Arctic Maritime Safety: *Learning from the past to help address today's challenges to the safety of peoples in the Arctic*

Introduction

UArctic is launching a new research fellowship programme that is open to all UArctic member organisations. The programme is part of a new partnership with Lloyd's Register Foundation and supports research under the brief "maritime safety: learning from the past to address challenges to the safety of peoples in the Arctic."

The call introduces a programme for research fellows during two academic years 2024-2026 and funds fellowship working on the challenges of maritime safety in the Arctic across three interconnected themes. The programme is supported with a total grant to UArctic of £500,000 and envisages several Fellows working both individually and collaboratively over the two academic years. Fellows will benefit from co-ordination and research collaboration facilitated by the UArctic programme management and possibility to build relationships with the UArctic Chairs and relevant Thematic Networks within applicable fields, if desired. We invite bids for up to £40,000 over the two years.

Background

The maritime Arctic is undergoing profound changes. Climate change is reducing sea ice cover, opening up new sea routes, and affecting the distribution of commercial fisheries, as well as impacting global weather systems. We have seen a steady increase in ship traffic of all kinds across the Arctic; more fishing vessels, merchant ships, research vessels and cruise ships. This presents both opportunities and challenges for Indigenous and local communities, such as communities in Inuit Nunangat or commercial fishing communities in Iceland. It also presents new risks to the environment and to the safety of these communities as well as the people onboard ships.

The maritime Arctic is undergoing profound changes in the present, but it has also done so in the past. People have explored new Arctic routes for generations and transitioned between different means of powering ships and the infrastructures to support them. We have an opportunity to learn from the past to help us better navigate the challenges of today and to do so in a way that is equitable and inclusive. The new fellowship programme will take this opportunity and do so in a way that builds both connections and capacities for maritime research in the Arctic.

The first call for research highlights three interlinked topics:

- **“ice histories”** and the opportunity to integrate different historic perspectives and insights into sea ice with the modern technologies and regulations that guide shipping today;
- **“safely navigating new Arctic Sea routes”** and the opportunity to learn from experiences of opening up new sea routes in the Arctic in the past (e.g. the Northern Sea Route and the Northwest Passage);
- and **“cruise ships in the cold”** as a specific case of new maritime traffic in the Arctic that raises not only opportunities but also safety concerns and challenges to local infrastructure and its capacity to respond to incidents.

The Research Fellows

The call invites applications from researchers and Indigenous Knowledge holders employed by UArctic member institutions. The new UArctic x Lloyd’s Register Foundation Fellows will not only receive funding for their work but can also benefit from access to the Foundation’s extensive archive of ship surveys, wreck reports and more found here. The Fellows are asked to produce an individual research paper or research outputs plus contribute to a collaborative paper with the other Fellows. The UArctic fellowship team will facilitate the collaboration and encourage collaboration with the immense UArctic member networks to support a cross-disciplinary research programme. The collaboration will include online meetings of the Fellows and the research programme manager supported by in-person meetings across the programme. The communication of research outputs through relevant channels will also be helped by the UArctic programme team and the Foundation to raise awareness and support impact of the research findings.

Knowledge sharing, interaction, and communication is necessary in order to ensure impact beyond academia. The Fellows funded under this call are asked to provide a plan for communication and the exchange of knowledge. Where appropriate, the plan should describe the processes by which research-based knowledge can feed into practice and policy in collaboration with stakeholders. Guidance on expectations for sharing of individual and collaborative outputs is given below, with applicants encouraged to explore creatively around and beyond this. Additionally:

- Individual papers or outputs are to be presented at in-person international meetings, or appropriate seminars and conferences with the paper or outputs published in a relevant respected journal.
- The collaborative paper or work is also to be presented at international conference/s, and preferably published in a respected journal in the field of maritime safety. This will be enabled by the UArctic Research Programme team in collaboration with the Fellows.

The three themes of the call

Theme 1: Ice histories

Ice is one of many things that makes the Arctic maritime special and different from other maritime environments. It also makes it especially dangerous and drives many of the safety challenges in the maritime economy. Ice is also an intrinsic part of Arctic ecosystems and culture. It is viewed differently by different peoples: Indigenous perspectives contrast sharply with industrial shipping operators. In Inuit culture ice can be seen as 'home' and something that allows safe passage, whilst for commercial shipping and historic explorers ice is an obstacle to be broken through or out of.

Sea ice has many forms and behaviours that change over time. Climate change is affecting these patterns and challenges the models or assessments that people use for when and where it safe to navigate. There is a long history and knowledge of ice in oral, written and digital forms – but these are not often brought together. Indigenous hunters as well as ice captains from the fishing and whaling fleets built up experience of navigating through and across the ice. There is an opportunity to research these histories and potentially to bring together the lessons of ice histories from such communities and archives with the modern-day satellite, digital observation and modelling of ice that are used by today's shipping for risk assessment and navigation.

Theme 2: Safely navigating changing Arctic Sea routes

Climate change, the needs of the energy transition and geo-political interests are driving increased traffic along new routes in and across the Arctic. Several safety challenges are posed as ships venture further north, including increased traffic in remote geographies, navigating changing ice conditions, crews who may be new to the conditions, use of non-ice-class ships, and the consequences of spills and accidents on fragile ecosystems and local communities. These challenges need to be addressed by research and policymakers and would benefit from an interdisciplinary approach which includes local voices.

This broad topic covers specific geographies and routes and specific classes of ships and risks, such as the seasonal use of the Northern Sea Route and the use of sea routes in the Arctic. Fishing routes are also changing due to climate changes and quota management implementations that affect the grounds fished, bringing vessels further north making search and rescue more. In addition, mapping, identifying and analysing different types of risks is of importance, as is historical data on accidents and incidents across the Arctic.

Theme 3: Cruise ships in the cold

Cruise ships are bringing people to the Arctic maritime in increasing numbers, increasing both traffic, size of ships and risks. Climate change, retreating sea ice and the demands of their clients means that ships venture further, sometime to see things “before they are gone”. Recent incidents provide a first glimpse of the challenges to safety and several experts point

to the risk of potentially serious incidents with risk to life of those onboard due to remoteness and a mismatch of response capacity to the scale of some of the vessels.

Arctic tourism is not new, with trips already taking place in the 19th century. Cruise ships have impacts on local communities when they dock and sometimes when they interact with Indigenous hunting and fishing grounds and activities. The routes are changing as the Arctic Sea gets increased accessibility but at the same time brings on challenges of navigating them safely. The perceptions of risk for the cruise ship crew and the awareness of the fact the risks and challenges to Arctic cruise navigation are very different to those travelling in other parts of the world needs attention.

Eligibility criteria

In order to be eligible for funding, the following conditions must be met:

- Proposals must be submitted electronically using the UArctic application portal by the call deadline (15 June 2024).
- All proposals must be written in English.
- The call follows the UArctic member policy. The Fellow must be a qualified researcher or Indigenous Knowledge holder employed by UArctic member organisation (the host institution).
- The proposal must include a signed letter of commitment from the host institution. Letters of commitment must be signed by a person authorised to take on financial commitments on behalf of the institution for the entire duration of the Fellowship.

Applications that do not fulfil the above eligibility criteria will not be processed.

Financial framework

Applicants are invited to apply for funding to establish a Fellow with a maximum budget of 40,000 GBP in total with a duration of up to two years up to and not beyond August 2026.

Acceptable utilisation of funding:

- personnel costs;
- research-related costs (such as data collection and analysis);
- project-related costs (such as collaboration activities);
- communication, dissemination, and knowledge exchange activities;
- travel/accommodation costs.

The UArctic Research Programme team will organise and fund separately one or more in-person/hybrid meetings with and between the Fellows to facilitate collaboration with and between them. Any further travel costs shall be funded from the fellowship budget.

Payroll and indirect expenses must be calculated according to the relevant national rules. The feasibility of the budgets will be assessed.

Submission of proposals

Applicants should submit the application form and any the annexes electronically on behalf of the UArctic host institution through the UArctic application portal. Applicants must submit a

complete proposal no later than **13:00 CEST on 15th of June 2024**. This is designed to be relatively simple, but must contain responses and supporting documents as requested below:

- Full research proposal plan which includes:
  - Project overview,
  - Project aims and objectives,
  - Main activities,
  - Impact of the research;
    - Describe the outcome of the project and how it aims to enact change,
    - Describe the main deliverables,
    - Dissemination activities.
  - Total funding requested and outline of the budget, including phasing.
- Two page CV including a shortlist of a maximum of ten publications or outputs.
- Signed letter of commitment from the host institution.

The proposal should be a maximum of 6 pages (11pt. Times New Roman, single spaced). For further questions, contact lrf@uarctic.org.

Assessment criteria

All eligible proposals will be rated by members of an international expert panel established for the programme. Ratings will be based on the criteria described below:

Quality of the research proposal and contribution to call objectives (60 / 100)

- Relevance to the call objectives and the thematic focus. How research learns from the past to help address present day challenges to safety. *Note: whilst proposals are encouraged that work across the three themes described, proposals do not need to do so, and may focus on one of them.*
- Project description, research questions/hypothesis, and credibility of methodology.
- Originality and potential to develop new knowledge beyond current state-of-the-art.

Outreach and potential impact: (25 / 100)

- Expected research outcomes, societal relevance, and potential for impact.
- Expected deliverables (e.g. publications, books and/or patents, exhibitions).
- Any further communications and dissemination of the results (e.g. to general public, stakeholders, academic community).

Applicants and implementation: (15/100)

- Knowledge, experience and qualification of the applicant.
- Feasibility and effectiveness of the work plan, including the extent to which resources are assigned in line with the objectives and deliverables.
- Appropriateness of the project implementation plan, budget, deliverables and milestones.
- Consideration and integration of diverse perspectives.

Processing of the proposals

The process of evaluating the proposals will be administered by the UArctic Application Evaluation Committee (AEC). The process leading up to a funding decision includes the following steps:

- **Eligibility**: Proposals will be examined to check their eligibility and adherence to the requirements of this call. Only applications which meet all the conditions set out in this call text can be included in the evaluation procedure.

- **Expert panel**: Each eligible proposal will be evaluated by members of an international expert panel that will include potential users of the research outcomes. The panel will use the assessment criteria as specified in this call.
- **UArctic AEC**: The committee will make a final funding recommendation based on the expert panel evaluation, the stated criteria and consideration of the collaborative nature of the research programme.
- **Funding decisions**: Based on the assessments of the UArctic AEC. Fellows may commence once the funding decisions have been made and the project contracts between the host organisation and UArctic are signed. The funding decision is expected to be announced on 15th August 2024.

Please note that UArctic AEC may adjust the process described above in case of an unforeseen number of submitted applications or other unexpected events.

A note on expectations

The Fellows are expected to participate in online and in-person meetings, and other events as outlined in the call. These will be agreed more specifically with all the Fellows together at the beginning of the programme to best promote collaboration. Travel funding will be provided separately by the programme.

The Fellows will be responsible for submitting a report at the end of the first year consisting of a scientific progress report and a financial report. A final report must be submitted to the UArctic AEC committee by the end of the Fellowship period.

12. April 2024