



# Transportation challenges in the North from education and research perspective

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### **Northern Universities Role in the Arctic Development**



Barents Euro-Arctic Council



- **Environmental protection**: sustainable use of natural resources in the Arctic, biodiversity preservation, monitoring, risk assessment
- Climate change: reduction of black carbon emissions, permafrost degradation, mitigation and adaptation
- Extracting industry, oil and gas development: risk assessment, oil spill prevention and response
- Transportation and logistics: developing transportation routes and infrastructure, Northern Sea Route development and servicing
- Safety in the Arctic: emergency preparedness, response and interaction
- Energy efficiency and renewable energy resources, cold climate construction
- Sustainable socio-economic development of the northern territories
- **ICT**: telemedicine development for the remote areas, rescue operations support
- Human in the Arctic: indigenous people, preservation of traditions and cultures, health improvement



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RUSSIAN CHAIRMANSHIP
OF THE BARENTS EURO-ARCTIC COUNCIL



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Chairmanship page – <a href="http://www.beac.st/en/">http://www.beac.st/en/</a>
Barents-Euro-ArcticCouncil/Chairmanship

RF Priorities within the Russian Chairmanship in the BEAC - <a href="http://en.beac-russia.com/">http://en.beac-russia.com/</a>

- Russian chairmanship

Quotes

Documents

→ Priorities

- Calendar of events

15th Ministerial Session of the BEAC Home \ Russian chairmanship

#### Russian chairmanship

For years of its existence the Barents Euro-Arctic Council has developed into an effective intergovernmental cooperation structure covering all important spheres of life.

The main objective of the Russian Chairmanship is to promote sustainable social and economic development of the Barents region, build modern infrastructure, enhance the region's competitiveness and investment attractiveness while making a rational use of its scientific, innovative and resource capabilities, complying with environmental standards and taking into account the interests of the indigenous peoples.

The motto of the Russian chairmanship in the BEAC:

Working together for innovative, smart and sustainable Barents region.

The guiding principles of the Russian chairmanship: «Trust, Transparency, Tradition».







## RF Chairmanship Priorities in the BEAC: 1. Transport

- Development of effective, safe and sustainable cross-border transport and logistics networks. All-regional approach to planning and implementation of transport initiatives
- Adoption of the Joint Barents Transport Plan which implies establishment of 12 cross-border corridors covering 3 means of transport: motor, railway and sea links
- Development of the East-West air connection network
- Development of ferry connections in the region
- Making use of commercial advantages of the Northern Sea Route

Key event – Meeting of Ministers of Transport of the BEAC member states in Arkhangelsk and Meeting of Steering Committee of the Barents Euro-Arctic Transport Area (BEATA) (Arkhangelsk, June 2016)



# **BEAC Joint Working Group** on Education and Research

**Priority 1**: Strengthening the JWGER membership and streamlining the strategy in response to new challenges and needs

**Priority 2**: Contributing to implementation of regional strategies (climate change, **transportation**)

**Priority 3**: Interacting and cooperation with other BEAC WGs

**Priority 4**: Enhancing academic cooperation and mobility in the Barents Region

**Priority 5**: Mapping out synergy with networks in the North (EU ND partnerships, UArctic, AC WGs and TFs)



http://education.uarctic.org/studies/

Study opportunities: search by country / university / disciplines / type of study / academic level



### **UArctic Study Catalogue**

Here you can search for northern relevant courses and programs offered by institutions throughout the eight Arctic countries in the Arctic region. Enter your search terms or search by country and/or institution.

Name	Institution	Country	Level	Type
Master of Maritime Management	Memorial University of Newfoundland	Canada	Master	Program
Bachelor of Maritime Studies	Memorial University of Newfoundland	Canada	Bachelor	Program
Maritime Law: Liability and Insurance	University of Oslo	Norway	Master	Course
Law of the Sea and the Arctic	UiT The Arctic University of Norway	Norway	Master	Course
Inuit & Qallunaat Concepts of Arctic Marine Space in Maritime Transport Policies	University Centre of the Westfjords	Iceland	Master	Course
Technology and Safety in the High North	UiT The Arctic University of Norway	Norway	Master	Program
Maritime Transport	University Centre of the Westfjords	Iceland	Master	Course
General Law of the Sea	UiT The Arctic University of Norway	Norway	Master	Course
Korea Arctic Academy	Korea Maritime Institute	Korea	Bachelor, Master, PhD	Course
Arctic Politics and Law	University of Lapland	Finland	Bachelor	Course
International emergency preparedness and environmental protection in the High North	UiT The Arctic University of Norway	Norway	Master	Course
Law of the Sea and the Arctic	UiT The Arctic University of Norway	Norway	Master	Course
High North Dialogue Master Course: International perspectives on business and governance in the High North	Nord University	Norway	Master	Course



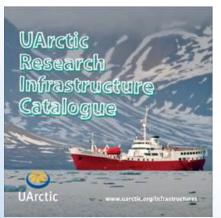
### **UArctic Research Infrastructure Catalogue**

The UArctic Research Infrastructure Catalogue features include:

- · Worldwide search and identification of research infrastructures and facilities located at and operated by UArctic member institutions
- · Increased awareness of the international research community and other stakeholders about research infrastructures
- · Research collaboration possibilities
- · Efficient use of research infrastructures and facilities

http://research.uarctic.org/reso urces/research-infrastructurecatalogue/

Search for infrastructures: by country / institution / type / disciplines



Name	Institution	Country	Type
Petroleum Development Laboratory	University of Alaska Fairbank	s United States	Laboratory
Alaska University Transportation Center	University of Alaska Fairbank	s United States	Research centre/institute
Institute of Northern Engineering	University of Alaska Fairbank	s United States	Research centre/institute
CEN Louis-Edmond-Hamelin research vess	el Center for Northern Studies d'Etudes Nordiques	s / Centre Canada	Research vessel
Arctic Floating University on board the resovessel Professor Molchanov	earch Northern (Arctic) Federal U	niversity Russia	Research vessel
Center for Remote Sensing of the Arctic	Northern (Arctic) Federal U	niversity Russia	Research centre/institute
Umeå Marine Sciences Center at Umeå University	Umeå University	Sweden	Research station
Far Eastern Federal University - School of Law	Far Eastern Federal University	Russia	Research centre/institute
CEN Umiujaq Research Station	Center for Northern Studies / Center Nordiques	tre d'Etudes Canada	Research station
CEN Whapmagoostui-Kuujjuarapik Station	Center for Northern Studies / Center Nordiques	tre d'Etudes Canada	Research station

### MARPART

# Maritime Preparedness and International Partnership in the High North

Partners: universities in Norway, Russia, Greenland, Iceland

Objective: assessment of the risk of the increased maritime activity in the High North (including the Northern Sea Route) and the challenges this increase may represent for the preparedness institutions in this region

#### Tasks:

- foreseeing demands for a preparedness system in the High North including search and rescue, oil spill recovery, firefighting and salvage, actions against terror, etc.

providing analytical concepts for studying coordination challenges in cross-border, multi-tasking operations with partners

contributing to the developments of inter-organizational partnership

and management of joint operations

















### MARPART

# Maritime Preparedness and International Partnership in the High North

### Project work packages:

- Future maritime activity level and risk patterns in the
  - High North
- Institutional framework, governance, resources and institutional strategies within different sea regions
  - Organizations and operational management structures
    - linking cooperating institutions in joint maritime

operations



Russia





















### **FAIRBANKS DECLARATION**



### airbanks, Alaska, United States 2 March 2016

65 students from 13 arctic and non-arctic countries: Russia, USA, Canada, Denmark (Greenland), Norway, Sweden, Iceland, Belgium, Great Britain, Mexico, Venezuela, China, New Zealand



Fairbanks Declaration: http://www.uarctic.org/media/1478264/mac-fairbanks-declaration.pdf

Model Arctic Council page: <a href="http://www.uaf.edu/mac/">http://www.uaf.edu/mac/</a>

UArctic thematic network Model Arctic Council: http://www.uarctic.org/organization/thematic-

networks/model-arctic-council/

#### 32 participating universities:

Carlton University (Ottawa, Canada)

Dartmouth College (USA)

Duke University (USA)

Laval University (Quebec City, Canada)

McGill University (Montreal, Canada)

Mount Saint University (Halifax, Nova Scotia, Canada)

Moscow State Institute of International Relations (Russia University of Northern British Columbia (Canada)

Northeastern Federal University (Yakutsk, Russia)

Northern Arctic Federal University (Archangel, Russia)

Northern Arizona University (USA)

Oregon State University (USA)

Oxford University (United Kingdom)

Queen's University (Kingston, Ontario, Canada)

Saint Petersburg State University (Russia) State Polar Academy (St. Petersburg, Russia)

Umeå University (Sweden) United States Coast Guard Academy (USA)

University of Akureyri (Iceland)

University of Alaska Anchorage (USA)

University of Alaska Fairbanks (USA)

University of Alberta (Canada)

University of Bergen (Norway)

University of Greenland

University of Quebec (Canada)

University of Saskatchewan (Canada)

University of Southern Denmark

University of Washington (USA)

University of Western Australia

University of Winnipeg (Canada)

Wilfred Laurier University (Waterloo, Ontario, Canada)

York University (Toronto, Canada)



## MANAGING MARITIME TRAFFIC FOR MARINE RESOURCE DEVELOPMENT

- Encourage Member States to work with the IMO to address fishing vessel activity in the next version of the Polar Code
- Develop a framework for a pilot program to address the use of heavy fuel oil in areas of the Bering Sea region to be conducted with free, prior, and informed consent of the Arctic Council, including local communities to the Area
- Establish a Task Force reporting to the SAOs on the use of alternative fuels in the Arctic
- Encourage Member States to continue hydrographic mapping and sharing of findings in areas of high density traffic towards improving safe navigation in maritime waterways
- Develop a universal Notice to Mariners system for the Arctic to share maritime conditions, based on the best available scientific information, which includes ecological data and developed especially through collaboration with Permanent Participants
- Establish an Expert Group to implement a Pan-Arctic Network of MPAs, which includes development of an agreed methodology to determine regional effectiveness of the Pan-Arctic Network of MPAs
- Note the role of MPA networks in shaping future shipping lanes

### SUSTAINABLE CRUISE SHIP TOURISM DEVELOPMENT

- Recognize the threat and potential adverse effects of invasive species in the Arctic marine environment
- Urge the ratification of International Maritime Organization's (IMO) International Convention for the Control and Management of Ships' Ballast Water and Sediments
- Acknowledge the lack of understanding on the decomposition of waste in Arctic water
- Affirm the need for greater investment in research concerning the sustainable management of waste by cruise ships in Arctic waters
- Welcome improved dialogue between the local Arctic communities and the growing tourism industry in the Arctic region
- Recognize the importance of local community knowledge on the maritime environment, tour operations, pilotage, and in safety and security
- Acknowledge the vitality of employing indigenous peoples in positions that aid the tourism industry prior to an outside source, in order to keep small local economies sustained and engaged in the growing industry
- Address the need for a better framework for cruise ship operators and owners throughout the entire Arctic
- Encourage the Association of Arctic Expedition Cruise Operators to expand the membership to all Arctic nations beyond the current European participants and to create a more universal set of guidelines



### Some conclusions so far..

Universities across the Arctic region have a huge potential to develop education and research in connection with the Arctic particular challenges

This potential might be increased significantly through resources of international cooperation and networking

Universities provide expertise for regional development through a permanent dialogue with decision-makers

Close dialogue between universities, industries, regional and national authorities is a key to success