

INTERNATIONAL POLAR FOUNDATION

ANNUAL
REPORT
2017



INTERNATIONAL
POLAR
FOUNDATION

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FOREWORD

The Board of Directors is happy to report that 2017 was constructive period for the International Polar Foundation.

Two years of legal disputes over the management of Antarctic operations were successfully resolved.

The 2016-2017 Belgian Antarctic Research Expedition, organized by the International Polar Foundation at the Princess Elisabeth Antarctica research station, ended in February 2017, and was followed by a rapprochement with the Belgian State, represented by Secretary of State Zuhair Demir.

The International Polar Foundation and its partners were finally able to concentrate again on their key preoccupations of scientific excellence in polar research, and sustainable development through innovation.

The 2017 edition of the Arctic Future Symposium, held in Brussels in November 2017, brought together Arctic residents, researchers, industry representatives and politicians to discuss the Future of Arctic Research Cooperation, Working Towards a More Sustainable Arctic, Investing in Education and Economic Opportunities for Arctic Residents and Opportunities in the Arctic Bioeconomy. The 8th edition of the symposium brought together 175 participants. The symposium happened at a timely manner as the EU continued to consult with key Arctic stakeholders about its Arctic Policy, as outlined in the Joint Communication on an integrated EU policy for the Arctic, published by the European Commission and the EU's High Representative on 27 April 2016.

The 23rd annual United Nations Framework Convention on Climate Change (UNFCCC) Convention of the Parties (COP 23) was also held in November 2017, in Bonn, Germany. The conference delivered a clear signal: more than 15,000 scientists signed an open letter to alert the general public about unprecedented environmental degradation and catastrophic risk that could result as a consequence of climate change. This alert was based on the analysis of nine global indicators, the evolution of which had been monitored from 1960 to 2016. Their observations were overwhelming: per capita freshwater resources have halved since 1960; sustainable limits on harvesting fish have been

exceeded since 1992; marine "dead zones", deficient in oxygen, have asphyxiated aquatic life (fish, corals ...), in increasingly large areas; deforestation is ever accelerating; there has been a 58% decrease in the number of vertebrate species between 1970 and 2012; CO₂ emissions had grown since 2014; the hottest 10 years on the planet in the last 136 years have occurred since 1998; and the human population may grow to 11 billion by 2100, putting an increasing strain on the planet's resources.

Only the stratospheric ozone index is returning to normal, thanks to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. The fact that this agreement has been shown to be effective proves that it is possible for humanity to act to mitigate its impact on the environment.

The climate emergency is becoming more urgent by the day. Clear empirical data indicate that humans are responsible for affecting changes to the environment. Changes in how we interact with the environment can only be achieved through education and awareness-raising, promoting informed action on climate change, and developing a sustainable society.

This need once again demonstrates the relevance of the International Polar Foundation, its vision, and its mission. With a renewed zeal, the IPF welcomes new challenges and projects in the years ahead.

In 2018, the International Polar Foundation intends to further develop its projects and continue to demonstrate that the challenges created by climate change can be met through goodwill and collaboration between civil society, the private sector, and the public sector. We firmly believe that it is possible, all together and everyone doing their share, to achieve a low-carbon society without compromising our collective and individual well-being.



Alain Hubert,
President of the Board of Directors of the IPF

THE INTERNATIONAL POLAR FOUNDATION: CONNECTING SCIENCE AND SOCIETY

The International Polar Foundation supports polar scientific research for the advancement of knowledge, the promotion of informed action on climate change, and the development of a sustainable society.

Founded by Belgian polar explorer Alain Hubert, Prof. Hugo Declerck and Prof. André Berger in 2002, the Brussels-based International Polar Foundation provides a novel interface between science and society, and was recognized by Belgian Royal Statute as a foundation for the public good in 2002. HM King Philippe is the International Polar Foundation's honorary president.

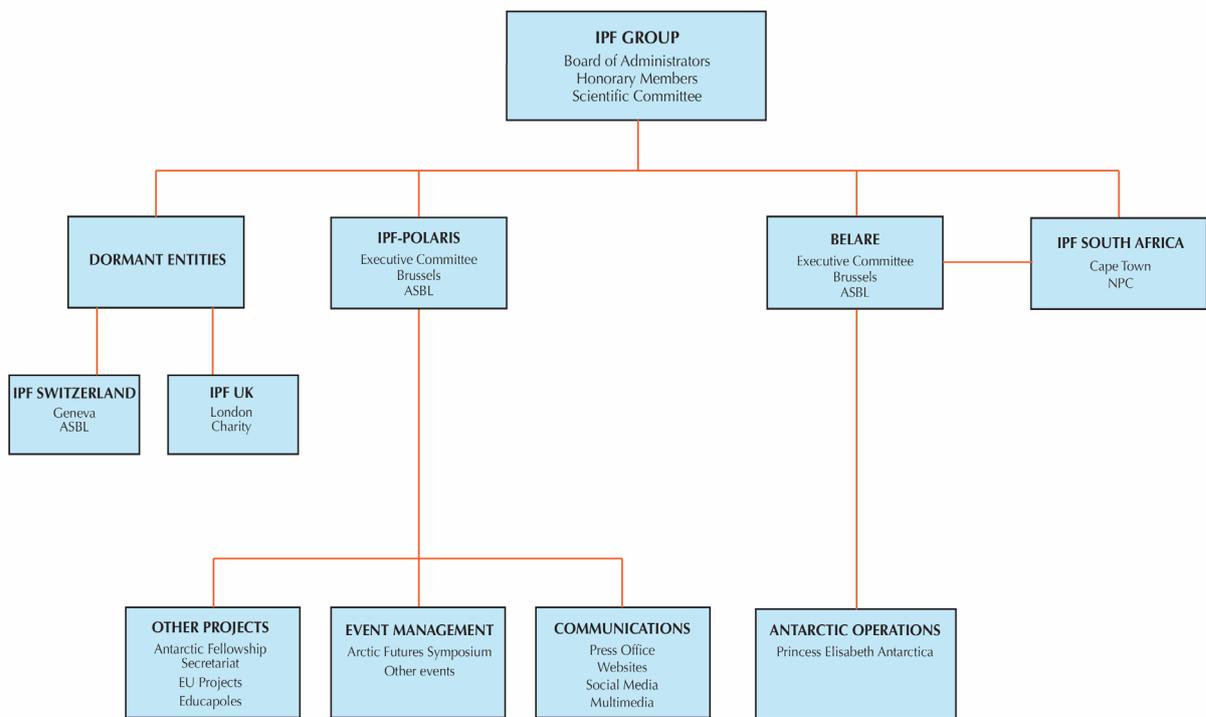
The Foundation seeks to bring about a

keener appreciation of the role of science, particularly research in the Polar Regions, through a re-examination of the planet's interconnections, its fragility, the impact of human actions on the environment, and the evolution of millennial climate cycles.

To achieve its aims, the Foundation initiated several high-profile projects, including supporting polar science through the creation and operation of the wind-and-solar-powered zero emission Princess Elisabeth Antarctica station, logistical support of scientists working in Antarctica, fellowship awards for Antarctic researchers, an annual symposium on Arctic issues, and science and education websites, which offer classroom activities and resources.

ORGANIZATION CHART

INTERNATIONAL POLAR FOUNDATION (IPF)



CONTACT INFORMATION

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www.educapoles.org

www.antarcticstation.org

www.sciencepoles.org

www.explorapoles.org

INTERNATIONAL POLAR FOUNDATION GLOBAL OFFICES

The International Polar Foundation headquarters are located at the heart of Europe, in Brussels, Belgium.

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A NEW ERA IN ANTARCTICA FOR BELGIUM

Belgian Secretary of State for Science Madame Zuhal Demir and Founder President of the International Polar Foundation, Alain Hubert, unveiled the new agreement between the Belgian State and the International Polar Foundation, concerning the management of Princess Elisabeth Station, at a press conference held in Brussels, on Friday 30 June 2017.

Following the invalidation by the Council of State of the contested 2015 regulatory framework modifying the workings of the Belgian Polar Secretariat, the International Polar Foundation was re-confirmed as a privileged partner of the Belgian state and the sole legal operator of the Princess Elisabeth Station. The settlement of disputes has completely vindicated the IPF, and amicable relations with all partners have been re-established.

The new agreement signed by the International Polar Foundation and the Belgian State to settle all differences is referred to as the "Pax Antarctica".

The agreement has put an end to all pending legal actions and disputes over the ownership and management of the Princess Elisabeth Antarctica research station to facilitate the establishment of a constructive relationship, in the interests of the common good.

The resolution of differences over the management and operations of the Princess Elisabeth Antarctica, the world's first ever "Zero Emissions" polar research station, is seen as a positive step forward in re-establishing the public-private partnership between the International Polar Foundation and the Belgian State.

Key outcomes of the new agreement include:

- The International Polar Foundation will, after the establishment of the Belgian Polar Institute,

make a full donation of the Princess Elisabeth Antarctica to the Belgian State, making the Belgian State the sole owner of the research station (the International Polar Foundation then relinquishing its ownership of a symbolic share in the PE station, agreed under the Convention signed with the Belgian State in 2007).

- Until the creation of the Polar Institute, the Belgian Polar Secretariat will resume its previous functioning, and will continue to mandate operations to the IPF.
- The state controlled Belgian Polar Institute is intended to be an international non-profit organization including members from the public sector, and will replace the existing public-private partnership vehicle embodied in the Polar Secretariat, which will cease to exist.
- All previous agreements and conventions between the Belgian State and the International Polar Foundation will then cease to have any force, including the Partnership Convention of 2007, and the original act of donation from the International Polar Foundation to the Belgian State, agreements which had previously set out the terms and conditions of roles and responsibilities, and ownership and operations at the Princess Elisabeth Antarctica.
- The Polar Institute will continue to delegate operations, management, maintenance, supervision and security of scientific missions at the Princess Elisabeth Antarctica, to the International Polar Foundation, for a period of five years. This partnership agreement will be extended for an additional three years, after a review of operations.



- A scientific committee (composed of scientists from the Belgian Antarctic Research Community and Belgian institutions) will be set up under the proposed Polar Institute, to advise on scientific research undertaken at the Princess Elisabeth Antarctica.

International collaborative scientific research

at the Princess Elisabeth Station can resume thanks to the renewed trust and cooperation between the two parties, and their representatives following the signing of the agreement.

“We have pressed the ‘reset’ button so we can start on a blank page. Good agreements and good discussions make good friends. I do not look to the past, but to the future, and the future is scientific research”, stated Zuhail Demir, Belgian Secretary of State for Science Policy on the day the new agreement was announced.

“Our integrity was restored by justice. Having a minister with a sense of the rule of law is fundamental to a democracy and for promoting the common good,” stated Alain Hubert, Founder and President of International Polar Foundation.

The 2017-2018 research season in Antarctica, which began in November 2017, was intended by the parties as a transitional season, carried out under the existing oversight exercised by the Polar Secretariat.



ACTIVITIES OF THE IPF

ANTARCTIC OPERATIONS

As stated under the provisions of Article 62 in the Belgian Federal law of 24 July 2008, the International Polar Foundation is the Belgian Polar Secretariat's appointed Antarctic operator and manager of the revolutionary zero emission Princess Elisabeth Antarctica Research Station.

All Antarctic operations are centralized within BELARE asbl, a non-profit entity branch of the International Polar Foundation dedicated to the execution of missions to the Princess Elisabeth Antarctica.

BELARE 2016-2017

For the BELARE 2016-2017 season, which lasted from 5 November 2016 until the 26 February 2017, the Princess Elisabeth Antarctica welcomed seven scientists, working in the fields of microbiology, meteorology, and glaciology. They received support from 18 staff crew, most of whom have several years' work experience in Antarctica. Nine nationalities were represented at the station over the course of the season: Belgian, British, Canadian, Danish, Dutch, French, German, Italian and Swiss.

Fifteen other people stayed at the station, including three aircraft crews, a Belgian court officer, a teacher, three journalists, and seven BELSPO-mandated inspection crew members.

A total of four scientific projects took place



over the course of the season, including::

REMACA: Radiocarbon Estimates of Microbial Activity and Carbon Accumulation surrounding the Princess Elisabeth Station (University of South Carolina / Baillet Latour Antarctica Fellowship).

ZENITH: Construction of an autonomous monitoring observatory to study snow accumulation on the ice cap (École Polytechnique Fédérale de Lausanne, Institute for Snow and Avalanche Research Davos).

AWS Princess Elisabeth Antarctica Climate Experiments: IPF crew performed maintenance on three automatic weather stations that had been installed during the 2012-2013 and 2013-14 seasons by Konrad Steffen, director of the WSL in Zurich (Eidgenössische Technische Hochschule Zürich, Swiss Federal Institute for Forest, Snow and Landscape Research).

LGGE SAMBA: Annual snow sampling, analysis, snow accumulation measurements; observations carried out by IPF crew on behalf of the LGGE (Laboratoire de glaciologie et géophysique de l'environnement) in Grenoble, France.

An unusual amount of time was spent on snow removal and clearing duties, as the 2015-2016

expedition did not carry out this essential task, which is crucial to operations around the PEA Station. Operations were reduced during the 2016-2017 season due to reduced Belgian scientific activity. This is explained by the decision of BELSPO to prohibit Belgian scientists from taking part in the 2016-2017 season, to prohibit the operator from handling instruments belonging to Belgian scientists or institutions, and to prohibit the operator to repatriate data from the PEA Station to Belgian scientists or institutions.

This decision is part of the policy implemented by the Belgian State between August 2015 and June 2017 in the context of the global litigation against IPF.

BELSPO INSPECTION

An observer mission was sent by the Belgian Science Policy Office (BELSPO) to the Princess Elisabeth Antarctica Station On 24 February 2017. The visit lasted from 24 until 25 February 2017, and was comprised of seven persons: a representative of the Belgian Ministry of the Environment, a representative of the Belgian Ministry of Defence, a representative of the Netherland Organisation for Scientific Research (NWO), and four representatives of the Belgian Science Policy Office.



BAILLET LATOUR ANTARCTIC FELLOWSHIP AWARD

BACKGROUND

A joint initiative of the Baillet Latour Fund and the International Polar Foundation, the €150,000 Baillet Latour Antarctica Fellowship is a biannual award that aims to promote scientific excellence in Antarctica and underscores the crucial role polar science plays in furthering our understanding of the Earth and how it functions.

Since 2008, the Fellowship has provided young scientists with the opportunity to conduct research in East Antarctica while operating out of Princess Elisabeth Antarctica research station (located in Dronning Maud Land in East Antarctica at 71.57°S 23.20°E). The Fellowship is open to doctoral researchers or post-doctoral researchers from any country in the world and who have completed their PhD within the last 10 years. Four fields of research are possible under the Fellowship: (1) Atmospheric Sciences (2) Geology (3) Glaciology and (4) Microbiology (excluding marine).

http://www.polarfoundation.org/projects/detail/baillet_latour_fellowship

1ST FIELD SEASON FOR 2016 FELLOW

Dr. Lori Ziolkowski, a Canadian scientist working as an Assistant Professor at the University of South Carolina (USC), was awarded the 2016-2018

Fellowship for the REMACA project, which aims to discover what types of microbial life forms live around the Princess Elisabeth Antarctica research station and how active this microbial life is by looking at the natural abundance of radiocarbon to study the rates of carbon accumulation in microbes over time. Drawing on international's collaboration, age estimates of microbes will be coupled with microbial community analyses to better characterize what microbes are active.

Previous studies have found ample evidence of microbial life on rocks, in the rocks, in ice-covered lakes and in the soil. But it remained unclear how active these microbes are. The climate of East Antarctica is harsh by temperature standards and these conditions are known to limit microbial activity elsewhere, similar to the High Arctic.

In early 2017, Dr. Ziolkowski spent three weeks at the Princess Elisabeth Antarctica with Dr. Stephanie Lutz from GFZ in Potsdam, Germany to collect microbial samples at and around the Princess Elisabeth Antarctica.

During the expedition, the two scientists found microbial life almost everywhere around PEA, sampling from soils, rocks, ice, and even lakes.

The most hospitable place for a microbe trying to survive in Antarctica's harsh environment is actually inside rocks. Endoliths are a common type of microbe that lives within rocks. When a rock is broken into pieces, it's often possible to see a green line, which is where microbes have been harnessing the sun's energy through photosynthesis. Scientists often study endoliths because they can provide clues to where life on other planets like Mars might exist. In the region surrounding PEA, microbes were found in most rocks.

The scientists also took samples from cryoconites (circular holes in glacier ice). They are a hospitable



place for microbes to live because they often contain melted water. They took many samples from a number of cryoconites around PEA to determine local and regional variability in the composition of microbes living there.

The scientists investigated a lake with liquid water at the surface, from which they were able to take samples of macro algae and cyanobacteria.

By the end of their expedition, they had obtained many more samples than originally planned. Upon return to her home university, Dr. Ziolkowski and her team processed samples to find out which organisms are living in these samples and how active these microbes are. It also helps the researchers to focus on where to sample during the second season of the Fellowship.

ARCTIC FUTURES SYMPOSIUM

The annual Arctic Futures Symposium, organized by the International Polar Foundation and its many Arctic stakeholder partners, took place in Brussels on Monday 20 November 2017 at the Residence Palace in Brussels' EU Quarter.

The Arctic Futures Symposium, is an annual event that has taken place in Brussels every autumn since 2010, and brings together Arctic stakeholders from across the Arctic Region to discuss issues of importance to them in a public forum in the Capital of the European Union with the active participation of representatives from the European Institutions.

Continuing its tradition of the symposium as an event for Arctic stakeholders by Arctic stakeholders, the event was organized in conjunction with Arctic state embassies, Nordic regional offices



in Brussels, and private-sector organizations with interests in the Arctic. Representatives from Arctic indigenous communities and contacts within the EU were consulted during the preparatory phase of the symposium.

The 8th edition of the symposium, entitled “Smart and sustainable Investment for the Arctic’s Future”, welcomed about 175 individuals (nearly the capacity of the auditorium where the event took place).

Speakers and participants included international policymakers from the EU and Arctic Council member and observer states, scientists, academics, Arctic indigenous peoples and representatives from the business sector.

THEMES OF THE SYMPOSIUM

The event was focused on many of the priorities of Finland’s Arctic Council Chairmanship (May 2017 - May 2019):

After introductory keynote speeches delivered by João Aguiar Machado (Director General, European Commission Directorate-General for Maritime Affairs and Fisheries), Kuupik Kleist (Advisor, Inuit Circumpolar Council Greenland; Former Premier of Greenland), and Jean Lemire (Special Envoy for Climate Change and Nordic Issues, Government of Québec), the symposium featured panel discussions led by expert moderators on the following topics:

- **Arctic Council Engagement with the EU.**
This session was led by Prof. Timo Koivurova, Director of the Arctic Centre at the University of Lapland and featured Senior Arctic Officials from Arctic Council states, representatives from Arctic Indigenous organizations, and the EU’s Arctic Ambassador, Marie-Anne Coninx

- **The Future of Arctic Research Cooperation**

Led by International Arctic Science Committee (IASC) President Susan Barr, this session included perspectives from the Arctic research community, DG RTD and the Joint Research Centre of the European Commission, and an Arctic traditional knowledge approach to research from a representative of the Sámi Council.

- **Working Towards a More Sustainable Arctic**

Arne Reidel, a Fellow at the Ecologic Institute in Berlin, led a discussion with representatives from the extractive industries and academics focused on current best practices and sustainable planning for Arctic communities.

- **Investing in Education and Economic Opportunities for Arctic Residents**

Iceland Arctic Cooperation Network Director Embla Eir Oddsdóttir moderated this panel discussion on making sure small Arctic communities have the opportunities and education needed to create successful and sustainable communities. Representatives from local and regional governments, Arctic indigenous communities, the business sector and the banking/investment sector contributed to this panel.

- **Opportunities in the Arctic Bioeconomy**

President of Nordland County Council and Chair of the Board of the North Norway European Office Tomas Norvoll presided over a discussion with experts working in different sectors of the Arctic bioeconomy, including fisheries, forestry and biofuels. The Arctic bioeconomy offers a much more sustainable way to make a living in the region.

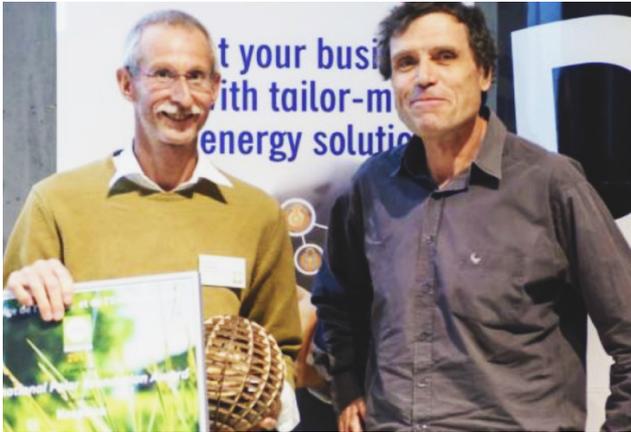


The following organizations were sponsors and partners who contributed to making the symposium the high quality event that it was:

- Brussels Capital Region
- The Permanent Representation of Finland to the EU
- The Mission of Canada to the EU
- The North Norway European Office
- The North Sweden EU Office
- The East and North Finland EU Office
- The Greenland Representation to the EU
- The Mission of Iceland to the EU
- The Délégation Générale du Québec
- The Mission of the Faroes to the EU
- Arctic Consensus
- Sæmark
- Icelandic Sustainable Fisheries

The 2017 symposium programme, speaker bios, and symposium summary can be found on the Arctic Futures Symposium website (www.arcticfutures.org) under the "About" section.





BELGIAN ENERGY AND ENVIRONMENT PRIZE

For the 12th edition of the Energy and Environment Prize, the International Polar Foundation continued to contribute to this important annual event, which, since 2006, has recognized leaders (be they individuals, companies, institutions, schools, associations, public administrations, etc.) in building a more sustainable community on a local, regional, or national level. On 8 June 2017 at the Tour & Taxis conference centre, a ceremony recognized many sustainability leaders. Mrs. Céline Fremault (Minister of the Government of the Brussels-Capital Region in charge of Housing, Quality of Life, Environment and Energy), and Mrs. Claire Vandevivere (Alderman representing the Minister for Environment, Town and Country Planning, Mobility and Transport and Animal welfare) attended the ceremony. Also in attendance were many individuals from the political, scientific and business sectors.

The 2017 laureate of the International Polar Foundation Award (a special prize category) was the educational non-profit organization, Kréativa.

Based in the town of Morlanwelz, they were recognized for the work they've been doing promoting sustainability through the project "Growing together through the social dimension of development".

Kréativa is a pedagogical research centre that focuses on getting average citizens to take part in sustainable development, with a focus on global health and creating equal

opportunities in life for all young people. The non-profit organizes activities for children, young adults, and even enterprises, focusing on topics such as the environment, transitioning to renewable energy sources, building sustainable habitats and green spaces, and more.

www.ngckreativa.be

HISTORY OF THE PRIZE

Each year, Belgian Energy and Environment Awards are presented to Belgian citizens who have undertaken outstanding initiatives on environmental protection and promoting sustainable energy use.

The International Polar Foundation has been a partner of the awards since its first edition in 2006. Since then nearly 2200 projects developed by citizens, corporations, institutions, associations, schools and administrations that have provided exceptional contributions to the construction of a sustainable future at local, regional and national levels have taken part.



ONLINE OUTREACH

WEB PRESENCE

Over the course of 2017, the International Polar Foundation actively managed two websites: polarfoundation.org and arcticfutures.org.

In addition to this, the foundation also passively managed four websites: antarcticstation.org, educapoles.org, sciencepoles.org, and explorapoels.org. These websites are still accessible to those who wish to reference content posted on them. However, they were not actively being fed with new content during 2017.

The International Polar Foundation's six websites received visitors from all around the world in 2017, including Europe, North America, South America, Africa, Asia, and Australia.

ACTIVE WEBSITES

The International Polar Foundation currently maintains two active websites:

POLARFOUNDATION.ORG is the International Polar Foundation's principal active website at the

moment. Content pertaining to the Foundation's initiatives, projects, and events, in line with the Foundation's mission to connect science and society, are communicated on this website by way of news items, photos and press releases. A total of 13 news items (along with relevant photos) and one press release were published on this website in 2017.

ARCTICFUTURES.ORG provides information about the annual Arctic Futures Symposium - a multinational and multidisciplinary event at which Arctic stakeholders from Brussels and around the globe gather to discuss topics of great interest within an EU context.

The website features a draft programme, a list of speakers, a list of sponsors, registration, directions, and summaries of every Arctic Futures Symposium since the first one took place in 2010.

The programme for the 2017 symposium (which took place on Monday 20 November) was published on this website along with the 2017 symposium poster, speaker bio booklet and summary report.

In total, one programme, one poster, one speaker bio booklet, and one Arctic Futures Symposium 2017 summary report were posted on this website in 2017.





LEGACY WEBSITES

The Foundation also continues to maintain four archived websites which are not currently active, but still accessible to users who wish to have access to their content (especially education and outreach materials):

ANTARCTICSTATION.ORG provides information about International Polar Foundation's flagship project, the Princess Elisabeth Antarctica - the world's first zero emission polar research base. The website is an archive of operations at the station, science projects, and the renewable energy systems and smart grid used at the station.

EDUCAPOLES.ORG is a place where the International Polar Foundation's educational and multimedia tools can be found. The site provides educational materials to the teaching community in three languages : (English, Dutch and French). It also helps to raise awareness of the poles' importance as an early warning system and unique laboratory, and mobilises citizens by providing the means to make informed actions against climate change. Aimed at teachers, future teachers, and all those involved in education, EducaPoles.org offers pedagogical dossiers, flash animations, videos, picture galleries, tales and ready-made contents such as quizzes, scientific experiments, and classroom activities.

SCIENCEPOLES.ORG is an archive of polar

science articles and interviews with top polar scientists. By clearly explaining and demystifying complex scientific issues, the website contributes significantly to the Foundation's mission to connect science and society, catering to policy makers as well as the general public.

EXPLORAPOLES.ORG is an archive of information dedicated to Arctic and Antarctic expeditions, The website followed polar expeditions in the Arctic and the Antarctic with the goal of using adventure to raise awareness about the poles through adventure!

SOCIAL MEDIA

Throughout 2017, the International Polar Foundation continued to post actively on its two social media platforms: Facebook (@intpolarfoundation) and Twitter (@PolarFoundation).

As the number of people who get their daily news from social media increases, the Foundation's social media platforms have become important outlets to keep the Foundation's followers informed about the activities of the Foundation as well as inform them about important developments in polar and climate science, renewable energy, environmental and sustainability issues, and significant newsworthy events that have a link to the Arctic and Antarctic.

