ARCTIC SCIENCE IN GLOBALIZATION:
What is the most important question in Arctic research?

The Northern Research Forum Science Sessions in 2014-2015

The Northern Research Forum Science Session I

at the 2nd Arctic Circle
Reykjavik, Iceland, October 31, 2014

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Background

The Arctic region is a unique and important part of the Earth system and it is now experiencing some of the most rapid environmental, social, economic and geopolitical changes on the planet as a result of climate change and globalization. We consider that the Arctic region has now become a part of global economic, industrial, technological and environmental change. Simultaneously, what happens in the Arctic region has significant implications worldwide, influencing global economy, world politics and global community building. Given the multi-dimensional changes, it is crucial that the Arctic nations, together with non-Arctic nations, gain a greater understanding of the processes taking place in the region. The post-Cold War Arctic as a "knowledge-based region" is an interesting and a hands-on 'workshop', or a 'laboratory', for scientific research and higher education. The Arctic also has a great potential as a model for stability building and cooperation in world politics.

How the Arctic is changing and what it will be like in the future are important questions being asked by policy makers, land use managers and people who reside in the Arctic. There is a growing need for interdisciplinary research and new research findings, as well as for a dialogue across different sectors of society. Same goes for dialogue between different stakeholders, i.e. science, politics, business, a state and a civil society. The research community at large, when preparing for the ICARP III, is still gaining a great deal of knowledge and information as a result of the IPY 2007-2008 research effort. It is important that the polar research community, collectively, takes measures to ensure that we continue to develop international collaborative research and opportunities for scientists. Also ensuring that people living in the circumpolar North, decision makers and politicians continue to interact with the polar science community.

Early in the 21st century, there is a need for new and global platforms for open and democratic dialogue, and for fresh thinking and bold new ideas from the leading minds to discuss and analyze relevant issues and to assist decision-makers to apply scientific knowledge for policy-making. The Northern Research Forum (NRF) (www.nrf.is) started as a Northern inter-regional forum for interdisciplinary discourse and to implement the interplay between science and politics, where senior- and young researchers have designed the agenda. Recently the NRF has been transformed into a global stage for an open and democratic discussion on relevant and challenging issues. For example, for the 6th NRF Open Assembly "Our ice dependent world" we defined climate change as a global phenomenon that heavily influences all the regions that depend on water from glaciers. It brought experts from the three poles of

the globe, the Arctic, the Antarctic and the Himalayas together to discuss and analyze the importance of ice.

The NRF open assemblies have successfully created a dialogue, where the participants are committed to 'inclusivity', engage each other's arguments, focus on key issues and embrace the open-ended nature of comprehensive dialogue. The NRF has shown that an open dialogue can be intellectually stimulating as well as cumulative, as the Arctic Yearbook (www.arcticyearbook.com), the Arctic Circle (www.arcticcircle.org) and the Global Arctic project (www.GlobalArctic.org) have clearly shown. This broad based approach to search for knowledge is something that established academic institutions could apply and will hopefully do.

About the Northern Research Forum (NRF)
The NRF open assemblies and other sessions provide a platform for an open discussion on a state of Arctic science in globalization and how nations interested in playing an increasing role in research activities in the Arctic can collaborate and cooperate. The NRF will facilitate an open dialogue on collaborative and cooperative research at the international level that engages multiple sectors (e.g. indigenous people, scientific, academic, business and industry, political, local communities and others) in the on-going dialogue, that can lead to a better chance of achieving an appropriate balance of social, economic and environmental objectives while meeting national and international development objectives without compromising the future of the Arctic.

In 2014-2015 the NRF organized, in cooperation with the *Global Arctic* Project, two open NRF Science Sessions with open dialogue on Arctic science and globalization, "Arctic Science in Globalization: Beyond IPY 2007-2008": The first NFR session - with the theme, "What is the most important / relevant / challenging issue in the globalized Arctic, as well as the most important / relevant / challenging question for Arctic science, within the next 5-10 years? "- was organized at Arctic Circle Assembly in October 31, 2014 in Reykjavik, Iceland. The second one was held at the ASSW 2015 in April 29, 2015 in Toyama, Japan. It will build on the results of the Reykjavik session and culminate with a half-a-day session, with strong policy-orientation and based on the NRF model, as part of the "Arctic science in global-ization" theme of the ICARP III Conference program.

NRF Science sessions' outline:
The NRF sessions will consist of presentations by a panel of Arctic experts followed by an open discussion on how nations can develop a structure that will encourage cooperation and collaboration in the Arctic. The panel presentations and discussion will be designed to examine issues such as:

- What is the current state of Arctic science in globalization beyond IPY 2007-2008, when preparing the ICARP III? What might be useful product(s) coming out from the process? Is there a common, cross-cutting and interdisciplinary theme going through all disciplines, or will Arctic science continue as fragmented, as has been? Is it possible to define what the most important issue is in Arctic science within the next 5-10 years?
- What type of new dimensions and challenges are there in the globalized Arctic due to growing global interest towards the Arctic and pressure for to increase the mass-scale utilization of (off-shore) hydrocarbons of the region?

- What about regional development vis-à-vis sustainable development, is there a contradiction between them or not?
- What might be the ultimate 'price', the societal costs understood by broad way, that will be accepted to be paid for (further) resource development in the Arctic and globally? And for whom will the 'price' be highest?
- Comparison of the national strategies of the Arctic states with the international scientific activities of the Arctic Council (AC) and its Working Groups, as well as IASC, IASSA, UArctic, NRF and others.
- What is the state of policy-responses by the Arctic states and their scientific communities on one hand and the international scientific community and its organizations on the other?
- What is the role of Arctic science and higher education, as well as scientific and academic organizations in national strategies? Are they included as priority areas? How many and what types of other resources are being allocated for research? How much research is taking place or planned in support of national interests? Are there trends leading to a decrease in the internationalization of Arctic science?

Potential participants and expected results
Arctic experts, political scientists, Arctic Council, AC Permanent Participants, early career scientists, parliamentarians, indigenous organization representatives, business and industry, policy and decision makers, local community members.

The principal output of the two open dialogue sessions will be a final report on the discussion outcomes and key messages including ideas and tentative plans for next steps, particularly for ICARP III. The results of the ICARP III NRF session are intended to inform policy makers, people who live in or near the Arctic and the global community on how to build productive relationships between producers and users of knowledge.

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The NRF SESSION "ARCTIC SCIENCE IN GLOBALIZATION:
What is the most important question in Arctic research?
2nd ARCTIC CIRCLE in Reykjavik.

The "Arctic Science in Globalization: Beyond IPY 2007-2008" session took place on Friday, 31st of October at 18:40-20:00 at the 2nd Arctic Circle in Reykjavik, Iceland.

It assessed the impacts, relevance and future of Arctic science, emphasizing the future (e.g. ICARP III), searching for the so-called 'NASA' question. In other words, the session aimed to examine, (re)define and discuss what is the most important / relevant / challenging issue in the globalized Arctic, and following from that what is the most important / relevant / challenging question for Arctic science within the next 5-10 years. Among raised issues and questions, which can be provocative, could be e.g., "Do values and politics trump science?", „Should science take the Arctic Paradox seriously?", "The Anthropocene - too scary to be true?", "What is the ultimate price of mass-scale utilization we are ready to pay?", "Need for paradigm shift - a mission impossible?".

There were eight invited speakers (see below) from all over the Arctic region, and Central Europe. These were researchers and emerging or senior experts on Arctic science, knowledge and education. Each of them made a short - max. 5 minutes - presentation addressing the topic "what is the most important / relevant / challenging issue or question in the globalized Arctic, and for Arctic science, in the next 5-10 years? ".

Presentations were followed by lively open discussion by the audience. It was divided into two parts: 1st round was for questions & comments from the audience, and 2nd round was for speakers' short responses and possible short comments by the audience. Finally, there was a short conclusion for the 2nd part of the NRF session on "Arctic Science in Globalization" at ASSW 2015 in April in Toyama, Japan (see the attached description), which will follow-up this first NRF Science session.

The invited speakers were the following experts: Rasmus Bertelsen (IR and Education, University of Aalborg, Denmark); Heather Exner-Pirot (Social sciences, University of Saskatchewan, Canada); Matthias Finger (Energy and Resources policy, technology, EPFL, Switzerland); David Hik (Biology and Science policy, IASC / Canada); Gunhild Hoogensen Gjörv (Political sciences, UiT – The Arctic University of Norway); Halldor Johannsson (Arctic Portal, Iceland); Steingrimur Jonsson (Oseanography, University of Akureyri, Iceland); Gleb Yarovoy (Political sciences, Petrozavodsk State University, Russia). Lassi Heininen, chairman of the NRF Steering Committee, was the moderator of the session.

The main points highlighted by the speakers

Rasmus Bertelsen:

- Globalization in many, different context e.g., global economy.
- The place of the Arctic in global environmental and political-economic processes.
- Both climate change and long-range pollutants regarded as environmental globalization.
- The place of the Arctic in a political-economic system in transition, the aftermath of the Cold War and the Rise of Asia.
- Arctic security and West-Russia relations after the Cold War. The economic and political rise of China and its effects in the Arctic

Heather Exner-Pirot:

- Dialogue, technologies and innovations, i.e. how to use and apply technology better locally.
- Clusters and circumpolar knowledge.
- Combination of these so that discussion in the future would be / become more knowledge-based dialogue.

Matthias Finger:

- Currently there is "disconnection", and thus the challenge is how the two dynamics, the Arctic and Global will be combined with each other.
- There is a need and challenge of how to turn the ‚Anthropocene's change back.

David Hik:

- First reaction is that there is ICARP III, and thus no need to go „beyond the IPY".
- We need principles and methods how to organize ‚interdisciplinarity'.

Gunhild Hoogensen Gjörv:

- Gender and equality in the Arctic.
- One area where we need to work more – from the local to the global - interchange. This interchange between the local and the global area is most important.
- What values are the most important for our survival? There are so challenging things going on in the arctic, like suicide rates are horrible alarming.
- The linkage between tradition and culture in the environment. E.g. language is powerful and very important.
- What is important to our survival – human security? We need bring together all these concepts of security together – food security, military security, environmental security etc.

Halldór Jóhannsson:

- Policy makers like information prepared in a "digestive way" – scientists need to learn that.
- Sometimes there is too much competition in what we are working on.
- Work on permafrost, changed into a database on permafrost which is very important and heavily used.
- We use the word "Arctic" too much.
- We have to re-draw what we are doing and step out of our boxes.

Steingrímur Jónsson:

- The theme "Oceanographic connections between the Arctic and the rest of the world ocean" is very relevant: The Arctic Ocean (only 1% of the oceans) so it is not so big. However it has a high percentage of fresh water which facilities the freezing of the Arctic Ocean.
- This can have a great consequences for the Arctic Ocean, on the fisheries stocks etc. The herring stock with Iceland disappeared. And this is how the Arctic Ocean is affecting the Atlantic Ocean.
- You should look at the increasing open waters in the ocean, not the disappearing of the ice. This changes the whole the dynamic of the Arctic Ocean. Finally, it is important to keep on monitoring the Arctic Ocean.

Gleb Yarovoy:

- Presented the Valdai report (by Heininen, Sergunin and Yarovoy) "How to avoid a new Cold war".
- The social relevance of science is very important, even crucial.
- Since Political sciences are, or might and should be, provocative, there should be more 'new' thinking. That would become and make more political pressure towards policy-makers, which is to implement the social relevance of science.
- Following from this, the Arctic science has to maintain the high stability and in general we should always promote peace and peaceful debate.

The Northern Research Forum Science Session II

at ICARP III
Toyama, Japan on 29th of April 2015

Report – final draft (May - 2015)
By Andrian Vlakhov

"Relevant worldwide implications of the globalized Arctic affecting the Globe, and how they should be taken into consideration"

The 2nd part of the NRF "Arctic Science in Globalization" Northern Research Forum (NRF) open dialogue session, with the theme "Relevant worldwide implications of the globalized Arctic affecting the Globe, and how should they be taken into consideration" took place on 29th of April 2015 at 15:45-17:15 pm at ICARP III in Toyama, in Shimin Plaza room. It was one of the side meetings of the ISAK-4 / ICARP III Conference, an open dialogue for all interested participants of the event.

The participating speakers of the session were (in alphabetic order): Dr. Rasmus Bertelsen (UiT – Norwegian Arctic University), PhD candidate Piotr Graczyk (UiT – Norwegian Arctic University), Ambassador Hannu Halinen (IIASA), Director Kirsi Latola (UArctic TN Office, University of Oulu), Director Embla Eir Oddsdottir (Icelandic Arctic Cooperation Network), Director Volker Rachold (IASC), Phd candidate, Nikolas **S**ellheim (University of Lapland), Prof. Chris Southcott (University of Lakehead / ReSDA), Prof. Shinichiro Tabata (University of Hokkaido).

Prof. Lassi Heininen (University of Lapland), chairman of the NRF Steering Committee, moderated the session. The report is prepared by PhD candidate Andrian Vlakhov (European University at St.Petersburg).

Professor Lassi Heininen welcomed the participants of the NRF Open Dialogue 2nd Session, expressing his gratitude for their attendance. The work schedule suggested by Prof. Heininen was to listen to the presenters' talks, continued by the general discussion and closing remarks. Each participant had a brief opportunity to express his opinion on the matrix and on what should be added to it following the modern trends in the Arctic.

The previous meeting at the Arctic Circle Assembly has produced the general question, "What are the main challenges in the global Arctic for the coming years?" Prof. Heininen suggested that two sub-questions are further articulated, reflecting two different ways of analyzing this issue: the first dealing with the globalization coming into the Arctic, and the second, reversely, considering the most significant implications of the global Arctic worldwide. The main points highlighted by the speakers are enclosed.

The main points highlighted by the speakers

Rasmus Bertelsen:

- Role of the Arctic in the global governance: how does the Arctic governance affect the global one, how does it contribute to that?
- Effects of the global environmental governance for global political governance: does the continued international dialogue on the Arctic environment help the global system?

Piotr Graczyk:

- The Arctic governance in relation to the global one: how do the global international institutions work in the Arctic and what experience can they carry out from there?
- How do the Arctic cooperation activities (e.g. in shipping) affect the global cooperation and how the Arctic cooperation in general can be taken into consideration?

Hannu Halinen:

- No common view on stakeholders inside the Arctic Council and the need to identify these rather that going into competition.
- Fragmentation of the research activities in the Arctic and how the research results can be taken into account.

Kirsi Latola:

- People (both indigenous and non-indigenous) as the key elements in the Arctic.
- Local dimension of the Arctic issues.
- Regional cooperation in the Arctic
- Need to communicate the scientific results and outcomes.
- Developing human capital and capacity-building through education and research.

Embla Eir Oddsdottir:

- Interdisciplinary Arctic research.
- Corporate responsibility before the marginal communities.
- Power and its distribution in the Arctic.
- Freshwater issues.
- Extreme weather conditions.
- Gender and governance in the Arctic.
- Stakeholder interaction.

Volker Rachold:

- Physical system of the Arctic (sea ice, ice sheets, permafrost etc.) — need to improve the predictive skill.
- Socio-economic system of the Arctic (resources, shipping, fisheries, tourism etc.) — need to develop conceptual models.
- Environmental policy (Arctic Council and observer states) — need to convince the policy makers to start from here.

Nikolas Sellheim:

- The need to overcome the public image of the Arctic that influences the public opinion, and to develop new conceptual models (on the seal hunting example).

Chris Southcott

- Influence of the new global ethics regime (corporate responsibility and its implications).
- Greater exposure to the global commodities fluctuation.
- Indigenous control over resource development and their desire to develop the extraction.
- Increased hostility between indigenous groups and NGOs.

Shinichiro Tabata:

- Global or globalized Arctic: increase in the number of stakeholders; increased complexity of interests of the stakeholders in the Arctic; considerable reduction in the "distance" between the Arctic and other areas on the globe.
- Implications of the global Arctic for Russia: increased importance of the Arctic areas for the Russian economy, politics and diplomacy; esp. geopolitical importance; increased priority of the development of the Arctic areas among various regions in Russia; increased responsibility to preserve environment when developing the Arctic areas.
- When analyzing policies or decisions of Russia: taking into account a wider range of factors; identifying stakeholders in Russia who benefit from a particular set of policies or decisions; cooperate with Russian researchers and stakeholders at various levels.
- Implications of the global Arctic for Japan: increased economic interests in the development of the Arctic, esp. oil and gas development and NSR; increased desire to be involved or to have a voice in Arctic issues.

In the discussion that followed, the participants continued to shape the submitted suggestions and to adapt their form to the Arctic context. The most important points mentioned are as follows:

- The need for the Arctic to get on the mainstream in political meetings.
- The need to mitigate the delay in the science–policy knowledge transfer (i.e. delivering the research results faster).
- The need to make people with different background use common language on the Arctic issues.
- The need to define the legal standing for the Arctic (Arctic law, Polar code)
- Possibility of reconceptualizing the indigeneity discourse.
- Possible pan-Arctic diplomacy connecting to the higher education.
- The Arctic Council observers status issue (its lack of visibility).

The final round was allocated for the proposals to be added to the Matrix. The crucial points highlighted by the participants were:

- Need to include the Arctic as it is, least different from real situation.
- Need to avoid generalization as some issues (e.g. mining, indigeneity) aren't relevant for all areas.
- Operationalization of the issues mentioned in the Matrix and the way of starting further case research.
- Impact assessment (environmental, social, economic) and the need to make it regular and instrumental.
- Issue of how to reach more common ground between stakeholders.
- New relations between indigenous groups and external actors.

- Developing predictive skills for climate change.
- Need to explore the social and political psychology of the Arctic (perceptions, socializations, judgments).
- Gender obligations and other discrimination issues.
- Mineral resources development.