



Securitization of scientific cooperation: The case of the Arctic

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Received 1 February 2025

Accepted 26 March 2025

Abstract: This article analyses the securitisation of scientific cooperation in the European Arctic Region (EAR), with a focus on Svalbard, using the Copenhagen School framework. It examines how geopolitical tensions, particularly those arising from Russia's aggression against Ukraine and the evolving role of China, contribute to the politicisation and potential securitisation of Arctic research. The European Union emerges as a key securitising actor, advancing regulations on research security, dual-use technologies, and foreign interference. While state actors remain the primary decision-makers, functional actors such as think tanks, scientific institutions, and international conferences shape securitising narratives. The Arctic Council, constrained by consensus-based decision-making, primarily acts as a knowledge broker rather than a securitising entity. The study concludes that the securitisation of Arctic scientific cooperation is a dynamic, multi-level process influenced by state and supranational actors with legal and geopolitical legitimacy. However, the extent to which securitising moves are accepted depends on responses from national governments, research institutions, and broader geopolitical developments.

Keywords: Arctic, science diplomacy, research security, geopolitical tensions.

Introduction

Scientific cooperation in the Arctic is one of the activities that distinguish this region. Despite numerous political challenges and the difficult natural conditions, which in turn result in high financial costs of conducting scientific research and limited access to research infrastructure, scientific activity in the Arctic has been perceived as one of the dimensions of international community engagement that unites actors beyond divisions and around a common goal. This goal has always been the pursuit of knowledge, initially, the desire to explore undiscovered and demanding areas in the Far North, which over time shifted the researchers' attention to natural phenomena related to climate change.

However, international scientific cooperation in the Arctic has never been entirely free from political influence. The intensity of the politicisation of Arctic scientific cooperation has increased particularly during periods of change, tension, or shifts in international politics, both in cases directly concerning the Far North and in those occurring in other, often geographically distant, parts of the world. This is the situation we are currently facing. The tensions and geopolitical shift caused by the Russian Fed-

eration's aggression against Ukraine and the Sino-American rivalry are phenomena generating a growing sense of uncertainty and the rapid bifurcation of international relations. Other factors include technological advancements, such as in the field of artificial intelligence, as well as the economic and political consequences of climate change.

Despite the strong cooperative component of Arctic scientific cooperation, which is linked to solidarity around research objectives, it is not devoid of a competitive dimension, which stems from the nature of the research sector in every state. Stakeholders involved in scientific and innovative activities compete for research funding, rankings evaluating scientific excellence, innovation, and the applicability of research. This rivalry extends to the transnational level, where researchers compete for grants, access to scientific infrastructure, and opportunities to publish in the most prestigious academic journals.

This is not the only level where competition is observed. Science policy, including its external dimension, is a significant field of activity for states, as well as non-state actors such as international organisations, enterprises, and other non-state entities. There has long been a consensus that knowledge is a resource and a source of both



advantage and power. This is particularly evident in the science-technology-innovation sector. In a context of geopolitical tensions and security threats at both the international and national levels, all these factors acquire new significance and undergo redefinition, involving their politicisation and, in many areas, securitisation.

The research objective of this article is to analyse scientific cooperation in the Arctic from the perspective of the securitisation concept. We aim to answer the question: can we speak of the securitisation of scientific cooperation in the Arctic? The scope of the analysis is limited to scientific cooperation conducted in the European Arctic Region, with a particular focus on Svalbard. This choice is justified by two main reasons. Firstly, the case of Svalbard serves as a lens through which geopolitical tensions of recent years and their effects are clearly visible. Secondly, the restriction of the analysis to Svalbard, as part of the European Arctic Region, is also due to the lack of access to data and literature on scientific cooperation, or more broadly, science diplomacy, from the Russian part of the Arctic.

Scientific cooperation with researchers from foreign academic institutions has long been a subject of interest across various disciplines in the humanities and social sciences. This includes studies on the changing nature of scientific research, which is undergoing intense internationalisation, as well as research on the collaboration strategies employed by individual scientists. The latter has been explored by Bozeman and Corley (2004). The concept of science as a network was shared by scholars such as Merton (1957), Crane (1972), and bibliometrician Garfield (1972). Meanwhile, the internationalisation of science as the development of non-linear networks and global partnerships, exemplifying the 'fourth age' in research, remains a persistent focus of academic inquiry (Wagner and Leydesdorff 2005; Adams and Gurney 2016).

The funding of scientific research has been widely analysed in the fields of economics and management studies. Research has examined global cooperation in research policy and concluded that funding frameworks must align with shared international goals (Georghiou 1998). Other studies have assessed the impact of EU funding on scientific productivity, with Defazio *et al.* (2009) identifying a positive relationship between funding and collaborative outputs. Additionally, Houghton and Oppenheim (2010) investigated the economic implications of alternative publishing models, demonstrating that open access enhances dissemination and cost-efficiency.

Sociological and cultural studies research has focused on the relationship between science and society, as well as the globalisation of scientific research and its consequences. Nowotny *et al.* (2001) examined the interaction between science and society, concluding that reflexivity is key to addressing complex societal challenges. Heilbron and Gingras (2018) traced the globalisation of European social sciences and humanities research, identifying an increase in co-authorship but an uneven level of participation. The ethical dimension of the internationalisation of

scientific research has also attracted scholarly attention. Sismondo (2004) discussed the globalisation of science, highlighting the ethical implications of asymmetrical partnerships. Similarly, Bosch *et al.* (2016) examined ethics in global scientific collaboration, concluding that equity and fairness in partnerships are crucial to success. Furthermore, studies on the governance of the European research and higher education sector have explored challenges in balancing inclusivity and excellence (Chou and Gornitzka 2014).

The topic of cooperation and the relationship between science and society, where science is understood as a social construct and its designations are shaped by processes of societal change and evolution, is strongly represented in interdisciplinary research within the field of Science and Technology Studies. For example, scholars in this field explore how science and engineering are embedded in society, highlighting the interplay between the technical and social dimensions of research (Latour 1987). Callon (1994) argues that science functions as a public good and advocates for collaborative models to maximise societal benefits. Meanwhile, Jasanoff (2004) investigates the co-production of knowledge and social order, emphasising that science cannot be disentangled from its political and cultural contexts.

A significant branch of research focuses on the assessment of international scientific cooperation. Within this area, a distinct methodology has been developed, primarily based on quantitative and, to a lesser extent, qualitative methods, allowing for the evaluation and positioning of researchers and research teams in international rankings that assess scientific excellence, technological advancement, publication capacity, international visibility, and the attractiveness of national science sectors to foreign talent. Some of these studies are conceptual in nature. For instance, Katz and Martin (1997) define research collaboration and its typologies, demonstrating that collaboration enhances innovation but requires effective coordination. Other studies propose and explain methodologies for evaluating the internationalisation of scientific research and international scientific cooperation (Hoekman *et al.* 2010; Wilsdon 2015; Kwiek 2016, 2019, 2021). Similar analyses are regularly conducted by international organisations such as the European Union (EU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Intellectual Property Organization (WIPO), and the Organisation for Economic Co-operation and Development (OECD) (UNESCO 2021; European Commission 2024a; WIPO 2024; OECD 2024).

The promotion of the internationalisation of science and international scientific cooperation is among the key objectives of science diplomacy. Therefore, it is important to acknowledge the extensive body of work produced by researchers specialising in this phenomenon. These scholars come from various disciplines within the social sciences and humanities, but also include individuals with backgrounds in other scientific fields who have entered academia as a result of their prior experience as practi-

tioners of science diplomacy. Science diplomacy has been the subject of research by authors such as Flink (Flink and Schreiterer 2010; Flink 2020, 2022), Turekian *et al.* (2015), Gluckman (2017), and Ruffini (2017). Numerous studies have also examined models of science diplomacy employed by states and international organisations, such as the EU, as well as within the Arctic region. Examples include research conducted by Bertelsen (2015, 2019, 2020) and Szkarłat (Szkarłat 2020, 2022; Szkarłat and Łuszczuk 2022; Łuszczuk *et al.* 2023).

However, the literature on the subject lacks extensive studies in which authors analyse processes of international scientific cooperation using the Copenhagen School approach and the theory of securitisation. Nevertheless, this topic is not entirely absent from research. Evidence of this can be found in the rich body of literature in the fields of critical geography and geopolitics, where scholars have frequently highlighted the correlation between science/research and strategic interests in the polar regions (Dodds and Hemmings 2015; Dodds and Nuttall 2016; Young 2021).

Additionally, there are scientific studies and policy documents, which will be examined in this article, in which the concept of securitisation is applied, but in reference to the security of conducting scientific research. This includes both the physical safety of researchers conducting projects in politically unstable regions or areas with extreme environmental conditions, such as the Arctic or Antarctic, and the security of scientific data and research outcomes (University of Copenhagen 2018; National Science Foundation 2024; European Commission 2024b; Advancing Conflict Research 2025).

Research cooperation in Svalbard has roots in the archipelago's strategic and scientific significance. Early exploration in the 17th and 18th centuries focused on cartography and natural resources. Scientific interest grew in the 19th century with Arctic expeditions, particularly during the International Polar Years (1882–1883 and 1932–1933), fostering multinational collaboration in geophysics and meteorology. The 1920 Svalbard Treaty established Norway's sovereignty while ensuring equal access for signatories to engage in research and economic activities. This legal framework facilitated international scientific presence in the region. In the mid-20th century, the Cold War heightened geopolitical tensions, but research cooperation persisted, particularly in areas like glaciology and climate studies (Østhagen 2024b; Svalbard Museum 2025).

In 1993, the establishment of the Svalbard Science Forum by the Research Council of Norway marked a turning point, promoting collaboration and resource sharing among the growing number of international research stations. Today, Svalbard serves as a hub for Arctic research, with nations leveraging its unique location to study climate change, ecosystems, and geophysics under a cooperative framework guided by the treaty (RCN 2025).

Until 1985, the Norwegian authorities had not introduced any specific policy regarding the scientific activities

undertaken by international researchers in the Svalbard archipelago. Norway maintained an open approach, unwilling to restrict international scientific cooperation on Svalbard. In the 1990s and early 21st century, several documents were issued (White Papers 1990, 2009, 2016), which reaffirmed Norway's readiness to host international scientific teams while also emphasising the coordinating role of the Norwegian authorities and the country's sovereign rights over the archipelago. The most recent of these documents designated the Norwegian Polar Institute as the coordinating and supervisory institution for scientific activities on Svalbard and defined Ny-Ålesund as a "platform for world-class, international scientific research cooperation" The justification for enhanced control and coordination referred to concerns about the potential negative impact of human activities on the natural environment. It can be argued that Norway's policy in the past decade has involved the instrumentalisation of science and international scientific cooperation to reinforce the country's sovereign rights over the archipelago. Many other states pursue a similar strategy, using scientific presence in the Arctic to signal their interest in the region, not solely in scientific terms (Hansen and Moe 2024).

Currently, scientific research is being conducted at several locations across the Svalbard archipelago, including Ny-Ålesund, Longyearbyen, and year-round or seasonal research stations operated by institutions such as the Polish Academy of Sciences and Polish universities. In total, 600 research projects are being carried out, involving 7035 scientists from 55 countries (RiS 2025).

The Svalbard archipelago also holds significant strategic importance, both economically and politically. This dimension has gained intensity due to the current geopolitical situation and the growing awareness within the international community of the changes that will result from climate change. The primary threat, both now and in the future, is the Russian Federation, whose research vessels, like those of other states, are entitled to navigate and conduct research within Norway's exclusive economic zone (EEZ) and on its continental shelf. Such access can only be restricted in explicitly defined cases under international conventions (Article 246, United Nations 1982).

The archipelago also holds strategic relevance in the event of a potential military conflict between the Russian Federation and NATO. Furthermore, the activities of China in the region are of fundamental importance for the future of Svalbard. Iris A. Ferguson, the U.S. Deputy Assistant Secretary of Defense for Arctic and Global Resilience, has expressed concerns regarding China's increasing presence in the Arctic. She emphasised that, despite not being an Arctic nation, China perceives the region as a strategic avenue for expanding its influence, seeking new sources of raw materials, and projecting power: "The Chinese are using other aspects of their national power to insinuate themselves into the region. China is involved in scientific and research projects in the region. China is looking to establish economic ties within the Arctic" (U.S. Department of Defense 2023).

Methods

This analysis draws on the theory of securitisation, developed within the Copenhagen School of International Relations, which includes scholars such as Barry Buzan, who introduced the concept of security sectors and the initial version of security complexes into the study of international relations, and O. Wæver, the author of the securitisation concept (Buzan *et al.* 1998; Buzan and Wæver 2003). This concept is based on the premise that the identification and management of certain phenomena as security challenges do not always rely on objective variables. Certain issues undergo a process of securitisation, meaning they are framed as security concerns, and this process is intersubjective, involving both a securitising actor and an audience (Balzacq *et al.* 2015).

The transformations occurring within the architecture of international security are also evident in the European Arctic Region. A security regime operates in this context, as conceptualised by Jervis (1982), but it is subject to redefinition, a process that affects diverse sectors and actors, including the scientific sector and the international scientific community. This presents an example of a heterogeneous security complex, in which the same actors play multiple roles (securitiser, referent object, audience), and their activities transcend sectoral boundaries. A key aspect of the securitisation concept is the notion of existential threat and how it is defined. There is no universal framework based on a fixed set of indicators that must be considered when defining existential threats. Rather, such threats vary depending on the sector, actor, and level of analysis, resulting in their diverse nature. This nuance is observed in the theoretical, though often difficult to distinguish in practice, process of politicisation and securitisation of certain phenomena. For different actors, the same phenomenon may already constitute a security threat, leading to the implementation of specific emergency measures, whereas for others, it may remain a topic actively introduced into public debate (politicised) without triggering emergency measures (Buzan *et al.* 1998).

By analysing public discourse and identifying its stakeholders (political constellations), we seek to determine who introduced the specific security threat rhetoric into the discourse, namely, to locate the securitiser (securitising actor) who has attempted to make a securitising move, *i.e.*, an effort to present a given phenomenon as an existential threat to something or someone, which is the referent object. This activity is often mistakenly perceived as an act of securitisation, when in fact, it is merely its initiation, which may conclude at the stage of politicisation. A phenomenon is only fully securitised when the audience is convinced that it constitutes an existential threat. This process involves a form of negotiation between the securitiser and the audience, centred around the security act. In the operational dimension of this concept, discourse analysis plays a crucial role. The theorists of this approach drew on the work of linguistic scholars, such as Austin (1975) and his speech act theory.

Labelling a given phenomenon as an existential threat requires the acceptance of this classification by the audi-

ence and their consent to specific emergency actions and measures. For example, defining certain human activities as an existential threat to the environment, with scientists as securitisers and the ecosystem as the referent object, and proposing remedial measures (emergency measures) does not automatically ensure that the audience (members of the international community) will accept this message. The outcome is often varied, as some states may perceive the phenomenon as a genuine existential threat to the environment or humanity, while others may view it as a mere challenge or even dispute the scientific evidence supporting the claim. This variation also applies to non-state actors, who may respond differently to securitising moves. This subjectivity in assessing what constitutes an existential threat, despite the fact that in many cases the existence of a threat can be objectively demonstrated based on scientific evidence, represents a weakness of the securitisation approach. Conversely, a phenomenon may be imbued with such a high level of discursive power, or symbolic power as described by Bourdieu (1991), by a securitising actor that it is accepted by the audience as an existential threat, even if this is merely a misperception.

The fluidity in defining and the variability regarding who constitutes a securitising actor, referent objects, or audience can also pose a challenge. For example, depending on the sector under analysis, such as the natural environment, data security, or dual-use data, scientists may act as securitising actors, audience, or functional actors, *i.e.*, a category of entities that influence the dynamics of securitisation processes. The category of the referent object is also ambiguous. While the originators of the concept define it as the entity whose survival is at stake, justifying the call for specific actions, in some cases, it may also refer to a subject, such as a social group (a nation) or a state. Here, the securitising actor could be, for instance, a government.

Another challenge lies in the excessive focus on the securitisation process itself (speech act and its analysis) while neglecting the role, behaviour, and response of the audience. An additional challenge concerns the legitimacy of actions, particularly regarding who undertakes them, especially in the case of securitisation processes carried out by or involving non-state actors. Recognising both the utility of the securitisation concept and its limitations, this study seeks to answer the question of whether we are witnessing the securitisation of science/scientific cooperation in the Arctic. We are also aware that the outcome will present only a broader context in which securitising actors, securitising moves, referent objects, functional actors, and audiences are identified, rather than a complete and definitive picture or map of the securitisation of scientific cooperation in the Arctic. As already indicated, this remains a fluid reality, dependent on factors such as the sector and level of analysis. The focus will be on the analysis of selected legal, policy, and strategic documents issued by state institutions and international organisations (the Arctic Council, the European Union), as well as the reactions of the scientific community to these documents.

Results

Scientific cooperation in the Arctic is inherently international. It involves Arctic and non-Arctic states, as well as a wide range of non-state actors who engage in the research and development process itself (e.g., companies developing and supplying research infrastructure components and technologies), represent the international scientific community (e.g., the International Arctic Science Committee), participate in setting standards for conducting scientific research, seek expert knowledge generated by Arctic researchers, and fund scientific research (e.g., the EU, Arctic Council).

International organisations, such as the EU, play a significant role in funding scientific research in the polar regions. To date, total expenditures under the Horizon 2020 and Horizon Europe programmes for Arctic research projects have amounted to €474 million (European Commission 2025). The EU is also one of the agenda-setters for international scientific cooperation standards. While these documents do not specifically refer to the Arctic, they include recommendations on the security of scientific research in general, as well as in specific sectors such as strategically significant technologies. In recent years, particularly since 2021, intensive discussions have taken place on research security within the EU and its member states. These discussions have led to the adoption of several key documents, including the European Commission's Communication on the Global Approach to Research and Innovation in May 2021. In response, the Council adopted Council conclusions emphasising the Union's and Member States' commitment to strengthening measures for countering foreign interference in September 2022, as well as the Council conclusions on principles and values for international cooperation in research and innovation (10 June 2022) (Council of the European Union 2022). These issues have also been addressed in regulations concerning export controls and dual-use technologies (OJ L 206, 11.6.2021; OJ L 338, 23.9.2021; OJ L 2023/2113, 11.10.2023). The most recent document on this subject is the Council Recommendation on Enhancing Research Security (Council of the European Union 2024, C 3510).

EU institutions, acting as securitising agents, are undertaking a securitising move by proposing amendments to existing regulations concerning research security and the protection of scientific outputs, including technology, know-how, and research data, in order to adapt them to recent geopolitical developments. Analysing the speech act embodied in these normative acts and their drafts reveals a discourse oriented towards the securitisation of scientific research. These documents refer to existential threats (in general terms) such as international tensions, increasing vulnerability of researchers to threats affecting research security, the rise of strategic competition and power politics, and hybrid threats, to which the scientific sector is particularly exposed due to its openness and emphasis on international cooperation: "Union-based researchers and innovators may be targeted to obtain state-of-the-art knowledge and technology, at times using methods that

are deceptive and covert, or through outright theft or coercion, but more often exploiting seemingly bona fide international academic cooperation" (Council of the European Union 2024, C 3510).

The Council also highlights significant risks associated with the use of scientific achievements by undesirable entities (states and their intelligence services) for military applications. The document further provides definitions of research security, critical innovation and technology, and risk appraisal, describing the latter as: "[...] a process in relation to international research and innovation cooperation in which a combination of main risk factors is taken into consideration" (Council of the European Union 2024, C 3510).

In 2024, the European Commission also published a White Paper on Options for Enhancing Support for Research and Development in Dual-Use Technologies (European Commission 2024b). These technologies, considered as sectors, are referent objects that require specific actions to mitigate the effects generated by the aforementioned existential threats. The objective is to support research and development in dual-use technologies at the EU level, referring to software and technologies that can be utilised for both civilian and military purposes. The document once again underscores efforts to reduce risk and strengthen the EU's economic security. Among the strategically significant technologies for which risk assessment procedures have already been implemented are advanced semiconductors, artificial intelligence, quantum technologies, and biotechnologies.

A similar narrative is found in the European Commission's document on foreign interference in the research and innovation process: "Foreign interference (FI) occurs when activities are carried out by, or on behalf of, a foreign state-level actor, which are coercive, covert, deceptive, or corrupting and are contrary to the sovereignty, values, and interests of the European Union (EU)" (European Commission 2022).

The Commission, acting as a securitising actor, defines existential threats as those originating externally to the system, in this case the system being the European Research and Innovation Area, posed by third states and non-state actors. However, this document is significant not only because of its security threat discourse but also due to its broader aim: to establish a set of recommendations for the scientific community, enabling it to appropriately adapt to evolving challenges and the increasing risks to international security. It can thus be argued that the referent object in this case is not only individual technological sectors but also the broader research, innovation, and international scientific cooperation sector. The latter category plays a dual role, as the scientific community also serves as the audience, *i.e.*, the target of the securitising move, intended to prompt specific actions by academic and research institutions. The document outlines concrete recommendations, such as: (i) enhancing research data security; (ii) adjusting collaboration frameworks with foreign researchers to mitigate the risk of undesirable and high-risk incidents;

(iii) developing a Code of Conduct for Foreign Interference within academic and scientific institutions; (iv) establishing a Foreign Interference Committee, responsible for managing research data and intellectual assets in international collaborations; as well as (v) providing advice and support to research groups involved.

Scientific institutions are expected to assume responsibility for verifying international research partners and safeguarding so-called “crown jewels”, *i.e.*, technologies, innovations, and data that may attract interest from third states or non-state actors. A strong emphasis is placed on cybersecurity, particularly in an era of widespread reliance on satellite technology and artificial intelligence. In this context, training and educating researchers on cyber hygiene is strongly recommended, equipping them with the skills to identify risks and effectively prevent or mitigate cyberattacks (European Commission 2022).

Within the activities of the Arctic Council, bringing together the Arctic Eight states, six Permanent Participants, and 38 observers representing non-Arctic states and non-state entities, it is difficult to identify documents that contain securitising language referring to scientific research and international scientific cooperation. Another challenge relates to the legal status of the Arctic Council. Established through a multilateral executive agreement, it does not possess international legal personality, which in turn limits its mandate and legitimacy to act as a securitising actor. This cooperation model, based on soft international law and the principle of consensus, proved effective in peacetime but has encountered significant limitations amid geopolitical bifurcations and the state-centric turn in international politics.

As a result of Russia’s aggression against Ukraine in 2022, the work of the Arctic Council’s working groups, which had previously provided expert knowledge for decision-making processes at both regional and global levels, became entirely dysfunctional due to the breakdown of communication and collaboration between scientists from the Russian Federation and researchers from Western states. This disruption in the activities of the six working groups led to a breakdown in the transfer of expert knowledge to ministerial meetings and Senior Arctic Officials meetings. Norway’s assumption of the Arctic Council chairmanship in July 2023 marked the gradual resumption of work at the level of working groups and certain projects, including some involving Russian scientists. However, internal documents of the working groups, as well as reports on their activities, do not contain securitising language or discourse. Instead, attention is focused on technical matters, deliberately avoiding political issues (Nawrath *et al.* 2024).

A distinct category of actors comprises structures (more or less institutionalised) representing the scientific community. These include expert networks, epistemic communities, think tanks, and international organisations with a scientific profile. Among the latter is the International Arctic Science Committee (IASC), a non-governmental international organisation bringing together the

scientific community from 24 countries engaged in Arctic research (International Arctic Science Committee 2025a).

In the securitisation of scientific cooperation in the Arctic, IASC can be considered both a securitising actor, due to its statutory tasks, and a functional actor, depending on the context and level of analysis. When a securitisation impulse originates from states or other international organisations, IASC can assume the role of a functional actor by providing expert knowledge on Arctic-related issues. However, the organisation’s primary mission is to initiate, coordinate, and promote scientific activities concerning the Arctic. While numerous examples demonstrate that IASC actively shapes and participates in securitisation discourse across various sectors, understood here as referent objects (*e.g.*, the natural environment, Arctic governance, the livelihoods of Arctic communities, *etc.*), securitisation language has not yet been permanently and widely incorporated into the discourse on scientific cooperation in the Arctic. The IASC State of Arctic Science Report 2024 (International Arctic Science Committee 2024) highlights the changing conditions for conducting scientific research caused by geopolitical tensions resulting from Russia’s aggression against Ukraine. The report notes that the situation has created “immediate barriers and long-lasting uncertainties for research in the Arctic”. It also addresses the significant impact of the altered geopolitical landscape on field research opportunities in parts of the Arctic, research data security, the continuity of long-term data collection programs, gaps in scientific knowledge due to the lack of full data access, and the maintenance of research infrastructure, such as research stations and measurement equipment. A fundamental challenge for Arctic research, which is inherently an international activity, is the state-centric turn in international politics, increasing competition over data access, risks related to dual-use data and technologies, and the digital divide arising from private actors’ involvement in sectors such as satellite technologies, remote sensing, artificial intelligence, and machine learning. The uncertain future of the Arctic Council, in which IASC holds observer status and provides expert knowledge, is also emphasised. In this context, IASC can be seen as acting as a securitising actor. This information comes from the author, who is personally involved in the work of one of the Research Priority Teams (RPTs) within ICARP IV (International Arctic Science Committee 2024).

Undoubtedly, actors that undertake securitising moves include expert think tanks, which actively engage in the creation and transfer of expert knowledge to decision-making processes at both the national and international levels, as well as aim to inform the public about current international affairs. Similarly, in the case of these actors, the question arises as to whether their activities are limited to initiating a securitising move, which results in the politicization, *i.e.*, introduction into public debate, of a given topic but does not necessarily lead to its full securitisation. These entities should be classified as functional actors, as they proactively influence public discourse but lack the

legitimacy to decide on emergency actions in response to existential threats.

Recently, particularly since 2022, numerous analyses, policy documents, and media reports have been produced by experts affiliated with analytical institutions such as the Danish Institute for International Studies and the Fridtjof Nansen Institute. Their analysts employ security language also in relation to scientific cooperation in the Arctic, writing about changes triggered by geopolitical tensions and the response to these changes in the form of legislative amendments in Norwegian law and their impact on the conditions for conducting scientific research in the Arctic, particularly in international scientific initiatives (Mortensgaard 2023; Østhagen *et al.* 2023; Østhagen 2024a, 2024b; Hansen and Moe 2024).

The growing role, diversity, and number of non-state actors involved in defining international reality make it impossible to ignore the phenomenon or institution, depending on the theoretical perspective adopted in their analysis, of international conferences and conference diplomacy (Steinveg 2022, 2023). This is not the focus of the present analysis, but it is important to emphasise the significance of conference diplomacy in securitisation processes, as it provides a setting in which individual actors undertake securitising moves, seek to establish themselves as agenda-setters or securitising actors, and play the role of functional actors addressing audiences who are also present at these events. The phenomenon of Arctic conferences, such as Arctic Frontiers, Arctic Circle Assembly, Arctic Circle Forums, Arctic Congress, or Arctic Science Summit Week, function both as an effective diplomatic instrument for states such as Norway in the case of Arctic Frontiers or Iceland in the case of Arctic Circle Assembly/Forums and as a platform for meetings among all actors interested in the Arctic across scientific, social, political, and business dimensions. Verifying the roles assumed by individual actors in the securitisation process of specific sectors would require a separate analysis. However, based on a simple review of the Arctic Circle Assembly and Arctic Frontiers programmes over the past two years, it is evident that the securitisation of science and scientific cooperation in the Arctic is present. This is confirmed by session topics and the use of securitising language in the titles of presentations. The programme of the latest Arctic Circle Assembly conference included 14 sessions meeting these criteria. Similarly, though to a lesser extent, the topic was represented during the scientific sessions and side events of Arctic Frontiers 2024 and 2025, where various aspects of scientific activity in the Arctic were linked to security issues, geopolitical shocks, and adaptation to technological change (Arctic Circle Assemblies 2024; Arctic Frontiers 2024, 2025).

States continue to hold the strongest legitimacy to initiate securitising moves. In this case, the securitising actor is the government and its agencies. One widely discussed example, which may confirm the politicisation of scientific cooperation in the Arctic, as the issue has become permanently embedded in public discourse, is the legislative

changes to Norway's science policy concerning Svalbard. The 2023–2024 Svalbard White Paper reaffirmed Norwegian sovereign rights and jurisdiction over the Svalbard Archipelago. Scientific activity in this region is subject to oversight and coordination by Norwegian institutions. This strict control is justified by environmental concerns and thus also applies to tourism restrictions and the precise definition of permitted scientific activities. A ban on the use of wireless internet and Bluetooth was introduced, a system for monitoring illegal and unwanted use of radio equipment was launched, and international scientific cooperation is to take place exclusively through bilateral and multilateral agreements. The goal is to increase the employment of Norwegian specialists at the University Centre in Svalbard, raise the number of Norwegian students at this institution, and encourage Norwegian scientists to conduct research at the Ny-Ålesund Research Station (Norwegian Ministry of Justice and Public Security 2023).

In the introduction to this document, the legislature explains the rationale for updating the White Paper, citing security considerations, significant geopolitical changes beyond the High North, and the need to act in accordance with the priorities of Report Storting No. 9 (2022–2023) on National Control and Cyber Resilience to Safeguard National Security (Norwegian Ministry of Justice and Public Security 2023). Although the language of the White Paper is restrained in securitising narratives, the announced changes have been widely interpreted as a response to the deteriorating security situation and a desire to centralise and tighten Norway's control over the archipelago (High North News 2024a, 2024b).

A similar direction is found in Germany's Arctic Policy Guidelines, published in September 2024. This document contains numerous references to the strategic importance of the Arctic from the perspective of international security, particularly in geostrategic and geo-economic terms. The Arctic is increasingly becoming a region of geopolitical tensions that affect the ability to conduct scientific activities, particularly regarding cooperation with researchers from the Russian Federation (Federal Foreign Office 2024).

Recognising that national academies of sciences serve as institutionalised representations of the scientific community within a given state, which is the recipient of securitising moves undertaken by various state and non-state actors, it is necessary to seek confirmation that the audience acknowledges and accepts the securitising message that a specific sector (referent object) is facing an existential threat requiring concrete action. While no explicit confirmation of this can be found in relation to scientific cooperation in the Arctic, reference can be made to the position of the European Federation of Academies of Sciences and Humanities (ALLEA) on scientific cooperation and research security in a changing geopolitical landscape, published in 2024. ALLEA acknowledges that the European and global scientific community must grapple with challenges arising from uncertainty and geopolitical tensions. This is a response to legislative actions under-

taken by the EU, with the authors explicitly referring to the regulations previously cited in this analysis as examples of EU securitising moves (ALLEA 2024).

An area where IASC plays a coordinating role, and where it might appear to function as a securitising actor, is the Fourth International Conference on Arctic Research Planning (ICARP IV) (2022–2025). This multi-year process aims to identify internationally accepted priorities for Arctic scientific research, although Antarctic-related issues have also been included in discussions. It involves stakeholders from scientific, business, political, and Arctic community sectors, tasked with identifying knowledge gaps and setting future research priorities.

However, the diverse range of actors involved suggests that, similar to the Arctic Council, IASC primarily serves as a platform for dialogue or a facilitator rather than an entity actively shaping the discourse. In this context, classic competition, power dynamics, and interest-driven negotiations can be observed, with scientists, sometimes consciously and sometimes unconsciously, representing the positions of their home states, alongside representatives of national research funding agencies, organisations representing local communities and Indigenous peoples, and business interests. Further evidence that IASC plays a supporting role is that participants in the Research Priority Teams under ICARP IV have not received specific guidelines on the process or its expected outcomes. At this stage of ICARP IV, no concrete examples of securitising moves related to scientific cooperation in the Arctic can be identified (International Arctic Science Committee 2025b).

This raises the question if the Arctic Council can play a different role in the securitisation of scientific cooperation. Given that decision-making is consensus-based, meaning that every entitled participant has the right to veto, the AC cannot be considered an audience. It does not function as a unified entity but instead consists of multiple distinct audiences, namely Arctic states and Permanent Participants. However, it may be argued that the AC's working groups, in particular, could in some cases act as functional actors, though it is doubtful whether this applies to the securitisation of scientific research. This is confirmed by the Agreement on Enhancing International Arctic Science Cooperation, an international treaty signed during the 10th Arctic Circle Ministerial in Fairbanks, Alaska, in May 2017. This treaty establishes principles and aims to facilitate access to and the conduct of scientific research by researchers from the Arctic Eight states within Arctic areas under their jurisdiction (Arctic Council 2017).

Discussion

Scientific activity in the Arctic is one of the key dimensions of international engagement in this region. The Arctic also attracts the interest of participants in international relations, both states and non-state actors, across political, economic, social, and increasingly, military dimensions. The High North constitutes a heterogeneous security complex in which the same actors assume different roles, and

their activities transcend sectoral boundaries as defined by Buzan *et al.* (1998). This makes the task of analysing changes occurring in one sector, namely scientific cooperation in the Arctic, from the perspective of securitisation theory all the more ambitious. The first challenge is defining the sector itself, as in this case, it consists of multiple subsectors that collectively form scientific cooperation. These may include classifications based on scientific discipline or field, as well as specific topics or forms of activity, such as data security, dual-use technologies, or the physical safety of researchers conducting fieldwork.

The multiplicity of stakeholders, their differing mandates and legitimacy to make decisions regarding the Arctic, and the variety of interests and capabilities among individual players present another analytical challenge in determining which participants act as securitising actors, functional actors, or audiences of securitising moves. This has implications for defining existential threats, as their nature varies depending on the subjective perception of reality by each entity participating in the securitising discourse.

The analysis conducted allows for several conclusions to be drawn. The securitisation of scientific cooperation in the European Arctic Region is at different stages of advancement depending on the level of analysis and subsector examined. However, a common feature of this process is its entry into the phase of politicisation, meaning that issues related to the security of scientific research in the Arctic have been introduced into public discourse at both the national and international levels. The actor currently most active in this regard is the EU and its institutions. It should be noted, however, that the EU's legislative actions have a broader scope and pertain to research security and innovation policy in general. Both the EU's soft regulations and secondary legislation in this area apply to scientific cooperation in the Arctic, partly due to the EU's significant financial involvement through its framework programmes for research and innovation in funding scientific projects in the region, as well as the fact that these documents address scientific activity in general, including international scientific initiatives. The most important factor is that three Arctic Eight (A-8) states are EU members, while Norway and Iceland are members of the European Economic Area, and six EU member states hold observer status in the Arctic Council. Although the EU itself is still not an observer *de jure*, it functions as one *de facto* (Arctic Council 2025).

The European Union, through its institutions, acts as an agenda setter, initiating a shift in approach and introducing a new perspective based on changes in the international landscape. Regarding the issue under analysis, the European Commission functions as the securitising actor, a role that naturally follows from its treaty-based position within the EU's institutional and competency structure. The Commission undertakes securitising moves, defines existential threats, and proposes emergency actions. Given that legislative competencies are shared with the European Parliament and the Council, these institutions are also involved, though in this case, the Council is the more pro-

minent actor. This raises the question of whether the Council should be considered an audience. In reality, the audience consists of the member states forming this institution, as they complete the securitisation process by approving specific legal solutions through voting. This is, of course, a broad generalisation that would require a deeper analysis, for instance, examining which forces or stakeholders within individual member states influenced their governments to either support or reject regulatory proposals developed at the supranational level. However, the present analysis is limited to highlighting the EU's proactive role in the securitisation of international cooperation, including in relation to the Arctic. The success of the securitisation of a given issue also depends on the power, mandate, and legitimacy of the actor driving the process and leading it to completion. In the case under analysis, the entities with securitising potential are states and the EU. The latter's ability to engage in securitisation stems from its international legal personality and the characteristics of EU law. Unlike the Arctic Council, the EU is an international organisation with legal personality under international law and a distinct legal order, based, among other principles, on legally binding regulations and the supremacy of EU law. This grants the EU legitimacy to make decisions and thus to securitise certain topics.

The Arctic Council, by contrast, appears as a structure composed of individual and distinct recipients of securitisation processes, where the strongest mandate to accept emergency actions or measures, including in the field of scientific cooperation in the Arctic, lies with the A-8 states and the Permanent Participants. The role and influence of non-Arctic participants in the European Arctic Region governance system must also be acknowledged. However, the Arctic Council can be positioned as a functional actor, particularly through the reactivation of its working groups. Nevertheless, no evidence has been found to confirm this role in the securitisation of scientific cooperation in the Arctic.

Similar conclusions can be drawn regarding the IASC, which is statutorily positioned to act as a securitising actor, but in this context, it is more accurately described as a functional actor. IASC's activity as an agenda setter in the securitisation of scientific cooperation in the Arctic remains limited, though it can be assumed that this may change with the finalisation of work within the ICARP IV process.

Scientists themselves, organised within more or less institutionalised structures such as analytical centres, also function as functional actors, particularly through their engagement in conference diplomacy and their work within academies of sciences. The latter, when viewed at the international level, also act as audiences for emergency actions undertaken by actors such as the EU, thereby accepting the securitising narrative on scientific cooperation.

Conclusions

The analysis confirms that scientific cooperation in the Arctic, while traditionally perceived as a neutral and collaborative endeavour, is increasingly influenced by geopo-

litical shifts and security concerns. The process of securitisation varies across different scientific sectors and actors, but a clear trend towards politicisation is evident. The European Union has emerged as one of the central players in shaping research security through legislative measures, particularly concerning dual-use technologies and foreign interference. State actors, especially Arctic states, maintain primary authority over security-related decisions, while non-state entities, including research institutions, think tanks, and international forums, contribute to shaping narratives and influencing discourse. The Arctic Council, despite its role in facilitating scientific cooperation, lacks the mandate to drive securitisation processes due to its consensus-based structure. The study highlights that securitisation in Arctic research is not uniform but evolves in response to geopolitical dynamics, national security priorities, and institutional frameworks. The degree to which securitising moves gain traction depends on the alignment of interests among governments, scientific communities, and international organisations.

Acknowledgements

The article is based on the research funded by the National Science Center in Poland project 2021/43/B/HS5/01638 *Science diplomacy in Northern Europe*. The author gratefully acknowledges the insightful comments and constructive suggestions provided by the anonymous reviewers, which significantly contributed to the improvement of this article.

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