular emphasis on encouraging the creation of legal and regulatory green finance requirements for private sector investments and activities;

## 6. COLLABORATING ON SECURITY AND PROMOTING PEACE IN THE ARCTIC

- 6.1. **Acknowledge** that common use of resources (e.g., common border patrols and exercises) in order to provide peace and security is a method to build trust and reduce operative costs and recognize that those involved should have common actions in the Arctic regarding security issues and a sharing mechanism for resources that can provide peace and security;
- 6.2. **Recognize** that greater cooperation boosts confidence and transparency between allies and potential adversaries and can improve capability development and operations; and therefore, promote cooperation between law enforcement agencies, including tackling issues at source before they become crises and helping to build resilience in unstable areas;
- 6.3. **Encourage** coordination among the Arctic Coast Guard Forum members for Arctic security and safety while maintaining peace in the area and strengthening collaboration in the Arctic that allows for swift and responsive action in emergency situations;

## 7. FUTURE DIRECTIONS

- 7.1. **Acknowledge** with appreciation the role of the United States in chairing the Arctic Council during the period of 2015-17, and accept with appreciation the offer of Finland to chair the Arctic Council during the period 2017-19 and to host the eleventh Ministerial meeting in 2019; and
  - 7.2. **Strengthen** the cooperative relationship between the Arctic Council, the Arctic Economic Council and the Arctic Coast Guard Forum.
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**FOLLOWING IS THE**

***DECLARATION ON ENVIRONMENTAL SECURITY IN  
THE ARCTIC OCEAN IN THE CONTEXT OF  
INCREASED SHIPPING AND OTHER ECONOMIC  
ACTIVITIES IN THE REGION***

**ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE *MOCK ARCTIC COUNCIL MINISTERIAL MEETING***

**JOINTLY AND SIMULTANEOUSLY**

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**AND**

**INTERNATIONAL LAW PROGRAMME  
MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION**

**26 APRIL 2018**

## **Declaration on Environmental Security in the Arctic Ocean in the Context of Increased Shipping and Other Economic Activities in the Region**

### **Preamble**

1. We, the Ministers representing the eight Arctic States, joined by representatives of the six Permanent Participant organizations of the Arctic Council, have gathered in the context of increasing shipping and other economic activities, at the Mock Ministerial meeting of the Arctic Council simultaneously at the Fletcher School of Law and Diplomacy in Medford, United States and MGIMO University in Moscow, Russia on 26 April 2018,
2. Reaffirming the commitment to maintain peace, stability and constructive cooperation in the Arctic,
3. Reaffirming our commitment to the well-being of the inhabitants of the Arctic, including but not limited to indigenous peoples and impressive biodiversity of the region to sustainable use of resources, to economic development and to the protection of the Arctic environment and to the preservation of the Arctic flora and fauna,
4. Reaffirming our commitment to practice peaceful means of conflict resolution, to work together and to promote prosperity, development and environmental sustainability for the benefit of generations to come.
5. Recognizing that the Arctic is first and foremost an inhabited region with diverse economies, cultures and societies, thus further recognizing the rights of Arctic indigenous peoples and the unique role of the Permanent Participants within the Arctic Council, as well as the commitment to consult and to cooperate in good faith with Arctic indigenous peoples and to support their meaningful engagement in Arctic Council activities,
6. Noting the substantial progress we have made to strengthen our cooperation towards the Paris Agreement on climate change, further noting with concern that the Arctic is warming and a top threat to environmental security, resulting in widespread social, environmental and economic impacts in the Arctic and worldwide,
7. Acknowledging the increase of shipping and other economic activities in the Arctic that undoubtedly have effects on the Arctic environment, further recognizing that economic activities taking place outside the Arctic region are also contributors to climate change effects and pollution in the Arctic and underlining the need for action at all levels,

8. Recognizing the efforts of the Arctic Council and its subsidiary bodies and re-affirming the important leadership role of the Arctic Council in taking concrete action to respond to new challenges and opportunities through results-oriented cooperation;

9. Recognizing the special leadership roles that the Russian Federation and the United States have within the Arctic, within the Arctic Council, within International Institutions, and within the International Community at large;

10. Welcoming the cooperation and joint leadership between the Russian Federation and the United States as co-chairs of this Summit, and as Arctic States.

### **Prevention of the Arctic Ocean Pollution due to Increased Number of Arctic Tourists**

**Appreciate** that we are all custodians of our one common home – planet Earth – and we all share a common responsibility in preserving the heritage and resources of our planet for future generations,

**Deeply concerned** with challenges to the environmental security, preservation, long-term sustainability, and function of the Arctic Ocean and the impact of pollution on fragile Arctic ecosystems,

**Acknowledging** the growing national and international appreciation of the importance of the Arctic Ocean ecosystem and an increasing knowledge of global pollution and resulting environmental threats,

**Welcome** the Arctic Monitoring and Assessment Programme (AMAP) work plan 2017-2019 that continues the work to monitor and assess the status of the Arctic region with respect to pollution and climate change by documenting the levels and trends, pathways and processes, and effects on ecosystems and humans, and to propose actions to reduce associated threats for consideration by governments,

**Consider** the growing interest of people in travelling to the Arctic region due to the climate change and retreating ice that opens the way for navigating new sea routes making places that used to be icebound accessible by sea,

**Emphasize** that wherever and whenever tourism in vulnerable areas is not properly planned, developed and managed, it contributes to the deterioration of ecosystems, threatens wildlife and biodiversity, and contributes to poor water quality, marine and coastal pollution,

**Recognize** that visitors have a responsibility to the sustainability of the destination through their travel choice, behavior and activities, and that it is therefore important to communicate to them the specifics and sensitivities of the Arctic region,

**Continue** to implement socially and environmentally responsible tourism practices that benefit local destinations and contribute to the restoration of ecological systems,

**Implement** sustainable tourism development that meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future and is envisaged as leading to management of all resources in such a way that economic and social needs can be fulfilled while maintaining essential ecological processes, biological diversity, and life support systems,

**Intend to assess** on a continuing basis the threats of growing Arctic tourism to the Arctic Ocean through the preparation and updating of reports on the state of the Arctic environment, in order to propose further cooperative action,

**Resolving to pursue** together in other international environmental flora issues of the growing Arctic tourism affecting the Arctic environment which require broad international cooperation.

### **Prevention of the Arctic Ocean Pollution due to Increased Oil and Gas Exploitation on the Continental Shelf of All Arctic States**

**Acknowledge** that all states share a concern about future oil and gas development in this changing and fragile environment and in dealing with the impacts and stresses both from direct environmental risks and those posed by climate change.

**Recognize** cooperation in the field of environmental pollution prevention due to oil and gas exploitation on the continental shelf of all Arctic states.

**Encourage** support research and technology transfer to prevent release of oil into Arctic waters and maximize economic, social, and environmental co-benefits produced by oil exploration.

**Welcome** development of regional oil spill contingency plans that clearly delineate: response authorities and capabilities; acceptable response actions through pre-approvals and agreements; agreements for sharing expertise and resources.

**Encourage** good and transparent governance, comprehensive but responsive regulatory regimes, and the use of international standards and practices coupled with evolving

advances in technology, best practices, and adaptive management to lessen the effects of oil and gas activities over time, including those in the offshore.

**Commit** to consultation that is an effective dialogue between and amongst regulators, potential operators and stakeholders, which should commence at the planning stage and continue throughout the lifetime of a project.

**Intend** to carry out environmental monitoring to ensure that the basis for decision-making and the knowledge about the marine environment are sufficient to maintain acceptable environment conditions as a result of petroleum activities.

**Encourage** cooperation with Arctic Monitoring and Assessment Program (AMAP) to fulfill the monitoring objective, mobilize the integration and synchronization of AMAP, the Conservation of Arctic Flora and Fauna (CAFF) working group, and other research and monitoring initiatives to implement broad and comprehensive planning, as previously stipulated in the Barrow Declaration of 2000 and Kiruna Declaration of 2013.

**Emphasize** the importance of exchange information about environmental condition between Arctic states to prevent pollution in the Arctic Ocean.

**Implement** the legal basis to take appropriate action in case of violations, noncompliance, or if the operator fails to react adequately to dangerous situations.

### **Prevention of Environmental Disasters due to Increased Maritime Navigation**

**Reaffirm** the role of the Arctic Council in promoting sustainable development through harmonizing its three core pillars in an integrated way across generations: economic development, social development and environmental protection,

**Welcome** the entry into force of the International Code for Ships Operating in Polar Waters (the Polar Code) to ensure safe and environmentally sound shipping in the harsh Arctic marine environment, and particularly to **prevent** pollution of the environment by oil, to **exercise** control of pollution by noxious liquid substances in bulk, to prevent pollution by harmful substances carried by sea in packaged form and by sewage from ships,

**Note** with appreciation the establishment of the Arctic Shipping Best Practices Information Forum to promote the implementation of the Polar Code,

**Encourage** continued engagement by Arctic States, including at the International Maritime Organization, to facilitate harmonized implementation and enforcement of the Polar Code, as well as **welcome** the progress already made on the Polar Code at the International Maritime Organization following extensive engagement by Arctic States,

**Note** the discussions within the International Maritime Organization on the use and carriage of heavy fuel oil by ships in Arctic waters and the assessment of associated risks, and **decide** to provide expertise and information developed through the ongoing work of the Arctic Council for consideration by those involved in Arctic shipping matters, including at the International Maritime Organization,

**Note** that the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic has entered into force, **recognize** its important role in ensuring the protection of the Arctic marine environment and biodiversity from oil pollution incidents, **welcome** operational exercises and reports in support of its implementation including the database on Arctic response assets, and encourage their continuation,

**Welcome** the Guide to Oil Spill Response in Snow and Ice Conditions in the Arctic and the further efforts to implement the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, **request** continuous efforts to further cooperation on oil spill preparedness and response, especially through renewed emphasis on research, institutional collaboration in diverse governance and academic spheres, building science-policy relationships, information sharing, and exercises,

**Reiterate** the importance of oil pollution prevention, preparedness, and response, and the role of research, technology and community participation, and **welcome** the status report on the oil pollution prevention framework plan and the Circumpolar Oil Spill Response Viability Analysis as concrete steps towards realizing this goal,

**Note** with concern the vulnerability of Arctic marine ecosystems and biodiversity to the impacts of ocean acidification, **reiterate** the need to study and raise awareness of the impacts of increasing acidity in the marine areas of the Arctic, and **decide** to continue efforts to study the effects of ocean acidification in the Arctic and its environmental, social and economic consequences,

**Welcome** the progress made on implementing the Arctic Marine Shipping Assessment recommendations, note the importance of increased understanding of Arctic shipping activities and of reducing the risks to the Arctic marine environment, **acknowledge** the creation of the Framework for Cooperative Action on Arctic Ship Traffic Data Sharing, and welcome the Arctic Regional Reception Facilities Outline and Planning Guide,



**Decide** to implement the Framework for Action on Enhanced Black Carbon and Methane Emissions reductions, and **call upon** observer states to participate in these actions given the global nature of the challenge,

**Welcome** the assessments and conclusions on black carbon and methane which provide a clear and compelling basis for further action on short-lived climate forces in the Arctic and beyond, as well as the successful work related to reducing black carbon emissions from diesel,

**Decide** to implement the Framework Plan for Cooperation on Prevention of Oil Pollution from Petroleum and Maritime Activities in the Marine Areas of the Arctic through Working Groups, expert-level dialogues, and further actions to prevent marine oil pollution, including regular exchanges of knowledge and experience among Arctic offshore petroleum regulators,

**Recognize** the importance of risk assessments in relation to climate change, and the need to evaluate the widest possible range of impacts, **appreciate** the effort to provide updated knowledge of changes in Arctic snow, water, ice and permafrost,

**Recognize** that effective prevention measures are critical to ensuring the protection of the Arctic marine environment from potential incidents, also **recognize** the importance of cooperation between the public and the private sector, and further **recognize** that marine oil pollution prevention, preparedness and response remain a long-term commitment of the Arctic Council.

**FOLLOWING IS THE**

***Declaration on Cooperation in the Arctic Region***

**ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE *MOCK ARCTIC COUNCIL MINISTERIAL MEETING***

**JOINTLY AND SIMULTANEOUSLY**

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**AND**

**INTERNATIONAL LAW PROGRAMME  
MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION**

**25 APRIL 2019**

# **Declaration on Cooperation in the Arctic Region**

**ADOPTED BY CONSENSUS AMONG THE STUDENT  
AMBASSADORS IN THE MOCK ARCTIC COUNCIL MINISTERIAL  
MEETING**

**JOINTLY AND SIMULTANEOUSLY**

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**AND**

**MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION**

**25 APRIL 2019**

**Preamble:**

We, members of the Fletcher-MGIMO Science Diplomacy Mock Arctic Council, representing the eight Arctic States and representatives of the six permanent participant organizations of the Arctic Council, gathered in Medford, Massachusetts, USA and Moscow, Russia, on 25 April 2019 to facilitate increased cooperation related to science and technology, transpolar navigation, society and education.

*Broad Principles: Collaboration, Peace, and Stability*

**Recognizing** science diplomacy as the guiding framework to inspire an international, interdisciplinary and inclusive process which balances national interests and common interests for the benefit of all on Earth, across generations;

**Supporting** future cooperation between the Arctic States through continuous dialogue, common interest building, and the prioritization of collective interests;

**Emphasizing** the intrinsic need between Arctic States to collectively address transnational urgencies and maintain the Arctic as a region of peace, sustainability and prosperity to complement national interests;

**Appreciating** the importance of the Ottawa Declaration for the continuing efforts of the Arctic States to address key issues of mutual concern in the Arctic relating to sustainable development, environmental conservation, respect to Indigenous communities, and other areas;

**Recognizing** the need for cooperation between the Arctic States on issues of energy, the environment, science and technology, and the economy;

**Reaffirming** the Arctic Council should not deal with matters related to military security in order to mitigate the international concerns and conflicts;

### *Science & Technology*

**Noting** the Agreement on Enhancing International Arctic Scientific Cooperation and its encouraging cooperation and collaboration to better understand the Arctic;

**Observing** the rapid environmental changes in the Arctic due to climate change and their transnational ramifications to states both in and outside the Arctic region;

**Highlighting** the importance of the broad-based access to and transparency of Arctic knowledge;

**Emphasizing** the urgent need for climate mitigation and noting its disproportionate impact on the Arctic region and Arctic States;

**Recognizing** the importance of incorporating new technologies in researching, developing and protecting the people, resources, and environment of the Arctic;

### *Transpolar Navigation & Shipping*

**Citing** the precedence and practices established by the 2011 Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic and the 2013 Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic;

**Encouraging** the adoption of the operating standards and safeguards laid forth by the International Maritime Organization's Polar Code;

**Emphasizing** the importance of safe and secure maritime shipping in the Arctic including the availability of aids to navigation, vessel escorts, spill response capability, and maritime search and rescue in the Arctic;

**Recognizing** the necessity of avoiding a potential negative impact of any form of the pollution on the Arctic ecosystem which results from widespread human activities in the region;

**Highlighting** the rapid development of Arctic shipping lanes such as the Northern Sea Route and the Northwest Passage as well as the Transpolar Passage for large-scale shipping as sea ice disappears;

### *Society & Education*

**Recalling** the Agreement on Enhancing International Arctic Scientific Cooperation and the imperative for academic and educational exchange and collaboration;

**Concerned** by the deleterious consequences of pollution and its impact on marine environments, biodiversity, and human health, particularly relating to fossil fuel development;

**Celebrating** the inclusion of traditional knowledge and active participation of Indigenous communities in the joint endeavors of the Arctic Council;

**Recognizing** the need for sustainable economic development in the Arctic through the creation of infrastructure and partnership programs between the Arctic Economic Council and the Sustainable Development Working Group;

**Cognizant of** the correlation between climate change and the transmission patterns of infectious diseases;

**Declaring** the crucial links between human, environmental and animal health in terms of species and individuals;

**Reaffirming** the need for interdisciplinary collaboration in preventing, diagnosing, and curing disease and the potential applications of ‘One Health’ in Arctic health

## *Conclusion*

**Reaffirming** commitment to the internationally accepted legal precedence, procedures and framework provided for by the 1982 United Nations Convention on the Law of the Sea and its application to the Arctic in determining sovereign rights and jurisdictions afforded by international law;

**Respecting** the sovereign holdings of each Arctic State and all States with regards to activities in recognized international areas in the Arctic, and;

**Welcoming** the opportunity for the Russian Federation and the United States of America to cooperate and assume a leadership role among the Arctic States and our larger global community as we - humankind - seek to protect our wellbeing and the scarce resources of planet Earth.

**Hereby convene** with the purpose of furthering cooperation by proposing and discussing various initiatives to address issues of concern in the Arctic, including:

- a. Developing a comprehensive and methodical path forward to actively increase and integrate joint scientific and technological research;
- b. Establishing a firm foundation for safe and sustainable vessel operation as Transpolar navigation becomes more frequent;
- c. Advocating for a more holistic and inclusive approach towards and perception of the valuable role society and education can play in future Arctic Council deliberations,

which can be accomplished or incorporated into current efforts by:

## **Science and Technology**

1. **Recommending to establish an intergovernmental organization - the Arctic Marine Science Organization (AMSO)**

- a. **Suggesting** the creation of an intergovernmental organization to advance scientific knowledge on the Arctic Ocean through the synthesis and dissemination of knowledge, the design of multinational research programs, and the collaboration of scientists in an interdisciplinary nature to further the collective understanding of the Arctic;
- b. **Recommending** to use the relevant experience of the North Pacific Marine Science Organization (PICES);
- c. **Recognizing** the need for improved scientific understanding of the Arctic Ocean and its processes, living resources, and oceanographic features
- d. **Aware** that due to the Arctic harsh climate and weather conditions, as well as a fragile ecosystem, scientific understanding of the area can be best achieved through a spirit of international scientific cooperation on a mutually beneficial basis;
- e. **Desiring** to establish an appropriate intergovernmental organization to promote and facilitate such scientific cooperation and avoid duplication of effort;
- f. **Acknowledging** that the organizational activities should be based on the principles and rules of the international law of the sea as applicable to marine scientific research;

2. **Proposing that the Arctic Marine Science Organization (AMSO):**



- a. Promote and coordinate marine scientific research (MSR) to advance scientific knowledge of the Arctic and its living resources, including, but not necessarily limited to, research of the ocean environment and its terrestrial and atmospheric interactions, its role in and response to global climate change, its uses and resources, and the adverse impact of human activities;
  - b. Improve the collection and exchange of MSR-related information and data;
  - c. Promote the collection and exchange of information and data related to marine scientific research in the area concerned;
  - d. Promote and organize general intellectual cooperation as a means of securing safety of the Arctic;
  - e. Support safe and secure maritime shipping in the Arctic, joint cooperation initiatives, and environmental protection programs;
3. **Suggesting** the following goals of the **AMSO**:
- a. Foster collaboration among scientists and Indigenous knowledge-holders within AMSO and other multinational organizations;
  - b. Better understand the status, trends, vulnerability and resilience of the Arctic;
  - c. Quantify and analyze how Arctic ecosystems respond to natural forces and human activities;
4. **Developing a framework for assessment and governance of geoengineering efforts in the Arctic**

5. **Reaffirming** that climatic changes are accelerating at an alarming rate in the Arctic and have global, yet heterogeneous impacts;
6. **Defining** geoengineering, or climate restoration, as the intentional manipulation of the environment through technological solutions to prevent rising temperatures and environmental degradation due to climate change;
7. **Noting** that scientific research and testing related to geoengineering proposals are gaining global attention, interest and funding;
8. **Acknowledging** that due to the unique characteristics of geoengineering technologies, current governance instruments and governing bodies do not adequately provide the scope and specificity required for their assessment and governance;
9. **Encouraging** cooperation among Arctic States, subnational governments, Indigenous populations, and international organizations such as the International Maritime Organization to develop a multi-stakeholder framework for assessment and governance of regional geoengineering testing and deployment in the Arctic;
10. **Promoting** the use of autonomous robotic systems between the Arctic States as means for surveying, mapping, and collecting data in harsh terrain and inhospitable environments, in further cooperation with the Agreement for Enhancing International Arctic Science Cooperation;

## **Transpolar Navigation**

### **Developing a Framework for Safe, Sustainable, and Responsible Transpolar Navigation**

11. **Acknowledging** the increasing navigability of Arctic Ocean maritime routes and rising maritime traffic stemming from decreased sea-ice coverage;
12. **Noting** the urgency coloring the relationship between human activity and its adverse consequences impacting environmental degradation and general climate change across the globe;
13. **Appreciating** that all nations serve as stewards for the well-being of planet Earth and that the Arctic region exists in a physical and temporal watershed linking the present environment with future generations;
14. **Considering** the growing economic interests in and viability of greater utilization of existing and potential Arctic resources - including, but not limited to oil and natural gas, fish stocks, and minerals - as well as the emerging interest of tourism in the region;
15. **Welcoming and supporting** the continuation and maturation of existing protective and monitoring mechanisms such as the Arctic Monitoring and Assessment Programme (AMAP), the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, and the International Maritime Organization's "Polar Code";
16. **Emphasizing** an imperative need to cohesively join disparate and disconnected efforts across academia as well as policy advocacy and development to integrate research to cultivate more effective and holistic policy measures, thereby amplifying the protective capacity of intergovernmental and multilateral agreements, efforts, and research initiatives;
17. **Recognizing** the need to develop special maritime routes in the Arctic Ocean because of the predicted increase in shipping in the region, taking into

account the predicted climate change, namely the reduction of ice in the region, which will open the passage for merchant ships without the need to use icebreakers;

18.**Noting**, in view of this, the necessity to limit the number and size of vessels that could simultaneously use the maritime routes in the Arctic Ocean mentioned above, in order to protect the fragile ecology of the region from such detrimental consequences that may result from a collision of vessels may result;

19.**Recommending** the responsibility for monitoring compliance with the maritime routes in the Arctic Ocean lie with the Arctic States;

## **Society and Education**

### **Improving the Connectivity Quality in the Arctic**

20.**Noting** with concern the absence of the information and telecommunications infrastructure that make possible providing telecommunications services to Indigenous peoples, local communities, and economic entities in the Arctic;

21.**Recognizing** that improved connectivity in the Arctic can strengthen resilience and support sustainable development for Indigenous peoples and local communities;

22.**Stressing** the importance of connectivity for search and rescue in the Arctic, and its necessity for current and future research in the region;

23.**Noting** that well-functioning communication networks allow better access to education, healthcare, and commerce for Indigenous peoples and local communities, and they enhance citizens' participation in civic life and improve delivery of services;

24. **Acknowledging** with appreciation the role of Task Force on Improved Connectivity in the Arctic (TFICA) in exploring the significance of new (pan-Arctic, global, and otherwise) technologies that are coming on board in the near future and analyzing how these can help to meet needs of users in the Arctic;
25. **Supporting** the assessments of the possibilities to encourage investments in telecommunications in the Arctic, such as public private partnerships (PPPs), and providing the exchange of best practices;
26. **Acknowledging** the need for assimilation of the sophisticated information and telecommunications technologies and systems (inclusive of specialized mobile radio systems) of communications, television and radio broadcasting, ship-traffic control, air control, remote sensing of the Earth, terrain surveying of the ice coverage, systems of hydrometeorological and hydrographical support, and field scientific research systems;
27. **Acknowledging** the need for production of a reliable system of rendering of telecommunications, navigational, hydrometeorological and information services, including highlighting of the ice situation that would provide natural and man-caused emergency forecasting, prevention, preparedness and response by means of Global Navigation Satellite System and modernized long-range navigation system;
28. **Acknowledging** the need for the information and telecommunications infrastructure that make possible providing telecommunications services to Indigenous peoples, local communities, and economic entities in the Arctic, *inter alia*, by means of submarine fiber optic telecommunication lines installation and integration with other states' communications circuits;

29. **Encouraging** continuing a strong and enduring focus on telecommunications infrastructure and services, and recommend that future research on, or development of, telecommunications infrastructure and services should take into account the needs of Indigenous peoples and local communities, and businesses, tourism, and researchers;
30. **Requesting** the Task Force on Improved Connectivity in the Arctic, in cooperation with the other relevant Arctic Council working groups, to give emphasis to developing connectivity that supports maritime and aeronautical users and, in particular, search and rescue efforts;
31. **Promoting** the use of autonomous robotic systems for the transport of goods, materials, and food to infrastructurally remote communities in the Arctic, as well as augmenting search and rescue initiatives through the utilization of autonomous robotic systems where appropriate between Arctic States;
32. **Further promoting** the use of autonomous robotic systems in the planning and coordination of joint exercises between the Arctic States and sharing best practices and technologies pertinent to search and rescue missions;

### **Health issues**

33. **Emphasizing** “One Health” -- defined as the concept and practice of a multidisciplinary approach to health risks in human, animals, plants and the environment -- as a critical strategy to regional health resilience;
34. **Promoting** stronger international collaboration and cooperation via stronger knowledge sharing, “One Health” simulation trainings, further monitoring of

“One Health” related phenomena, and “after-action” activities that build capacity for disaster response;

35. **Building on** local “One Health” research, projects, and leadership, the Arctic Council seeks to further operationalize “One Health” as a regional approach to improve health in the Arctic;

### **Environmental Education and Sustainability**

36. **Providing** assistance to universities and Indigenous organizations in order to implement programs aimed to increase understanding of Arctic ecosystems and anthropogenic effects on the region;
37. **Emphasizing** the importance of education, local communities (and particularly young people) should be empowered to learn about their local environment and launch citizen science projects to aid researchers in tracking climate change and other environmental issues;
38. **Understanding** the importance of cross-cultural exchange in formulating long-lasting relationships, scientific exchange programs between promising young STEM students from Arctic Council member states should be supported to foster a sense of a shared Arctic community and a desire to protect their common heritage and interests;
39. **Prioritizing** effective and sustainable resource management on a governmental level through increasing environmental initiatives within the Arctic Council and Member States’ government buildings to address climate change, greenhouse gas emissions, and other environmental issues;
40. **Seeking** to expand its recycling and composting initiatives, ban the sale of single-use plastics in its facilities, use carbon offsetting initiatives for

work-related travel, improve insulation of its facilities, and switch to recycled paper products;

### **Economic Development Through Inclusive Entrepreneurship and Cultural Tourism**

41. **Acknowledging** and **reinforcing** the Sustainable Development Working Group's goal to protect and enhance the environment and the economies, culture and health of Indigenous Peoples and Arctic communities;
42. **Recognizing** the potential and value tourism holds for Arctic economies and youth employment, focusing on community-based tourism that highlights cultural heritage and local knowledge, as well as ecological appreciation, to promote sustainable and inclusive economic development;
43. **Recognizing** the need for an integrated infrastructural support system to create conditions for an enterprise ecosystem in the Arctic to improve the investment climate, develop entrepreneurship, and provide career growth opportunities;
44. **Prioritizing** the recognition and certification of traditional or informal knowledge to raise awareness of the role of local knowledge and informally acquired skills to facilitate entrepreneurial activities, particularly in communities which reflect high levels of unemployment; and
45. **Formulating** and **implementing** specific strategies for entrepreneurship education and mentorship to support Arctic entrepreneurship in schools or vocational institutes.



**FOLLOWING IS THE**

**2020 MEDFORD-MOSCOW DECLARATION**

**ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE *MOCK ARCTIC COUNCIL MINISTERIAL MEETING***

**JOINTLY AND SIMULTANEOUSLY**

**FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES**

**AND**

**MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION**

**30 April 2020**

# THE 2020 MEDFORD-MOSCOW DECLARATION

ADOPTED BY CONSENSUS AMONG THE STUDENT AMBASSADORS  
IN THE MOCK ARCTIC COUNCIL MINISTERIAL MEETING

JOINTLY AND SIMULTANEOUSLY

THE FLETCHER SCHOOL OF LAW AND DIPLOMACY  
TUFTS UNIVERSITY  
MEDFORD, UNITED STATES

AND

MGIMO UNIVERSITY  
MOSCOW, RUSSIAN FEDERATION

April 30, 2020

## **PREAMBLE**

**We**, the members of the Fletcher-MGIMO Science Diplomacy Mock Arctic Council, gathered by means of telecommunications on 30 April 2020 to facilitate increased cooperation related to biodiversity conservation, preservation of traditional and indigenous knowledge, early childhood development and education, and cultivation and refinement of partnerships,

With full and valued permanent participation of the Arctic indigenous nations represented by the Aleut International Association, Arctic Athabaskan Council, Gwich'in International Council, Inuit Circumpolar Council, Russian Association of Indigenous Peoples of the North, and the Saami Council,

**Emphasizing** the importance of international cooperation among the Arctic States,

**Recognizing** the important leadership role of the Arctic Council in coordination of international cooperation in the Arctic region,

**Acknowledging** the significance and importance of the international legal order & diplomacy in peace building, environmental security, and sustainable development,

**Highlighting** the importance of harmonizing the environmental and shipping interests of the Arctic and non-Arctic States in the Arctic Ocean on the grounds of applicable international and customary international law,

**Cognizant** that Arctic States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner,

**Recognizing** the close and traditional dependence of indigenous and local communities of the Arctic region embodying traditional lifestyles on biological resources,

**Affirming** that indigenous peoples are equal to all other peoples, while recognizing the right of all peoples to be different, to consider themselves different, and to be respected as such,

**Recognizing** that the significance of national and regional particularities and various historical and cultural backgrounds of Arctic indigenous peoples should be taken into consideration,

**Recalling** that the Universal Declaration of Human Rights asserts the principle of non-discrimination and proclaims that every person has the right to education,

**Affirming** that education is a component of sustainable development,

**Recognizing** the importance of cooperation in this field of young generations from all Arctic countries, our responsibility for the future of the Arctic region, our determination to preserve Arctic in it's pristine magnificence and wealth,

**Desiring** to reach sustainable development of the Arctic region on an equal footing,

**Recognizing** the importance of taking into account all available scientific knowledge for further development, and

**Stressing** the importance of and the need to promote international, regional and global cooperation among States and intergovernmental organizations and the non-governmental sector,

**HEREBY CALL FOR:**

## **1. FURTHER MEASURES OF CONSERVATION OF THE BIODIVERSITY IN THE ARCTIC REGION:**

**Promotes** regional conservation of biodiversity to support healthy ecosystems and traditional livelihoods:

1. Recognizes the risk of unmitigated pollution on Arctic biodiversity and conservation efforts;
2. Reaffirms the necessity of cooperation in providing scientific, financial and other support for in-situ conservation, as it was established in the United Nations Convention on Biological Diversity and the 2013 Agreement on Cooperation on Marine Pollution Preparedness and Response in the Arctic, understanding the need to continue to expand partnerships to address the ever-increasing risk of oil spills in the region;
3. Highlights the need to mitigate the incursion of invasive species that threaten biodiversity in the Arctic region as addressed in the 2014 Polar Code Invasive species;
4. Calls on Arctic and non-Arctic states to expedite ratification of the 2018 Central Arctic Ocean Fisheries Agreement in order to protect fish stocks in the region;
5. Recognizes the need to collaborate on research surrounding the effects of noise pollution on Arctic species;

6. Acknowledges the delicate ecosystem of the arctic seabed and reaffirms UNCLOS Article 208 on preventing sea-bed pollution;

In order to meet the above goals, the States have outlined the following areas of cooperation:

1. Identification of Arctic biological diversity
2. Monitoring of Arctic biological diversity
3. Species and habitat conservation and restoration
4. Identification of threats
5. Environmental impact assessments

**Manifests** our readiness to promote further collaboration, committing to the following measures:

1. Strengthening the relevant legal framework, and its implementation, to achieve goals set for biodiversity preservation.
2. Generating and promoting research for obtaining scientific and technological information on biodiversity for the formulation of public policies and informed decisions.
3. Strengthening the regulatory framework for stakeholders and encouraging the active involvement of civil society, indigenous peoples and local communities and academia.
4. Reducing pollution and plastic waste and microplastics.
5. Committing to provide a pleasant environment for diverse species and ecosystems to continue their existence, development, and observation/participation when/where appropriate.

## **2. DEVELOPMENT OF ARCTIC MARINE MEDICINE**

**Affirms** that the use of marine resources in the Arctic region for medical purposes serves the common interest of humankind;

**Recognizes** that the potential of development of the marine pharmaceutical industry may be linked with the Arctic waters;

**Recognizes** that the future of the pharmaceutical industry is in the Arctic;

**Reaffirms** that the interest to conserve biodiversity prevails over every possible exploitation of biological resources, meaning the use of marine organisms shall be carried out subject to the principal of conservation of biodiversity;

**Emphasizes** that the extraction of biological resources shall be carried out in accordance with the general provisions of the Convention on Biological Diversity and the United Nations Declaration on the Rights of Indigenous Peoples;

**Recommends** that states to adopt national conservation legislation in order to protect biological organisms and other marine resources with account taken of their potential use for medical purposes;

**Encourages** the discovery of alternative organisms of the Arctic region for future medicine and examination of the organisms that can hold the key to new compounds and new medicines and can provide remedy for various ailments which cannot be cured with traditional medicine or antibiotics;

**Notes** that since the examination of biological organisms which inhabit the Arctic region is being executed in the best interest of Arctic countries and the whole mankind, the exchange of data should be encouraged;

**Further enhances** scientific cooperation in marine medicine research activities, and proposes to carry out Arctic Marine Medicine Research Year during which the Arctic States will coordinate their Arctic expeditions and research in marine medicine in the following areas:

1. Establishing a working group responsible for developing a body for scientific research on biodiversity in the Arctic region, made up of Member States, Permanent Participants, and Observers;
2. Investing in educational and research opportunities for supporting biodiversity in the region through partnerships with the University of the Arctic;
3. Committing to increased partnership with indigenous communities in the region to support biodiversity and sustain traditional livelihoods; and

4. Further committing to the persistent monitoring of Arctic ecosystems using in situ and remote technology, in order to deliver the most accurate information on the status of biodiversity in the region.

### **3. PRESERVATION OF TRADITIONAL, INDIGENOUS KNOWLEDGE**

**Reaffirms** the emphasis highlighted in the Nuuk Declaration for the need to improve the physical, mental health, well-being, and empowerment of indigenous peoples and the continued effort of the University of the Arctic (UArctic) in developing capacity building education and fostering traditional and scientific knowledge and reiterates the Fairbanks Declaration commitment to consult and cooperate in good faith with Arctic indigenous peoples;

**Recognizes** the equally significant roles of traditional knowledge and Western science in building innovative solutions that best protect and preserve the peoples of the Arctic;

**Notes** that Article 9 of the Agreement on Enhancing International Arctic Scientific Cooperation acknowledges the complementary nature of the different knowledge systems that will enhance sustainable efforts;

**Commits** to implementing benefit-sharing schemes for the use of traditional knowledge in the spirit of the Convention on Biological Diversity and its Nagoya Protocol;

**Further commits** to furthering the inclusion of indigenous nations in national and international law and decision-making processes to secure their autonomy and to preserve traditional livelihoods, beliefs, and ways of life in the changing Arctic region and encourage the increasing participation and capacity of Indigenous youth in discussions;

**Recognizes** the inherent and fundamental rights and status of indigenous peoples as affirmed in the Indigenous and Tribal Peoples Convention and the UN Declaration on the Rights of Indigenous Peoples emphasizing the increased participation and potential of indigenous groups as being crucial for sustainable Arctic development in the wake of climate change;

**Acknowledges** the urgent need to understand the forces driving environmental changes in the region as a common concern for indigenous communities and the Arctic states and to this end, support further integration of traditional knowledge in scientific efforts and policy-making within the framework of the Arctic Council;

**Recognizes** that traditional knowledge will have difficulty adapting to the impacts of rapid climate change, including warming temperature, ice melting and erosion, which pose a fundamental threat to the lives and way of life of indigenous communities;

**Recalls** that to meet their everyday needs, indigenous peoples are dependent on fish, wildlife and habitats which are threatened as pollution contaminates air and water;

**Notes with concern** the changes in migration patterns and climate-related displacement of exposed indigenous inhabitants and calls for the development of comprehensive climate change mitigation and adaptation strategies to the rapidly changing Arctic environment.

## **CULTIVATE AND REFINE PARTNERSHIPS**

**Remains committed** to following the the Maritime and International Law conventions and the International Maritime Organization's Polar Code, adopted in 2017,

**Reaffirms** determination to the performance of liabilities and to pursue further cooperation under previously adopted agreements of the Arctic Council including Agreement on Enhancing International Arctic Scientific Cooperation 2017,

**Recognizes** the main aim of cooperation in the region as the maintenance of peace and stability in the Arctic Region,

**Emphasizes** the importance of sustainable development as basic principle of cooperation in the Arctic,

**Acknowledges** the importance of resourcefulness in emergency preparedness, contingent on tighter monitoring and regulation capable of responding to distress situations,

**Agrees** to set up national safety standards for polar ships and develop technology for safe navigation of ice class ships along polar routes and relevant testing technology, in compliance with the Polar Code.

## **4. PROMOTION OF EDUCATION AND ITS PARTNERSHIPS**

**Acknowledges** the importance and significance of STEM in Educational Development, and the importance for Sustainable Scientific Research and Discovery,



**Re-affirms** the importance of informed decision making at all levels, with particular emphasis at the Institutional Level which has a tremendous impact on society, economy, and environmental equilibrium at all scales, realizing that data alone is not sufficient for informed decision making,

**Welcomes** the improved livelihoods and well being of all life which may be achieved through Scientific Cooperation and Sustainable Development,

**Acknowledges** with appreciation the challenges met by the Arctic Scientific community and encourages resilience amongst all parties as we work together to balance national interests and common interests,

**Recognizes** the declaration from the Meeting of Ministers of Education and Science of the Arctic Council Member States on 9 June 2004, and requests review of the current establishment of dialogue by government and non-government to further define the framework and accountability of engaged parties to define the scope of cooperation in education and research,

**Congratulates** University of the Arctic (UArctic) for striving to achieve creative solutions to further educational development and scientific discovery,

**Welcomes** the continued progress in Science Diplomacy,

**Notes** with both concern and hope, varying abilities of individuals and communities around our world have to cope with the incremental change,

**Believes** cooperation and support to be instrumental success factors, and:

1. **Encourages** continued cooperation to understand health issues, recognizing the complexity and necessity for joint fact finding missions (within the parameters of the international legal framework) and the invasive nature of these procedures, in order to provide institutions with information for improved decision making, policies, and frameworks at the national and international levels, and
2. **Supports** the continued development of Science Diplomacy as a necessity for the continued development of peaceful, sustainable progress.

# **APPENDIX**

**Syllabus Spring 2020**

***JOINT VIDEO-CONFERENCING COURSE***

***SCIENCE DIPLOMACY: ENVIRONMENTAL SECURITY AND LAW IN THE ARCTIC OCEAN***

***WITH***

***FLETCHER SCHOOL OF LAW AND DIPLOMACY (UNITED STATES)***

***AND***

***MGIMO UNIVERSITY (RUSSIAN FEDERATION)***



## SYLLABUS

***SCIENCE DIPLOMACY:  
Environmental Security and Law in the Arctic Ocean***

**Spring 2020**

**Professor Paul Arthur Berkman**  
Director, Science Diplomacy Center  
Professor of Practice in Science Diplomacy  
Fletcher School of Law and Diplomacy, Tufts University  
United States

**Professor Alexander N. Vylegzhanin**  
Head, International Law Programme  
MGIMO University  
Russian Federation

This is an historic video-conferencing course between The Fletcher School (United States) and MGIMO University (Russian Federation) since 2017, taught by the two professors who convened the first formal dialogue between the North Atlantic Treaty Organization (NATO) and Russia regarding security in the Arctic, as an application of SCIENCE DIPLOMACY, resulting in a book with more than 65,000 downloads.

**Science Diplomacy Center  
Fletcher School of Law and Diplomacy  
Tufts University**

**Diplomacy, History and Politics (DHP-P259)**

**Time:** Thursday 08:30-11:00 EST Boston (16:30-18:00 Moscow)

- Daylight Savings time in the United States begins 10 March 2020 (see Weekly Schedule - Table 1 below)

**Location:** Isobe (Mugar 251f)

**Materials:** Online materials will be accessible via Tufts' Canvas site (<https://canvas.tufts.edu>) with registered email address. Videotaped *Science Diplomacy Dialogue Series* is open access (<https://sites.tufts.edu/sciencediplomacy/education/training/dialogue-series>).

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## Course Abstract

This course will address **science diplomacy** as an *international, interdisciplinary and inclusive (holistic) process, involving informed decisionmaking to balance national interests and common interests for the benefit of all on Earth across generations*. Theory, method and skills will be taught in this emerging field to promote cooperation and prevent conflict among nations within the context of international law. The first formal dialogue between NATO and Russia about security issues in the Arctic Ocean will be used as a case study, team-taught by the two co-directors of the *NATO Advanced Research Workshop on Environmental Security in the Arctic Ocean* at the University of Cambridge in 2010. The resulting book – which has more than 65,000 downloads – will serve as the key text to address applications of science diplomacy in our globally-interconnected civilization.

1. Studying change (time-space);
2. Earth system assessment;
3. Early warning systems;
4. Public-policy agendas;
5. Legal institutions;
6. Invention and commercialization;
7. Continuity across generations;
8. Inclusive dialogues.

This course is designed as a weekly seminar for 2.5 hours on Thursday (morning United States and afternoon Russian Federation) and will be co-taught via videoconference by Professor Paul Berkman at The Fletcher School of Law and Diplomacy at Tufts University in Boston and by Professor Alexander Vylegzhanin at MGIMO University in Moscow, involving approximately fifteen students on each side. United States and Russian students will learn together in the shared classroom environment and collaborate on projects throughout the semester, leading to a Mock Arctic Council Ministerial Meeting and joint production of a mock ministerial declaration adopted by consensus.

Utilizing international law applicable to the Arctic Ocean as a case-study, the **first objective** of this course is to consider applications of science diplomacy as an **holistic (international, interdisciplinary and inclusive) process** to integrate information and perspectives inclusively in view of diverse time and space scales, addressing questions of common interest. The **second objective** is to train theory, methods and skills of that contribute to **informed decisions operating across a ‘continuum of urgencies’** with regard to governance mechanisms and built infrastructure as well as their coupling to achieve progress with sustainable development. This training will involve pedagogy of the United Nations Sustainable Development Goals (SDG) to balance economic prosperity, environmental protection and societal well-being at local-global levels. The **third objective** of this course is to provide students with a broad knowledge of the current international legal regime for economic and environmental activities of states and residents in the Arctic region, especially within, across and beyond sovereign jurisdictions in the sea.

**Overall goal** of this course is to enhance scientific contributions to sustainable, stable and peaceful development in our world – bridging science, technology and innovation for the lasting benefit of our globally-interconnected civilization. In this holistic context, **science is the ‘study of change’** to

integrate results from the natural sciences and social sciences as well as Indigenous knowledge, all of which reveal patterns, trends and processes (albeit with different methods) that become the bases for decisions. The diplomacy of **options (without advocacy), which can be used or ignored explicitly**, provides a pathway to transform research into actions that contribute to informed decisionmaking at local-global levels for the benefit of all on Earth with sustainability.

## Two-Part Course Syllabus

This is an integrated two-part course that was first taught via video-conferencing by Prof. Paul Berkman (Fletcher School of Law and Diplomacy at Tufts University in Boston, United States) and Prof. Alexander Vylegzhanin (MGIMO University in Moscow, Russian Federation) in Spring 2017. This syllabus has been updated for Spring 2020 to integrate fully with the required “Arctic Law” educational programme at MGIMO University, assessing science-diplomacy with global relevance, with particular focus on cooperation between the United States and Russian Federation in the Arctic.

The first part of the course will involve lectures, materials and discussions within modules that relate to the core elements of science diplomacy and Arctic law. To facilitate ‘active learning,’ the second part of the course will involve a Mock Arctic Council Ministerial Meeting where student-ministers negotiate a consensus declaration to agree upon.

- ❖ How does science diplomacy promote cooperation and prevent conflict among nations?
- ❖ How does environmental security elevate the urgency of sustainable development?
- ❖ How does science, including law, provide a tool to build common interests among nations?
- ❖ What global lessons are emerging from international engagement in the Arctic Ocean, in view of the legal positions expressed by Arctic and non-Arctic states as well as indigenous peoples?

The Arctic Ocean will be used as a case-study where science diplomacy is balancing national interests and common interests with regard to sustainable development, recognizing that informed decisionmaking for sustainability involves the combination of:

1. Fixed, mobile and other **built infrastructures** (including communications, research, observing and information systems) that involve both technology and capitalization; and
2. Regulatory, policy and other **governance mechanisms** (including insurance) that manage human activities across the **jurisdictional spectrum (subnational-national-international)**.

Lessons of science diplomacy in the Arctic Ocean will be illustrated further in the context of **environmental security**, requiring *an integrated approach for assessing and responding to the risks as well as the opportunities generated by an environmental state-change*.

Core references will come from the Arctic Council, which was established in 1996 by the eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Sweden, Russian Federation and United States) with sovereign jurisdictions north of the Arctic Circle (66.5°N) and six indigenous peoples organizations (Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Council, Russian Association of Indigenous Peoples of the North, and

Saami Council). References will include products from the six scientific working groups of the Arctic Council that relate to emergency preparedness, sustainability, monitoring and assessment, marine ecosystem protection, contaminant action and species conservation. One article among the required and supplementary readings will serve as the focus for initial discussion each week. MGIMO-Fletcher reading groups will be developed with students from both institutions and it is anticipated this course will involve guest contributions.

Law of the sea will be addressed throughout this course as the international legal framework for the Arctic Ocean, as agreed by the eight Arctic states. Materials also will be included from other relevant institutions and stakeholders to more-fully reveal international, interdisciplinary and inclusive perspectives about the Arctic Ocean. In addition, information-technology approaches will be used to facilitate discovery of content-in-context among selected course materials.

The course will introduce the methodology of science diplomacy, starting at the stage of questions, when allies and adversaries alike can build common interests with minimal complication. The next level of complexity involves data, generated from appropriate methods, to answer questions of common concern. As a stage of research, data to answer questions is different than evidence for decisions, which involves actions with options for decisionmakers and decisionmaking institutions. Transformational capacities will be introduced across the data-evidence or research-action interface where individuals can contribute as both observers and participants.

## **Course Format and Pedagogy**

This team-taught course will be divided into interconnected modules to consider the elements of science diplomacy and international law, with the Arctic as a case study. Profs. Berkman and Vylegzhanin will alternate responsibilities for each weekly session with modules that address underlying questions associated with sustainable development. The modules will build toward a Mock Arctic Council Ministerial Meeting (described separately in detailed instructions below). Each module will involve various readings that will be elaborated with the lectures and class discussions, additionally involving student presentations and a key article to read each week. Through a process of open-ended inquiry to balance diverse interests – this course is designed to facilitate holistic thinking about transboundary issues, impacts, regions and resources that require international, interdisciplinary and inclusive solutions. This course also is designed to facilitate general theoretical and practical understanding about the applications of international law, as a central organizing principle in our globally-interconnected civilization with continuity across generations, which is the essence of sustainable development.

Supplementary videos are available for students to watch at their own pace to stimulate questions and facilitate holistic integration, regarding:

- *Globally Interconnected Civilization* [Click here](#);
- *Informed Decisionmaking for Sustainability* [Click here](#);
- *The Arctic Case Study* [Click here](#);
- *Research Enhancement with Holistic Integration* [Click here](#).

## Weekly Schedule

DATE	TASKS AND ASSIGNMENTS		WEEKLY SCHEDULES AND TIMING OF CLASSES		
	Task	Assignment(s) (Due Date)	The Fletcher School (United States)	MGIMO University (Russian Federation)	
				Boston Time	Moscow Time
January 16, 2020	Module 1		08:30-11:00 EST	<b>Video-Conferencing Begins on February 13, 2020 through April 30, 2020</b>	
January 23, 2020	Module 2	3-Words	08:30-11:00 EST		
January 30, 2020	No Class – Fletcher		<i>Arctic Frontiers 2020</i>		
February 6, 2020	Module 3	Concept Map	08:30-11:00 EST		
February 13, 2020	Module 4	Sustainability	08:30-11:00 EST	09:30-11:00 EST	17:30-19:00
February 20, 2020	No Class – Fletcher		Washington, DC Trip	No Video	17:30-19:00
February 27, 2020	Module 5*	Priorities	08:30-11:00 EST	09:30-11:00 EST	17:30-19:00
March 5, 2020	Module 6*	Paper Outline	08:30-11:00 EST	09:30-11:00 EST	17:30-19:00
March 12, 2020	Module 7*	Faculty Review	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
March 19, 2020	No Class – Fletcher		Spring Break	09:30-11:00 EDT	16:30-18:00
March 26, 2020	SDG Pedagogy*	SDG Interests	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
April 2, 2020	Module 8*	Paper Draft	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
April 9, 2020	Synthesis	Faculty Review	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
April 16, 2020	Mock Arctic**	<b>Take-Home Essay</b>	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
April 23, 2020	Mock Arctic**	<b>Final Paper</b>	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00
April 30, 2020	Mock Arctic**	<b>Joint Declaration</b>	08:30-11:00 EDT	09:30-11:00 EDT	16:30-18:00

\* Joint Fletcher-MGIMO student presentations (10-minute powerpoint plus 10 minutes of questions – **powerpoints will be terminated after 10 minutes**) that analyze the elements and applications of Arctic agreements produced during the last decade (Table 2).

LEGAL AGREEMENT TITLE	DATE	
	Signed	In Force
<i>Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic</i>	May 12, 2011	January 19, 2013
<i>Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic</i>	May 15, 2013	March 25, 2016
<i>Agreement on Enhancing International Arctic Scientific Cooperation</i>	May 11, 2017	May 23, 2018
<i>International Code for Ships Operating in Polar Waters (Polar Code)</i>	appending IMO Conventions	January 1, 2017
<i>Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean</i>	October 3, 2018	next steps

\*\* Fletcher / MGIMO students agree to the schedule for the Mock Arctic Council Ministerial Meeting **with mandatory attendance** (any adjustments or conflicts to be identified by February 13, 2020).



## Schedule of Assignments

**(include your name and number each page for all assignments)**

### **3-Word Assignment (Due: January 23, 2020)**

- Select any three words (e.g., activity, location, impact) that relate to elements that you would like to include in your information paper for the Mock Arctic Council Ministerial Meeting that will generate your Ministerial Declaration (please see below)
- We will explore the content-in-context occurrences of your word(s) among the Arctic Council Ministerial Declarations that have been approved through 2019, including the 1996 *Ottawa Declaration* that established the Arctic Council:
  - See *Knowledge Portal of Arctic Council Declarations* – <http://arcticcouncil.knowhow.co>.

### **Concept Map Assignment (Due: February 6, 2020)**

- Map relationships between your three words and all words that were introduced in the class discussion on January 23, 2020

### **Sustainability Assignment (Due: February 13, 2020)**

- Revise your concept maps with consideration of environmental, economic and societal themes or threads among the elements you have identified, taking into account the international Agreements already signed by the Arctic states within the framework of the Arctic Council in 2011, 2013 and 2017.

### **Joint Presentations by Fletcher and MGIMO Students (Initiated on February 13, 2020)**

- On the **first day of our joint class, 13 February 2020**, students will sign-up from The Fletcher School and MGIMO University to work together on brief presentations (10-minutes) that will **start on 27 February 2020 and continue weekly through 2 April 2020 (see Table 2 above)**.
- Presentations will relate to holistic (international, interdisciplinary and inclusive) features of the Module being discussed for that week
- Objective is to build Fletcher-MGIMO collaborations throughout the course

### **Priorities Assignment (Due: February 27, 2020)**

- Revise your concept maps by prioritizing all elements as you see fit
- Describe in 2 pages or less (12 pt font, 1.5 spacing, 1" margins) your prioritized relationships and rationale in terms of framing your negotiation strategy

### **Paper Outline (Due: March 5, 2020)**

- Scope of the Information Paper relates to your integrated assessment of actual Arctic Council Ministerial Declarations through 2017, including the 1996 *Ottawa Declaration* (see *Knowledge Portal of Arctic Council Declarations* – <http://arcticcouncil.knowhow.co>) as well as the Agreements signed by all Arctic States in 2011, 2013 and 2017 (Table 2).
- Building on your prioritized concept map and 2-page description, develop a **1-page outline** of your Information Paper that will be circulated to the other "Student Foreign Ministers"

**Faculty Review Session (Due: During week of March 12, 2020)**

- 1-1 discussions with Professors Berkman / Vylegzhanin for 30 minutes
- Purpose is to discuss your *Information Paper Outline*

**SDG Interests (Due: March 26, 2020)**

- Each student should explore the *Sustainable Development Knowledge Platform* (<https://sustainabledevelopment.un.org/>) to prepare for the *Common-Interest Building – Training Game* (Box 1)
- Holistic pedagogy of the *United Nations Sustainable Development Goals* (SDG) will be applied to **common-interest building** as a fundamental negotiation strategy that operates across a ‘continuum of urgencies’ with cooperation beyond conflict resolution

**BOX 1**

**COMMON-INTEREST BUILDING: TRAINING GAME**

Each participant identifies three (3) *United Nations Sustainable Development Goals* (SDG) that are personally meaningful from among the 17 (<https://sustainabledevelopment.un.org/?menu=1300>) to start. As a team, progressively reduce the number of SDG to justify a single development goal, based on the common interests of the group.

**Draft Information Paper (Due: April 2, 2020)**

- The Draft Information Paper should be 5-10 pages (12 pt font, 1.5 spacing, 1” margins) and have the following elements:
  - **Abstract** (100 words or less);
  - **Background Research**;
  - **Evidence and Institutional Priorities**;
  - **Options and Informed Decisions**; and
  - **References**:
    - At least 5 primary legal sources (i.e., original international or national policies, such as the: 2008 *Ilulissat Declaration*; 2008 *Basics of the State Policy of the Russian Federation in the Arctic for the Period until 2020 and for a Further Perspective*; or 2009 *United States National Security Presidential Directive 66: Arctic Region Policy*)
    - At least 5 secondary legal resources (i.e., interpretations of policies)
    - At least 5 other publications
  - Include your concept map plus at least 1 other figure
  - Include 1 table (i.e., rows and columns) of information you have synthesized

**Take-Home Essay (Due: April 16, 2020)**

- Question(s) and guidelines will be provided in class on April 9, 2020

### **Mock Arctic Council Ministerial Meeting – Beginning (Due: April 16, 2020)**

- Establish rules of order
- Define consensus approval methodology
- Develop meeting agenda by consensus
- Begin negotiations
- Outline and begin drafting Mock Arctic Council Ministerial Declaration

### **Final Information Paper (Due: April 23, 2020)**

- The Final Information Paper should be 10-15 pages maximum (12 pt font, 1.5 spacing, 1” margins) and have the following elements (building on the Information Paper Outline):
  - **Abstract** (100 words or less);
  - **Background Research** with sub-sections, as appropriate;
  - **Evidence and Institutional Priorities** with sub-sections, as appropriate;
  - **Options and Informed Decisions** with sub-sections as appropriate; and
  - **References:**
    - At least 10 primary legal sources
    - At least 10 secondary legal resources
    - At least 10 other publications
  - Include your concept map plus at least 2 other figures
  - Include at least 1 table (i.e., rows and columns) of information you have synthesized

### **Mock Arctic Council Ministerial Meeting – Continuing (Due: April 23, 2020)**

- Continue to refine the Mock Arctic Council Ministerial Declaration by consensus

### **Mock Arctic Council Ministerial Meeting – Completing (Due: April 30, 2020)**

- Finalize, Approve and Sign Mock Arctic Council Ministerial Declaration by consensus

## **Course Textbooks**

### **Students should purchase:**

- Berkman, P.A. and Vylegzhanin, A.N. (eds.). 2012. *Environmental Security in the Arctic Ocean*. Springer, Dordrecht. 459 p. [hereinafter *Environmental Security* – access via bookstore or <http://www.springer.com/us/book/9789400747128>].

### **Students should download:**

- Berkman, P.A. 2002. SCIENCE INTO POLICY: GLOBAL LESSONS FROM ANTARCTICA. Academic Press, New York. 252 p. [hereinafter *Science into Policy* – access via: <https://canvas.tufts.edu>].
- Berkman, P.A., Lang, M.A., Walton, D.W.H. and Young, O.R. (eds.). 2011. SCIENCE DIPLOMACY: ANTARCTICA, SCIENCE AND THE GOVERNANCE OF INTERNATIONAL SPACES. Smithsonian Institution Scholarly Press, Washington, D.C. 357 p. [hereinafter *Science Diplomacy* – access via <https://repository.si.edu/handle/10088/16154>].
- Young, O.R., Berkman, P.A. and Vylegzhanin, A.N. (eds.). 2020. INFORMED DECISIONMAKING FOR SUSTAINABILITY. VOLUME 1. GOVERNING ARCTIC SEAS: REGIONAL LESSONS FROM THE BERING STRAIT AND BARENTS SEA. Springer, Dordrecht. 358p. [Hereinafter *Informed Decisionmaking* – access via: <https://canvas.tufts.edu>].

All other required and supplementary readings as well as course projects and assignments will be available on the Tufts' Canvas site (<https://canvas.tufts.edu>) with relevant sub-folders to facilitate easy access from any computer with an internet browser. These materials will be available as portable document format (.pdf) files that you can print as hard copies will unavailable. During the first couple weeks of class, students can access the materials on Canvas as a "guest"; however, only students formally enrolled in the course through The Fletcher School or MGIMO University will have access to course materials after this period. You will need to use a Tufts ID number to access the course materials on Canvas. (**Note:** MGIMO and cross-registered students can obtain their Tufts ID from The Fletcher School Registrar's office: <http://fletcher.tufts.edu/FletcherConnect/Registrar>).

A 'knowledge portal' to comprehensively integrate Declarations adopted by the Arctic Council (<http://arcticcouncil.knohow.co>) from 1996-2019 has been constructed, enabling students to discover relationship among these original policies based on their selection of search queries in preparation for the Mock Arctic Council Ministerial Meeting (see Assignments above).

## **Course Evaluation:**

### **Fletcher students will be evaluated on the basis of:**

- *Class participation* (total 25%):
  - *Contributions* throughout the course (10%);
  - *Interaction* during the Mock Arctic Council Ministerial Meeting (15%).
- *Take-home essay* (total 25%);
- *Course synthesis* (total 50%):
  - *Assignments* (10%);
  - *Information Paper Outline* for the Mock Arctic Council Ministerial Meeting (15%); and
  - *Final Information Paper* for the Mock Arctic Council Ministerial Meeting (25%).

### **MGIMO students will be evaluated on the basis of:**

- *Class participation* (total 15%)
- *Take-home essay* (total 25%)
- *Course synthesis* (total 20%):
  - *Quiz* (5%);
  - *Information Paper Outline* for the Mock Arctic Council Ministerial Meeting (5%); and
  - *Final Information Paper* for the Mock Arctic Council Ministerial Meeting (10%).
- *Final test* (total 40%)

## **COURSE AGENDA**

### **MODULE 1: INTRODUCTION: OBJECTIVES, QUESTIONS, DEFINITIONS AND CONCEPTS**

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This module will work from first principles to introduce theory-into-practice methodologies of science diplomacy and international law with the Arctic Ocean as a case study. Course objectives will

be introduced to provide a reference for formative and summative assessments by all involved, applying definitions to guide dialogues in the class as well as **among allies and adversaries alike**. For the case study, international legal framework of the law of the sea and its historical development, especially regarding the Arctic Ocean, will be introduced in view of customary international law and the 1982 *United Nations Convention on the Law of the Sea* (UNCLOS) as well as applicable regional and bilateral international agreements to which both the United States and Russian Federation are parties. The role of the eight states north of the Arctic Circle (66.5° North latitude) in establishing legal norms for this region will be discussed further in view of 'Arctic law' and its implementation to achieve "*sustainable development and environmental protection*," which are the "*common Arctic issues*" established by the 1996 *Ottawa Declaration* for the Arctic Council. Inquiry strategies will be discussed to stimulate curiosity and address questions in an holistic (international, interdisciplinary and inclusive) manner with the apex goal of contributing to **informed decisionmaking** across our globally-interconnected civilization.

### Required Reading:

*Environmental Security*. 2012. (Preface; Chapter 1-3).

Gorbachev, M. 1987. *Speech in Murmansk at the Ceremonial Meeting on the Occasion of the Presentation of the Order of Lenin and the Gold Star to the City of Murmansk, 1 October 1987*. (English translation prepared by the Press Office of the USSR Embassy, Ottawa, 1988).

- For Discussion

*Science Diplomacy*. 2011. (Preface, Conclusions).

*Science into Policy*. 2002. (Preface).

*Informed Decisionmaking*. 2020. (Book Series Preface)

### Supplementary Reading:

*Agreement between the United States of America and the Union of Soviet Socialist Republics of the maritime boundary* (1990).

*Agreement between the Government of the United States of America and the Government of the Russian Federation on the conservation and management of the Alaska-Chukotka polar bear population* (2000).

*Agreement between the Government of the United States of America and the Government of the Russian Federation on the conservation and management of the Alaska-Chukotka polar bear population* (2000).

Arctic Council. [Explore the website – <http://www.arctic-council.org>].

*Arctic Research and Policy Act of 1984* (amended 1990).

Bloom, E.T. 1999. Establishment of the Arctic Council. *American Journal of international Law* 93 (3):712-732.

EvREsearch. 2019. *Knowledge Portal of Arctic Council Declarations*. [Integrate dynamically with your selection of search terms – <http://arcticcouncil.knohow.co>].

Ottawa Declaration. 1996. *Declaration on the Establishment of the Arctic Council*. Signed, 19 September 1996, Ottawa.

*Strategy for development of the Arctic zone of the Russian Federation and the national security up to 2020* (2013)

*Treaty concerning the Cession of the Russian Possessions in North America by his Majesty the Emperor of all the Russias to the United States of America (Treaty on Cession of Alaska 1867)*  
UNCLOS. 1982. *United Nations Convention on the Law of the Sea*. Signed, 10 December 1982, Montego Bay; Entry into Force, 16 November 1994.  
*US National Strategy for the Arctic Region* (2013).  
Young, O.R. 1986. The Age of the Arctic. *Foreign Policy* 61: 160-179.

## MODULE 2: SCIENCE AS AN ESSENTIAL GAUGE OF CHANGES OVER TIME AND SPACE

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In an holistic (international, interdisciplinary and inclusive) context – **science is ‘the study of change,’** involving natural and social sciences as well as indigenous knowledge, which will be illustrated with examples from the Arctic. With its different methodologies, science offers a process of discovery, providing a framework to look backward and forward in time to describe the precedents, patterns and trends that contribute to decisionmaking at local, regional and global scales. Importantly, science reveals interactions between natural and anthropogenic forcing with multiple dimensions across a **‘continuum of urgencies,’** operating from security time scales (associated with immediate risks of economic, political, or cultural instabilities) to sustainability time scales (involving balance between economic prosperity, environmental protection and societal well-being across generations). In addition, according to the *Charter of the United Nations*, “the teachings of the most highly qualified publicists of the various nations” are subsidiary means for the determination of rules of international law. In the context of human-population growth, as a component of sustainable development, environmental security in the Arctic Ocean will be discussed to illustrate the challenges and opportunities we face on a planetary scale.

### Required Reading:

American Museum of Natural History. 2018. Global Population Growth. [watch the video – [https://www.youtube.com/watch?v=PUwmA3Q0\\_OE](https://www.youtube.com/watch?v=PUwmA3Q0_OE)].  
• For discussion.  
*Environmental Security*. 2012. (Chapters 4-6 and 19-20).  
*Science into Policy*. 2002. (Chapters 1 and 2).  
Vylegzhanin, A.N. 2009. Developing International Law Teachings for Preventing Inter-State Disaccords in the Arctic Ocean. *Heidelberg Journal of International Law*. 69(/3):669-681.

### Supplemental Reading:

Berkman, P.A. 2019. Evolution of Science Diplomacy and its Global-Local Applications. *European Foreign Affairs Review (Special Issue: Broadening Soft Power in EU-US Relations)* 24:63-79.  
Borgerson, S.G. 2008. Arctic Meltdown: The Economic and Security Implications of Global Warming. *Foreign Affairs* March/April 2008.  
*Global Trends*. Office of the Director of National Intelligence. National Intelligence Council. (Explore the website – <https://www.dni.gov/index.php/about/organization/national-intelligence-council-global-trends>)  
Kahneman, T. 2011. *Thinking Fast and Slow*. Farrar, Straus and Giroux. New York.  
NASA. 2018. Three-dimensional video of changes in the Greenland Ice Sheet. National Aeronautics and Space Administration (Watch the video – <https://www.nasa.gov/content/goddard/nasa-data-peers-into-greenlands-ice-sheet>)

Rasmussen, R. (ed.). 2011. *Megatrends*. Nordic Council of Ministers.

Stoltenberg, T. 2009. *Nordic Cooperation on Foreign and Security Policy*. Proposals Presented to the Extraordinary Meeting of Nordic Foreign Ministers. Oslo: 9 February 2009.

*Science Diplomacy*. 2011. (pp. 51-58 and 281-286).

United Nations. 1945. *Charter of the United Nations*. Signed, 26 June 1945, San Francisco. Entry into Force 24 October 1945.

### MODULE 3: SCIENCE AS AN ELEMENT OF INTERNATIONAL LEGAL INSTITUTIONS

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Science contributes fundamentally to the implementation of sustainable development strategies, **balancing environmental protection, economic prosperity and social well-being**. On a global scale, science is built into legal institutions, as heralded in UNCLOS, which includes “scientific” in 51 of 320 Articles among Parts 1-XVII of this global international treaty. Importantly, the Arctic states “*remain committed*” to the law of the sea as the legal framework for the Arctic Ocean. More than an umbrella legal framework to cover governance gaps, the law of the sea establishes zones within and beyond sovereign jurisdictions, offering a paradigm to **balance national interests and common interests** in the Arctic Ocean and elsewhere on Earth. Recognizing their stewardship responsibilities, the eight Arctic states have adopted the: 2011 *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*; 2013 *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*; and 2017 *Agreement on Enhancing International Arctic Scientific Cooperation*. The broader international community also created the *International Code for Ships Operating in Polar Waters (Polar Code)*, which entered into force on 1 January 2017. Interplay of diverse legal institutions will be discussed in relation to their implementation in the Arctic Ocean, integrating governance mechanisms and built infrastructure as an iterative process of decisionmaking for sustainability that applies generally.

#### Required Reading:

Berkman, P.A. and Young, O.R. 2009. Governance and Environmental Change in the Arctic Ocean. *Science* 324: 339-340.

- For Discussion

Berkman, P.A., Vylegzhanin, A.N. and Young, O.R. 2019. *Baseline of Russian Arctic Laws*. Springer, Dordrecht. [[search for “science” and “scientific” to discover diverse legal contexts](#)]

*Science into Policy*. 2002. (Chapter 12).

UNCLOS. 1982. *United Nations Convention on the Law of the Sea*. Signed, 10 December 1982, Montego Bay. Entry into Force, 16 November 1994. Part XIII. Marine Scientific Research. Articles 235-268.

#### Supplemental Reading:

Bull, H., Kingsbury, B. and Roberts, A. (eds.). 1990. *Hugo Grotius and International Relations*. Oxford University Press, Oxford.

*Environmental Security*. 2012. (Chapters 15-16, 22-23, 26 and 30).

Ilulissat Declaration. 2008. *Declaration from the Arctic Ocean Conference*. 28 May 2008, Ilulissat.

IMO. 2017. *International Code for Ships Operating in Polar Waters (Polar Code)*. Marine Environmental Protection Committee, MEPC 68/21/Add. 1, Annex 10. International Maritime Organization. Entry into Force, 1 January 2017.

- MOPP. 2013. *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*. Signed 15 May 2013. Kiruna. Entry into force 24 March 2016.
- SAR. 2011. *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*. Signed 12 May 2011. Nuuk. Entry into Force 19 January 2013.
- Science Diplomacy*. 2011. (pp. 75-88).
- Young, O.R. 1998. *Creating Regimes: Arctic Accords and International Governance*. Cornell University Press, Ithaca.

#### **MODULE 4: SCIENCE AS AN INSTRUMENT FOR RECORDING, ASSESSING AND EARLY WARNING**

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From basic to applied research, science is strongly influenced by discoveries that have practical benefits for society. Such research is commonly seen in terms of monitoring and assessing natural as well as anthropogenic impacts that influence human populations and their associated ecosystems. On a global scale, the 'ozone-hole' at once reveals unequivocal anthropogenic impacts to the Earth system on a global scale, while highlighting the central roles and responsibilities of the international scientific community in providing early warnings about impending threats that can be translated into adaptation or mitigation policies. Representing an holistic process, the six Arctic Council working groups generate assessments that relate to topics that are of common concern to the Arctic states and indigenous peoples as well as observers regarding: contaminant actions; floral and faunal conservation; emergency prevention, preparedness and response; marine environmental protection; and sustainable development with monitoring and assessment throughout. As primary **biophysical and socio-economic drivers of change** in the Arctic Ocean, diminishing sea ice and increasing ship traffic will be considered in relation to decisionmaking associated with operations and infrastructure development. Methodologies and data to answer questions of common concern will be discussed as foundational features of the science-diplomacy process to balance national interests.

#### **Required Reading:**

Hardin, G. 1968. Tragedy of the Commons. *Science* 162:1243-1248.

- For Discussion

Informed Decisionmaking. Chapter 11. *Next-Generation Arctic Marine Shipping Assessments*.

Environmental Security. 2012. (Chapters 7- 8 and 21)

Science into Policy. 2002. (Chapter 4).

Vylegzhanin, A.N. and others. 2013. International Cooperation in Environmental Protection, Preservation and Rational Management of Biological Resources in the Arctic Ocean. Russian International Affairs Council. Moscow. pp. 59-69.

#### **Supplemental Reading:**

ACIA. 2004. *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge. (Executive Summary, Findings 1-10).

AEPS. 1991. *Arctic Environmental Protection Strategy*. Rovaniemi, 14 June 1991.

AHDR. 2004. Arctic Human Development Report. Sustainable Development Working Group, Arctic Council. pp. 1-25. (skim chapters and consider relevant data).

AHDR. 2014. *Arctic Human Development Report II*. Regional Processes and Global Linkages. Nordic Council of Ministers, Copenhagen. pp. 21-50. (skim chapters and consider relevant data versus AHDR 2004).



- AMSA. 2009. *Arctic Marine Shipping Assessment (AMSA)*. Protecting the Arctic Marine Environment Working Group of the Arctic Council, Akureyri.
- Eguíluz, V.M., Fernández-Gracia, J., Irigoien, X. and Duarte, C.M. 2016. A quantitative assessment of Arctic shipping in 2010–2014. *Nature* (DOI: 10.1038/srep30682). Pp. 1-6.
- NSIDC. 2018. *Arctic Sea Ice News & Analysis*. National Snow and Ice Data Center, Boulder. [Explore the website – <http://nsidc.org/arcticseaicenews/>].
- Science Diplomacy*. 2011. (pp. 123-132, 189-196).
- Vylegzhanin A.N. 2011. The Contemporary Legal Framework of the Arctic Ocean: are there impacts of Diminishing Sea Ice? *Rivista di Studi Politici Internazionali*. 78(3):379-391.

## MODULE 5: SCIENCE AS A DETERMINANT OF PUBLIC-POLICY AGENDAS

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Scientific advances often give rise to policy issues where they did not exist before. For example, evidence and options introduced about risks from increasing commercial activities in the Arctic Ocean were necessary and sufficient for foreign ministers of the eight Arctic states to adopt agreements the 2011 and 2013 agreements (see Module 3). Similarly, insights about diminishing sea ice in the Arctic Ocean, have exposed risks of unregulated fisheries in the Arctic High Seas, leading to a draft *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* among Arctic and non-Arctic states in November 2017 with ‘**precautionary principles,**’ anticipating rather than responding to commercial impacts. In some cases, the policy process itself exposes solutions or challenges that can be generalized with scientific contribution, as with the ‘ecosystem approach’ in the *Convention on the Conservation of Antarctic Marine Living Resources* that integrates the management of “*harvested, dependent and related populations.*” In May 2017, Foreign Ministers of the eight Arctic states as well as Greenland and Faroe Islands signed the *Agreement on Enhancing International Arctic Scientific Cooperation*, which will be discussed in view of implementation **strategies that bridge scientific and diplomatic communities.**

### Required Reading:

- 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.
- For Discussion
- Environmental Security*. 2012. (Chapters 10 and 14).
- Science Diplomacy*. 2011. (pp. 103-122).
- Science into Policy*. 2002. (Chapter 10).

### Supplemental Reading:

- Arctic Science Agreement. 2017. *Agreement on Enhancing International Arctic Scientific Cooperation*. Signed, 11 May 2017, Fairbanks.
- Berkman, P.A., Vylegzhanin, A.N. and Young, O.R. 2017. Application and Interpretation of the Agreement on Enhancing International Arctic Scientific Cooperation. *Moscow Journal of International Law* 3:4-28.
- International Arctic Science Committee website. [Explore the website – <https://iasc.info/>].
- University of the Arctic. [Explore the website – <https://www.uarctic.org/>].
- International Arctic Social Science Association [Explore the website – <https://iassa.org/>].

## MODULE 6: SCIENCE AS A SOURCE OF INVENTION AND COMMERCIAL ENTERPRISE

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In addition to identifying potential resources, science plays a role in developing the technologies needed to exploit these resources as well as invent new market opportunities. For example, as revealed by satellites, there already is open water during the summer and first-year sea ice during the winter from the Bering Strait to the Barents Sea, creating potential year-round opportunities for ice-strengthened vessels to transit with icebreaker escorts across the Northern Sea Route, with global implications if/when transit ship traffic turns on between the Atlantic and Pacific oceans. Similarly, seismic surveys reveal vast potential energy reserves in the Arctic Ocean, accounting for up to 30% of global gas and 13% of global oil. Science, Technology and Innovation (STI) is emerging in the high-north, as illustrated by progress of the Arctic Economic Council and consideration of \$1T in investment of the next couple decades. In the Arctic Ocean, **interplay of international legal institutions in the Barents Sea** – largely because it historically has open-water throughout the year, in contrast to sea-ice covered marine areas elsewhere north of the Arctic Circle – offers governance lessons with pan-Arctic relevance regarding economic activities, **originating with the 1920 Spitsbergen Treaty**. Issues, impacts and resources associated with economic activities in the Arctic will be discussed in relation to pan-Arctic phases of development to achieve Arctic sustainability across the 21<sup>st</sup> century.

### Required Reading:

Roston, E. 2017. How a melting Arctic changes everything. Part III. The Economic Arctic. *Bloomberg*, 29 December 2017.

- For Discussion

*Treaty Concerning the Archipelago of Spitsbergen, and Protocol*. Signed: Paris, 9 February 1920. Entry Into Force: 14 August 1925.

Vylegzhanin, A.N. 2017. Interdisciplinary Research of the Status of the Bering Strait Region. IN: Vylegzhanin, A.N. (ed.). *Political and Legal Junction of the Arctic and Pacific Oceans*. MGIMO, Moscow. Pp. 10 -50. (In Russian – for MGIMO students).

Vylegzhanin, A.N, Young, O.R. and Berkman, P.A. 2018. Governing Shared Marine Resources in the Barents Sea: Current Status, Emerging Issues and Future Options. *Ocean Development and International Law* 49(1):52-78.

### Supplemental Reading:

Arctic Economic Council. 2017 [Explore the website - <https://arcticeconomiccouncil.com/>].

Arctic High Seas Fisheries Agreement. 2017. *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*. Text for Signature, 30 November 2017.

Berkman, P.A., Vylegzhanin, A.N. and Young, O.R. 2016. Governing the Bering Strait Region: Current Status, Emerging Issues and Future Options. *Ocean Development and International Law* 47(2):186-217.

*Environmental Security*. 2012. (Chapters 17-18 and 24).

EvREsearch. 2018. *Knowledge Portal of Applicable Policies for the Bering Strait Region*. [Test different search queries – <http://beringstrait-governance.knohow.co>].

Gautier D.L., Bird K.J., Charpentier R.R., Grantz A., Houseknecht D.W., Klett T.R., Moore T.E., Pitman J.K., Schenk C.J., Schuenemeyer J.H., Sørensen K., Tennyson M.E., Valin Z.C., Wandrey C.J. 2009. Assessment of undiscovered oil and gas in the Arctic. *Science* 324:1175–1179

OGA. 2007. *Oil and Gas Assessment (OGA)*. Arctic Monitoring and Assessment Programme (AMAP) working Group of the Arctic Council, Oslo.

*Science Diplomacy*. 2011. (pp. 223-229).

*Science into Policy*. 2002. (Chapter 11).

World Economic Forum. 2016. *Arctic Investment Protocol. Guidelines for Responsible Investment in the Arctic*. Global Agenda Council on the Arctic, World Economic Forum.

## MODULE 7: SCIENCE AS AN ELEMENT OF CONTINUITY OF LAW AND ORDER IN OUR GLOBAL SOCIETY

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Science is an element of continuity of law and order in our world, from the past into the future, based on an evolving foundation of prior knowledge. Science (including law) is an open-ended, iterative and responsive process to changing circumstances, recognizing the **'Rule of Law'** is an urgent necessity of nations always, but also globally, that the Earth system and our associated communities are inherently dynamic. In this sense, spatial planning for the high north is like the early twentieth century when nations recognized that they would need to accommodate automobile traffic across continents; projecting vast grids of paved roads and highways that would take the next fifty years to construct within and between nations. With this **generational perspective** in the Arctic, recognizing that children born today will be alive in the 22<sup>nd</sup> century, there is urgency for sustained advances with coordination among Arctic coastal and non-coastal states, indigenous peoples and other residents as well as non-Arctic states and global civil society. Framed by *Transforming Our World: The 2030 Agenda for Sustainable Development*, the seventeen **United Nations Sustainable Development Goals (SDG)** will be discussed as a timeless gift to humanity.

### Required Reading:

Arctic Council Secretariat. 2013. *Vision for the Arctic*. Kiruna, Sweden. 15 May 2013.

*Environmental Security*. 2012. (Chapters 20, 26 and 28).

United Nations. 2018. Sustainable Development Knowledge Platform [Explore the website – <https://sustainabledevelopment.un.org/>].

- For Discussion

Vylegzhanin, A. 2013. Legal Status of the Arctic region in documents. Arctic Region. *Issues of International Cooperation* 3:11-44. (In Russian – for MGIMO students).

### Supplemental Reading:

AMSP. 2004. *Arctic Marine Strategic Plan*. [Updated 2015-2025]. Protection of the Arctic Marine Environment (PAME) Working Group of the Arctic Council, Akureyri.

Berkman, P.A., Vylegzhanin, A.N. and Young, O.R. 2019. *Baseline of Russian Arctic Laws*. Springer, Dordrecht. [search any terms to discover legal continuity, starting in the early 19<sup>th</sup> century]

National Research Council. 1999. *Our Common Journey: A Transition Toward Sustainability*. National Academy Press, Washington, DC.

Norway. 2011. Meld. St. 7 (2011–2012) Report to the Storting (white paper). *The High North Visions and Strategies*. Oslo: Norwegian Ministry of Foreign Affairs.

United Nations. 2007. *United Nations Declaration on the Rights of Indigenous Peoples*. Adopted 13 September 2007.

WCED. 1987. Report of the World Commission on Environment and Development: Our Common Future [aka 'Brundtland Report']. Oxford University Press, Oxford.

## MODULE 8: SCIENCE AS A TOOL OF DIPLOMACY

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Following the devastation of World War II, it was vital to promote cooperation and prevent such conflict from ever happening again on a global scale, especially with the development of ballistic missiles capable of carrying nuclear weapons over intercontinental distances. Perhaps the most far-reaching example of science as a tool of diplomacy comes from the International Geophysical Year of 1957-1958, which inspired the United States and Soviet Union to cooperate in establishing the *Antarctic Treaty* as the first nuclear arms agreement, despite their inability to negotiate on this issue elsewhere. The *Antarctic Treaty* similarly stimulated peaceful collaboration between the United States and Japan on an equal footing when such interactions were barely imaginable so soon after World War II. In the north polar region, “*the Arctic Ocean is a unique ecosystem, which the five coastal states have a stewardship role in protecting*” by virtue of their “*sovereignty, sovereign rights and jurisdiction.*” At the heart of stewardship are common interests, providing guiding principles for all involved to avoid “*tragedy of the commons*” where actors pursue their own interests to the detriment of the community. On a global scale, common interests represent an evolving body of international law across a broad suite of institutions that have come into force since World War II.

### Required Reading:

Berkman, P.A. 2009. International Spaces Promote Peace. *Nature* 462:412-413.

- For Discussion

Berkman, P.A. 2014. Stability and Peace in the Arctic Ocean through Science Diplomacy. *Science & Diplomacy*. June 2014: 26-35.

*Environmental Security*. 2012. (Chapters 27, 29 and 31-32).

*Science Diplomacy*. 2011. (pp. 17-28).

### Supplemental Reading:

Berkman, P.A. ‘Common Interests’ as an Evolving Body of International Law: Applications for Arctic Ocean Stewardship. In: Wolfrum, R. (ed). *Arctic Marine Science, International Law and Climate Protection. Legal Aspects of Future Marine Science in the Arctic Ocean*. Springer, Heidelberg. pp. 155-174.

## MOCK ARCTIC COUNCIL MINISTERIAL MEETING

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### Description:

A Mock Arctic Council Ministerial Declaration will be crafted in a phased manner by the student-ministers during the course. In this activity, the student-ministers will consider economic, political, environmental and social perspectives with regard to issues, impacts and resources in the Arctic Ocean. Their mock declarations will address sustainable development in the Arctic Ocean, requiring international cooperation, coordination and consistent responses among Arctic as well as non-Arctic states (see above definitions). Moreover, for the purposes of this activity, sustainability will be considered in terms of balancing:

- Environmental protection, economic prosperity, social equity;
- ‘Continuum of urgencies’ across security to sustainability time scales; and
- National interests and common interests.

The student Information Papers will serve as the basis for negotiating the Mock Arctic Council Ministerial Declaration, which will be designed and debated in a Mock Arctic Council Ministerial Meeting that will involve several sessions. As a final product, the student-ministers are expected to agree by consensus on the framework, concepts and specific language of their composite declaration, which will correspond to applicable international law and comparable to the ministerial declarations that emerge from each chairmanship of the Arctic Council.

**Reading:**

EvREsearch. 2019. *Knowledge Portal of Arctic Council Declarations*. [Apply the website – <http://arcticcouncil.knohow.co>].

*Mock Arctic Council Ministerial Declarations: 2016-2019* (attached below).

# ABOUT THE SERIAL

This incidental serial will share rigorous syntheses of meetings that relate to science diplomacy. The spirit of this serial is to be holistic (international, interdisciplinary and inclusive) in a manner that will be helpful to the future of our globally-interconnected civilization.

This serial is intended to integrate stakeholder perspectives, holistic evidence and governance records in a manner that reveals options (without advocacy), which can be used or ignored, with the goal of contributing to informed decision-making in our world.

Informed decisions are at the summit, overlying options and evidence. The evidence itself is distilled from data, with observations and information integrated from questions at the earliest stage possible for stakeholder engagement, which is the reason for the meetings in the first instance.

The decisions relate to the combination of fixed, mobile, and other built assets (including communications, research, observing and information systems) that require capitalization and technology PLUS regulatory, policy, legal, official-statement and other governance mechanisms (including insurance). Behind the decisions is the science, as the study of change, including natural and social sciences as well as Indigenous knowledge. Change itself reveals patterns and trends over time and space – to anticipate as well as respond to issues, impacts and resources – across generations within, over and beyond the boundaries of nations.

*Science Diplomacy Action* addresses an immediate and long-term need to publish rigorous syntheses and summaries of meetings associated with science and technology advice in government at all levels, especially among the foreign ministries of nations. This need is reflected by the rapidly growing number of meetings that focus on science diplomacy as a holistic process of evidence integration to balance national interests and common interests for the benefit of all on Earth. The value of these science-diplomacy meetings (or any meetings) is largely limited to those that attend. *Science Diplomacy Action* recognizes this unrealized opportunity to extend value beyond the meetings by soliciting and publishing rigorous meeting syntheses.

# SCIENCE DIPLOMACY CENTER

Nation states have sovereignty, sovereign rights and jurisdictions across nearly thirty percent of the Earth. In contrast, international spaces established from World War II beyond sovereign jurisdictions exist across nearly seventy percent on the Earth as well as in outer space. On a global scale, across one hundred percent of our home planet, the challenge is to balance national interests and common interests. Recognizing this forever challenge, the Science Diplomacy Center was launched in February 2017 at the Fletcher School of Law and Diplomacy at Tufts University.

With its three triangulated areas of focus – Education, Research and Leadership – the Science Diplomacy Center aims to:

- Educate the next generation of science diplomats;
- Facilitate research to transform data into evidence and options that contribute to informed decisions, operating across a 'continuum of urgencies'; and
- Provide leadership with science-diplomacy networks to build common interests among allies and adversaries alike across our globally-interconnected civilization.

The decision-support process applied by the Science Diplomacy Center involves holistic (international, interdisciplinary and inclusive) integration from the natural and social sciences as well as Indigenous knowledge regarding impacts, issues and resources within, across and beyond sovereign jurisdictions. This holistic integration further involves stakeholder perspectives inclusively as well as governance records that represent the operation of government institutions. Importantly, this decision-support process is designed to reveal options (without advocacy), which can be used or ignored explicitly, contributing to informed decisionmaking across the jurisdictional spectrum with its subnational-national-international levels.

To help with informed decisions, involving the combination of built elements and governance mechanisms for sustainable infrastructure development, the Science Diplomacy Center operates across the 'continuum of urgencies,' which exists for peoples, nations and our world from security time scales (responding to the risks of political, economic and cultural instabilities that are immediate) to sustainability time scales (balancing economic prosperity, environmental protection and societal well-being across generations).

## SUBMITTING MEETING SYNTHESSES:

As an incidental serial for rigorous meeting syntheses, the intention is to grow this serial in a manner that is both practical and helpful. The standard for the publication in *Science Diplomacy Action* is represented by Synthesis No. 1 (September 1, 2017), which emerged from the *1st International Dialogue on Science and Technology Advice in Foreign Ministries* in October 2016. Please see the Science Diplomacy Center website for *Instructions for Authors* (<https://sites.tufts.edu/sciencediplomacy/research/publications/science-diplomacy-action/instructions-for-authors/>).

In a holistic (international, interdisciplinary and inclusive) manner – *Science Diplomacy Action* seeks syntheses to share questions, observations, information, data, evidence and options that contribute to informed decisionmaking about issues, impacts and resources across jurisdictions in our globally-interconnected civilization. *Science Diplomacy Action* will operate as a rigorous publication with peer review, considering the overall quality, relevance and integrity of each submission. Each accepted synthesis will be an authoritative outcome of the relevant meeting with an author point-of-contact and other meeting participants listed as co-authors with their approval.



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**Prof. Paul Arthur Berkman**

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Professor of Practice in Science Diplomacy

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