

# Interact fostering polar science and research in the arctic

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## **Margareta Johansson and Terry V. Callaghan CMG, on behalf of INTERACT friends, walk us through a series of EU projects that foster polar science and research in the Arctic**

The Arctic is big; it plays a massive role in the Earth's climate and economy and is changing. Climate warming in the Arctic is four times faster than the world's, and the changes there will affect most people on Earth. <sup>(1)</sup>

However, few people live there, and even fewer people observe, understand and respond to the changes. INTERACT, a series of EU projects, works hard with scientists worldwide and local and Indigenous peoples to fix this challenge.

### **Who are the INTERACTers?**

INTERACT is a network of research stations throughout the Arctic, high alpine and boreal areas. By the end of 2021, INTERACT networked more than 90 research stations around the whole of the Arctic, stretching from northernmost Greenland to the mountains of Mongolia.

The INTERACTers are the managers of these research stations who are unselfish experts who seek to observe the changes in their local environments and provide the facilities and expertise to enable visiting researchers to do state-of-the-art research in the most efficient and safe way in often very remote, extreme and potentially hazardous environments.

The INTERACTers are parts of the local and Indigenous communities, and working together with them, they act as an interface for researchers. The INTERACTers, their research stations and many areas of the Arctic are introduced in the docu-series “Northwards”.<sup>(2)</sup>

## **What has INTERACT achieved?**

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Developing and maintaining a panarctic network linking to the forests and mountains further south INTERACT started in 2001 as an EU-funded network of nine North Atlantic research stations called SCANNET. This network rapidly expanded despite a lack of funding because station managers saw the great benefits of working together. SCANNET became INTERACT and grew to over 90 research stations, receiving additional grants from the EU.

As the network grew, its role in contributing data to other networks, including globally significant networks such as the World Meteorological Organization, expanded so that we now supply data to more than 155 networks. This data comes from a greatly underrepresented region.

The network is held together by coordination and a Station Managers’ Forum (SMF). The SMF has provided common practices and developed tools for better research and monitoring for safe and sustainable science. It has also produced numerous resources<sup>(3)</sup>, including a catalogue of all the INTERACT stations, their environments and facilities.

As well as this “travel brochure for scientists”, the information is also available in the INTERACT GIS.<sup>(4)</sup> Another example is the practical field guide for researchers produced in collaboration with the Association of Polar Early Career Scientists (APECS).

## **Welcoming researchers to the Arctic**

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A significant achievement of INTERACT has been to fund the visits of over 1,000 leading international researchers to often remote and inaccessible research stations. This concept is a brilliant development by the EU, which INTERACT has put into practice so successfully that our methodology is being exported to other large EU consortia. Enabling experts from around the world to access research stations has filled in geographical gaps in our understanding of the Earth System and the role of the Arctic.

It has also led to new discoveries, including new species such as the Arctic bumble bee *Bombus interacti* (named after INTERACT). The concept of researchers being able to access research stations in countries other than their own has led to the cross-fertilisation of ideas and new collaborations.

## **Increasing general awareness and providing unique educational resources**

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The combined knowledge and experience of the station managers, visiting researchers and local and Indigenous peoples has been exported to the global community in various outreach resources and to students from primary school to university in custom-designed material, all freely available. Outreach includes television appearances in many countries, newspaper articles and popular science books.

The most recent developments include producing eight short films to engage the public <sup>(2)</sup> and four short films to inform the public about the changing Arctic. <sup>(1)</sup> Educational materials include two books presenting more than 80 stories of Arctic science together with an e-version that includes activities for young children and educational resources for older students. These and other educational resources were produced in collaboration with the “Wicked Weather Watch” charity and are available in over 60 countries.

## **Science diplomacy**

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INTERACT has played significant roles in science diplomacy in different ways. Internationally, INTERACT networks infrastructures and activities are found in about 20 countries, and education is available in over 60 countries, thereby building increased understanding and collaboration.

Locally, those stations with nearby communities build bridges with local and Indigenous peoples to address local and global challenges. Geopolitically, INTERACT advises governments, and has built and maintained bridges to connect with the Russian Arctic (half of the Arctic) immediately upon cessation of the war with Ukraine.

## **What makes INTERACT unique?**

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INTERACT is purely bottom-up and was built and operates through friendly cooperation at a personal level: it is an unselfish network seeking to help improve the understanding of environmental change that is relevant from local people to the global community. It fills a global gap in infrastructure and is the largest infrastructure network in the North.

Because this region is changing faster than anywhere else on Earth, and these changes will affect global populations through sea level rise, increases in carbon emissions, decreases in albedo and increased access to resources, INTERACT is in the right place, at the right time with the right people to continue our globally important mission.

## References

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1. <https://eu-interact.org/the-changing-global-arctic/>
2. <https://eu-interact.org/northwards/>
3. <https://eu-interact.org/publication/>



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