



REPORT 2022

| NO. | TASK/ACTION | IMPLEMENTATION | RESPONSIBLE UNIT | CURRENT STATUS | MONITORING/INDICATORS |
|--|---|----------------|--|----------------|---|
| 1. ETHICAL AND PROFESSIONAL ASPECTS | | | | | |
| 1.1 | Scientific reporting session for 2022 in a hybrid form with the participation of the International Advisory Team of Experts at the IG PAS | 06-09.03.2023 | Research Office Scientific Departments | done | Session program Number of participants (120 people) |
| 1.2 | Development and publication of the Annual Report 2022 | Q1 2023 | Scientific Departments Research Office Science Communication and Education Department Scientific Information and Publishers Department | done | Report https://www.igf.edu.pl/annual-reports-ig-pas.php |
| 1.3 | Organization of regular scientific seminars | From Q1 2022 | Scientific Departments Research Office | done | 30 thematic seminars were held |
| 1.4 | Promotional, educational and disseminating activities | From Q1 2022 | Promotion Department Science Communication and Education Department | done | Detailed report for 2022 (Appendix 1 to the report) |
| 1.5 | Development of the functionality of the portal for scientists to store research data (Data Portal) | From Q1 2022 | IT Department, Data Steward | done | 59 data sets 25 projects Detailed report in Annual Report 2022 |
| 1.6 | Achieving the goals set out in the Gender Equality Plan | From Q1 2022 | HRS4R Implementation and Monitoring Committee | done | GEP report for 2022 |
| 1.7 | Support for scientists from Ukraine and their families | From Q1 2022 | Directorate of IG PAS | done | - providing accommodation in Belsk for 8 people; - support in obtaining 2 scholarships from PAS |



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|-------------------------------------|---|---------------|---|-------------|---|
| | | | | | - support in the preparation of the NCN project and employment of 1 scientist - institute-wide collection of basic necessities for refugees from Ukraine; |
| 2. RECRUITMENT AND SELECTION | | | | | |
| 2.2 | Development of the OTM-R Checklist for 2022 | November 2022 | HRS4R Implementation and Monitoring Committee | done | OTM-R Checklist document: https://www.igf.edu.pl/download.php?id=3841 |
| 3. WORKING CONDITIONS | | | | | |
| 3.1 | Renovations of buildings belonging to IG PAS: | 2022 | Administration Department | done | <ul style="list-style-type: none">• renovation of the bituminous surface at the IG parking lot in Warsaw• construction of a fence of the Atmospheric Electricity and Meteorology Station in Świder• renovation of the roof of the main building in the COG in Belsk Duży• renovation of parquet floors in office rooms in Warsaw• installation of a new radiator in the COG Belsk Duży• replacement of telecommunications and power infrastructure, external lighting; vertical insulation of buildings 5, 6 and the main building in the COG in Belsk Duży• reconstruction of the power supply system for COG facilities in Belsk Duży |
| 3.2 | Electronic Document Workflow System | from 2022 | Deputy Director for Administration and Finance Administration Departments of IG PAS | in progress | As part of the procedure ZP/02/22 (nonlimited tender), the contractor SIMPLE SA with its registered office in Warsaw, Bronisława Czecha 49/51 04-555, was selected. Agreement No. ZP/TWT/32/2022 was signed on 14.07.2022 From signing the contract a pre-implementation analysis was conducted by 19.10.2022; databases and |



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|------|--|-------------|--|-------------|---|
| | | | | | <p>a software license for the Integrated IT System were delivered and installed by 24.10.2022.</p> <p>After the above acceptances, the software implementation stage began, first in the field of HR and Payroll and Finance and Accounting. Preparations for the electronic document workflow have also begun.</p> |
| 3.3 | Start of work on a new INTRANET and onboarding guide for new employees | Q4 2022 | Technical Support Department All Administration Departments of IG PAS | in progress | <p>A test version of the new INTRANET has been prepared on a dedicated website.</p> <p>By the decision of the Directorate, the new version was not launched. The previous version of the INTRANET on NCL is in use.</p> |
| 3.4 | Co-financing for kindergartens | in progress | Social Benefits Fund Committee | done | Number of beneficiaries in 2022: 7 people |
| 3.5 | Co-financing for culture (entrance tickets to theatre, cinema, etc.) | in progress | Social Benefits Fund Committee | done | Number of beneficiaries in 2022: 83 people |
| 3.6 | Co-financing for recreation | in progress | Social Benefits Fund Committee | done | Number of beneficiaries in 2022: 64 people |
| 3.7 | Co-financing for the Fit Profit sports card | in progress | Social Benefits Fund Committee | done | Number of beneficiaries in 2022: 34 people/month |
| 3.8 | Co-financing for housing purposes | in progress | Social Benefits Fund Committee | done | Number of beneficiaries in 2022: 11 people |
| 3.9 | Director's awards for the top performance in 2022 | 08.03.2023 | Research Office | done | 4 individual awards and 2 team awards were granted, for a total of 21 people/diplomas |
| 3.10 | Regulations on bonuses – the best publications | 2022 | Research Office | done | 60 bonuses awarded for publications/for 43 people |
| 3.11 | Implementation of the Communication Strategy Within and Between the Scientific Departments of the IG PAS | Q1 2020 | Science Communication and Education Department | done | <ul style="list-style-type: none"> • IG PAS bulletin every month in two language versions • Providing minutes of the College of Directors meetings to all employees • Sharing documentation of the Scientific |



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|------------------------------------|---|---|----------------------------------|---------------------|---|
| | | | | | <p>Council https://www.igf.edu.pl/uchwaly-rady-naukowej.php</p> <ul style="list-style-type: none"> Mailing lists: general: - ogloszenia@igf.edu.pl for scientists - naukowi@igf.edu.pl |
| 3.12 | A festive concert to celebrate Christmas and New Year | 13.12.2022 | Promotion Department | done | Number of participants (approx. 100 people) |
| 3.13 | Cyclical exhibitions of IG PAS employees in the hall entitled "Photographic passions" | from 2016 | Promotion Department | done | 2 photographic exhibitions |
| 4. TRAINING AND DEVELOPMENT | | | | | |
| 4.1 | Polish language courses for foreigners | from 2019 | Research Office | in progress | Agreement with the language school Number of people taking part in classes (Ph.D. students and scientists from abroad) |
| 4.2 | "Multicultural teams" training | 20.10.2022 | HR Department | done | Attendance list |
| 4.3 | Office365 email workshops | 18.02.2022 | IT Department | done | Attendance list |
| 4.4 | Training on personal data protection | repeated cyclically for newly employed employees | Personal Data Protection Officer | on an ongoing basis | Attendance list/certificate |
| 4.5 | <p>Access to the <i>Nature Masterclasses</i> online training platform, modules:</p> <ul style="list-style-type: none"> Scientific Writing & Publishing Effective Collaboration in Research Focus on Peer Review Managing Research Data to Unlock its Potential Narrative Tools for Researchers | Access to the platform for one year from the date of login, starting from Q2 2021 | Research Office | done | Number of purchased access codes to the platform: 30 units |



Instytut Geofizyki

EPISODES PLATFORM
Instytut Akademii Nauk
Workshops for scientists and
Ph.D. students

4.6

Q2 2022

Department of
Seismology

done

Number of participants – 10 people



Appendix 1 to the HRS4R 2022 Report

Publication of popular science articles on polar research and geophysics (14)

| No. | Publication date | Author | Title | Number of views |
|-----|------------------|-------------------|--|-----------------|
| 1 | 24.01.2022 | Katarzyna Tołkacz | Profitable science – bioprospecting in polar regions | 868 |
| 2 | 14.02.2022 | Katarzyna Tołkacz | How does climate change affect the polar bears' menu? | 1 277 |
| 3 | 14.02.2022 | Barbara Józwiak | Does size matter? I.e., megaproblems with macro- and microplastics | 891 |
| 4 | 21.03.2022 | Barbara Józwiak | Small great moss campion, i.e., part one of the Arctic Champions League | 1 178 |
| 5 | 01.04.2022 | Barbara Józwiak | Pocket-sized polar survivor, i.e., a few words about the snow bunting. Part two of the Arctic Champions League | 740 |
| 6 | 26.04.2022 | Jerzy Gizejewski | Was there ever a jungle in Spitsbergen? | 710 |
| 7 | 09.05.2022 | Katarzyna Greń | Life at a small polar station | 1 026 |
| 8 | 27.05.2022 | Oskar Głowacki | Glaciers are speaking to us. All we need is to listen | 805 |
| 9 | 13.06.2022 | Katarzyna Greń | Lost in the snowy whiteness | 563 |
| 10 | 04.07.2022 | Barbara Józwiak | The magnificent nine. An overview of the Earth's famous and not-so-famous poles | 1 280 |
| 11 | 03.08.2022 | Michał Łuszczuk | Are polar researchers diplomats? A run-through of science diplomacy in polar regions | 265 |
| 12 | 24.08.2022 | Barbara Józwiak | The walrus – a one-of-its-kind polar record holder. Part three of the Arctic Champions League | 239 |
| 13 | 16.09.2022 | Michał Łuszczuk | The what and the how of the Arctic Council | 56 |
| 14 | 20.09.2022 | Adam Nawrot | The oases of Antarctica | 342 |

Preparation of podcasts - interviews with geophysicists and videos with experts

Videos (EDU-ARCTIC.PL project) (7):

| | | | |
|---|------------|-------------------|---|
| 1 | 05.04.2022 | Agata Goździk | Permafrost – perennial frozen ground |
| 2 | 12.05.2022 | Agata Goździk | Arctic amplification |
| 3 | 26.05.2022 | Dagmara Bożek | Henryk Arctowski Polish Antarctic Station |
| 4 | 14.07.2022 | Anna Nadolna | Subglacial lakes |
| 5 | 08.08.2022 | Anna Nadolna | Polar bears |
| 6 | 02.09.2022 | Anna Nadolna | Snow |
| 7 | 29.09.2022 | Marek Lewandowski | Bunger Oasis |

Podcasts:

Podcast #1. Why are the tropics an engine for global circulation and how do tweets help scientists?

In the first episode, we present an interview with Dr. Dariusz Baranowski, a physicist from the Department of Atmospheric Physics at IG PAS. Dagmara Bożek, a science communication and education specialist, talks about why Polish scientists conduct research in distant Indonesia and what connection it has with weather forecasting in Poland.

[Listen >>>](#)

Podcast #2. Smog being more dangerous than “smok”, i.e., about the quality of our air and more

What is smog and what does it look like? What are aerosols? And finally - how does air pollution affect our health? This is what Dagmara Bożek, a science communication and education specialist, talks about in the next episode of the podcast as part of the "GEOGADKA - Geophysics for everyone" project with Dr. Artur Szkop from the Department of Atmospheric Physics at IG PAS.

[Listen >>>](#)

"Dangerous Earth" exhibitions (1)

In 2022, an exhibition was prepared entitled "Dobrowolski – Reactivation. Antarctic mission (nearly) impossible". The Polish Antarctic Station, located in the Bungee Oasis, had been closed since 1979. At the beginning of January 2022, after a break of more than forty years, four Polish polar explorers - participants of the IV Geophysical Expedition to the A.B. Dobrowolski Polish Antarctic Station - arrived there. The purpose of the expedition was to revitalize and reactivate the base. At the exhibition, we presented not only photos of the amazing journey around the Southern Ocean and the area around the Bungee Oasis, but also the interesting history of Polish expeditions to the Bungee Oasis. We also showed historical and contemporary outfits of polar explorers. Furthermore, we presented the figure of the station's patron - Prof. Antoni Bolesław Dobrowolski - a geophysicist and a traveler, participant of the famous Belgian antarctic expedition on the Belgica ship. The manuscript of Dobrowolski's diary from this expedition was one of the attractions of the exhibition. The exhibition also presented information about the eponymous expedition, which took place in the 2021/2022 antarctic summer season, its objectives and achievements. Thanks to short film interviews with members of the expedition, it was possible to learn how they prepared for this expedition, what were they doing during the 37 days they spent at the station, what surprised them the most and how they found themselves in the reality of the Bungee Oasis. The exhibition was complemented by a 3D model of the station's surroundings and its buildings, made in 2017 on the basis of archival photos by the artist - winner of many competitions - Dr. Jakub Wawrzak from the Department of Graphics at the Faculty of Fine Arts at Nicolaus Copernicus University in Toruń. The opening of the exhibition took place on June 21, 2022, at the Museum of the Earth of PAS in Warsaw. The exhibition was available

inside the Museum for 3 months and was visited by 2309 people. Then, the exhibition was moved to the headquarters of the Institute of Geophysics of PAS, where it was open to school groups and individuals free of charge until the end of February 2023. It was visited by more than 100 people at the Institute.

Polar mapping as part of the Long Night of Museums

Multimedia 3D show - mapping titled "A Year in the Arctic" was prepared as part of the EDU-ARCTIC.PL project and was displayed on the facade of the Jan III Sobieski Palace in Wilanów. The mapping show during the Long Night of Museums in 2022 was watched by **3 748** people.

Open and outdoor lectures as part of the EDU-ARCTIC.PL project (12)

- 1) 6.04.2022, Warsaw (Foksal Press Center), Prof. Monika Kusiak, "Dobrowolski. Reactivation. Antarctic mission (nearly) impossible" (56 participants)
- 2) 9.04.2022, Warsaw (Museum of the Earth of PAS), Dagmara Bożek and Dr. Agata Goździk, "Spring with EDU-ARCTIC.PL" and "Arctica - a litmus test of the climate change" (32 people)
- 3) 20.04.2022, Warsaw (Museum of the Earth of PAS), Dr. Jerzy Giżejowski, "Great polar expeditions" (29 participants)
- 4) 24.04.2022, Gdynia, KOLOSZY 2022 Festival, Dr. Jerzy Giżejowski, "Great polar expeditions: secrets of the wreck of Endurance" (1,000 people)
- 5) 18.05.2022, Warsaw (Museum of the Earth of PAS), Prof. Piotr Głowacki, "Mysterious interiors of glaciers" (13 participants)
- 6) 9.06.2022, Racibórz (Geophysical Observatory, Piast Castle), Dr. Daniel Kępski, "From Racibórz to the pole - polar and geophysical stories" (100 participants)
- 7) 22.06.2022, Warsaw (Museum of the Earth of PAS), Prof. Marek Lewandowski, "Time capsule - a message for our great-great-...grandchildren hidden on Spitsbergen" (17 participants)
- 8) 2.09.2022, Grodzisk Mazowiecki (Science and Passion Festival), Prof. Piotr Głowacki, "Mysterious interiors of glaciers" (120 participants)
- 9) 17.09.2022, Otwock (Observatory of IG PAS in Świder), Dagmara Bożek, "Polar female pioneers. Conquerors of the polar world - author's evening" (23 participants)
- 10) 24.09.2022, Otwock (Observatory of IG PAS in Świder), outdoor meeting "Science opens doors" (60 participants)
- 11) 27.09.2022, a school near the Central Geophysical Observatory of IG PAS in Belsk, Dr. Daniel Kępski, "Life and work at the Hornsund Polish Polar Station" (60 participants)
- 12) 5.05.2022 University of the Third Age UTW Atena in Oborniki Śląskie – 150 people

Lectures and classes as part of the Mobile Geophysical University (Geophysics for everyone project) – 6 classes

| No. | Date | Speaker | Title | Event name or organizer |
|-----|-------------|-------------------------------------|--|---|
| 1 | 08.04.2022 | Grzegorz Lizurek | Why is the Earth shaking? | B. Prus High School in Warsaw |
| 2 | 02.09.2022 | Tomasz Wawrzyniak | Life and work at the Polish Polar Station on Spitsbergen | Mediateka, Grodzisk Mazowiecki |
| 3 | 02.09.2022 | Tomasz Wawrzyniak | Life and work at the Polish Polar Station on Spitsbergen | Primary School in Adamowizna |
| 4 | 11.09.2022 | Tomasz Wawrzyniak, Anna Wielgopolan | Arctic landscapes | Science picnic in Józefosław |
| 5 | 6-8.10.2022 | Dagmara Bożek | Polar stand | II Sowie Mountains Science Picnic |
| 6 | 16.10.2022 | Dagmara Bożek, Anna Zdunek | Polar stand | Conference on the occasion of the 90th anniversary of the first polar expedition, Legionowo |

Open webinars (44 in total)

As part of the EDU-ARCTIC.PL project:

| No. | Title | Date | Speaker |
|-----|--|------------|--------------------------------|
| 1 | Northern lights | 11.01.2022 | Anna Nadolna |
| 2 | Reconstruction of glacier charges (Spitsbergen) based on geomorphological records and various archival sources | 18.01.2022 | Piotr Zagórski |
| 3 | Polish geophysical expedition to East Antarctica | 20.01.2022 | Dagmara Bożek |
| 4 | Poles at the poles | 09.02.2022 | Jerzy Giżejowski |
| 5 | True crime, i.e., stories with a polar thrill | 17.02.2022 | Anna Wielgopolan |
| 6 | Quo vadis, Arctic? | 23.02.2022 | Jerzy Giżejowski |
| 7 | Tardigrades: the art of survival | 24.02.2022 | Anna Wielgopolan |
| 8 | Drones (UAV) as a new tool for obtaining spatial data - application of the "Structure from motion (SfM)" methodology in polar research | 03.03.2022 | Małgorzata Korczak-Abshire |
| 9 | What is the work of a meteorologist at a polar station? | 09.03.2022 | Piotr Ostrowski |
| 10 | Race to the South Pole | 16.03.2022 | Jerzy Giżejowski |
| 11 | Polar drift stations | 31.03.2022 | Jerzy Giżejowski |
| 12 | True crime, i.e., stories with a polar thrill | 01.04.2022 | Anna Wielgopolan |
| 13 | Jeanette's expedition | 07.04.2022 | Jerzy Giżejowski |
| 14 | Climate change and biodiversity in the marine Arctic | 20.04.2022 | Tomasz Kijewski |
| 15 | Fram's expedition | 21.04.2022 | Jerzy Giżejowski |
| 16 | Where do penguins winter? And why do we want to know this? | 25.04.2022 | Małgorzata Korczak-Abshire |
| 17 | AREX: observations of the maritime Arctic from the research vessel Oceania | 10.05.2022 | Małgorzata Beszczyńska-Moeller |
| 18 | Expedition of Endurance | 12.05.2022 | Jerzy Giżejowski |
| 19 | Warm and cold: how did humans adapt to polar climatic conditions? | 13.05.2022 | Anna Wielgopolan |

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|----|--|------------|----------------------------|
| 20 | Autonomous ARGO floats in oceanographic research in the Arctic | 19.05.2022 | Waldek Walczowski |
| 21 | Polish polar research | 26.05.2022 | Jerzy Gizejewski |
| 22 | Monitoring and management of the ecosystem of Antarctica – innovations | 31.05.2022 | Małgorzata Korczak-Abshire |
| 23 | Arctic – Land of Stories | 01.06.2022 | Julian Podgórski |
| 24 | Glaciations and postglacial relief in Poland | 09.06.2022 | Jerzy Gizejewski |
| 25 | The charms of Chilean glaciers | 14.06.2022 | Julian Podgórski |
| 26 | Volcanoes and people | 30.06.2022 | Julian Podgórski |
| 27 | Polar stories for a hot summer | 06.07.2022 | Jerzy Gizejewski |
| 28 | Sustainable fishing in the Arctic – good practices in the MSC program | 26.09.2022 | Katarzyna Frankowiak |

Webinars as part of the GEOPHYSICS FOR EVERYONE project (16)

| No. | Date | Speaker | Title |
|-----|------------|----------------------|---|
| 1 | 03.08.2022 | Agnieszka Czerwińska | UV radiation and healthy sunbathing |
| 2 | 17.08.2022 | Grzegorz Lizurek | Great earthquakes |
| 3 | 07.09.2022 | Adam Nawrot | Not just a magnifying glass, compass and tape measure |
| 4 | 14.09.2022 | Agata Goździk | Arctic - a litmus test of climate change |
| 5 | 21.09.2022 | Beata Latos | Tropical cyclones |
| 6 | 28.09.2022 | Artur Szkop | Renewable energy - what you need to know |
| 7 | 05.10.2022 | Dagmara Bożek | The history of Polish female polar explorers |
| 8 | 12.10.2022 | Grzegorz Lizurek | Can humans cause an earthquake? |
| 9 | 19.10.2022 | Łukasz Przyborowski | What do we do with this plastic? |
| 10 | 09.11.2022 | Daniel Kępski | A year in the Arctic - 100 questions for the future leader of the expedition to the Hornsund Polish Polar Station |
| 11 | 16.11.2022 | Krzysztof Kochanek | History for the future - flood prediction based on historical information |
| 12 | 23.11.2022 | Jerzy Gizejewski | Protecting mountain catchments from flooding - build up or manage naturally? |
| 13 | 30.11.2022 | Artur Szkop | Smog being more dangerous than "smok" |
| 14 | 07.12.2022 | Agata Goździk | Citizen science |
| 15 | 14.12.2022 | Bartłomiej Luks | Snowflakes |
| 16 | 21.12.2022 | Michał Niedbalski | Christmas under the pole |

Organization of the Polar Festival

The Polar Festival took place on June 4, 2022, at the Amphitheater of the Wola Cultural Center in Warsaw. The aim of the Polar Festival was to expand knowledge about the polar

regions, as well as the research of Polish scientists in the Arctic and Antarctica. We started the festival with a trip to the interior of the glacier, to which we were taken by a glaciologist Prof. Piotr Głowacki. We celebrated the 65th anniversary of the Hornsund Polish Polar Station on Spitsbergen and asked questions to polar explorers working at the station thanks to the online connection. One could learn how many Polish research stations there are in the Arctic and Antarctica and what research is being conducted there. Event participants learned about the consequences of climate change for polar animals.

The Festival featured speakers and exhibitors from all institutions in Poland that have permanent or seasonal polar stations in Spitsbergen and Antarctica. Festival participants could visit their stands and, by solving various tasks, collect stamps in their polar passports and receive prizes. In addition to the Institute of Geophysics of PAS, the organizer of the event and the owner of two polar stations: the Hornsund Polish Polar Station and the Antoni Bolesław Dobrowolski Polish Antarctic Station, we hosted the hosts of 4 seasonal stations on Spitsbergen: University of Wrocław with the Stanisław Baranowski Polar Station, Nicolaus Copernicus University in Toruń with the Kaffioyra Polar Station, Maria Curie-Skłodowska University in Lublin with the Calypsobyen Polar Station and Adam Mickiewicz University in Poznań with the Petuniabukta Polar Station. A lecture and a stand were also prepared by the Institute of Biochemistry and Biophysics of PAS - the manager of the Henryk Arctowski Polish Antarctic Station. The Institute of Oceanology of PAS, which owns the research ship Oceania, which conducts research in the Arctic seas, and the Institute of Paleobiology of PAS, which conducts research on rocks in the far north and south, were not to be missed. The implementers of the Poles Together and SUDEA projects also shared their polar experiences.

During the last session of the Festival, one could meet the authors of books and films on polar topics, including authors of the documentary film "Ant/Arctic Women", representatives of Alina and Czesław Centkiewicz Foundation and Zbyszek Szwoch, author of the book "With the paddle and the wind. Kayaking in the waters of the North". Festival participants took part in polar-themed competitions and quizzes. They viewed polar landscapes and even looked inside a glacier thanks to VR goggles. They could try on polar explorers' costumes and see the equipment used by polar explorers to work in the field.

EDUCATION

Online lessons

INTERACT (13)

| No. | Title | Speaker | Date |
|-----|---|------------------|-------------------|
| 1 | INTERACT: Adaptations of plants to the Arctic climate | Dagmara Bożek | 05 Oct 2022 09:00 |
| 2 | INTERACT: Stories of sea ice | Agata Goździk | 26 Oct 2022 07:00 |
| 3 | INTERACT: Written in the Arctic: paleoclimatology | Anna Wielgopolan | 04 Nov 2022 09:00 |
| 4 | INTERACT: The life of glaciers | Bartłomiej Luks | 07 Nov 2022 08:00 |
| 5 | INTERACT: Northern lights | Agata Goździk | 10 Nov 2022 08:00 |

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|----|--|------------------|-------------------|
| 6 | INTERACT: The life of glaciers | Bartłomiej Luks | 14 Nov 2022 10:00 |
| 7 | INTERACT: Plankton in the Arctic | Anna Wielgopolan | 18 Nov 2022 08:00 |
| 8 | INTERACT: Northern lights - a magical spectacle in the sky | Agata Goździk | 22 Nov 2022 09:00 |
| 9 | INTERACT: Fauna of the Arctic and Antarctic | Dagmara Bożek | 24 Nov 2022 10:00 |
| 10 | INTERACT: Polar bear - the king of the Arctic | Dagmara Bożek | 09 Dec 2022 08:00 |
| 11 | INTERACT: Written in the Arctic: paleoclimatology | Anna Wielgopolan | 09 Dec 2022 08:00 |
| 12 | INTERACT: Polar bear - king of the Arctic | Dagmara Bożek | 14 Dec 2022 09:00 |
| 13 | INTERACT: Air pollution in polar regions | Daniel Kępski | 15 Dec 2022 09:00 |

Fascinating Earth (4)

| No. | Date | Speaker | Title of the webinar |
|-----|------------|----------------|--|
| 1 | 26.10.2022 | Oskar Głowacki | WHEN THE GLACIER MEETS THE SEA, I.E., ABOUT THE FORMATION OF LARGE ICEBERGERS AND THE UNEQUAL FIGHT AGAINST CLIMATE CHANGE |
| 2 | 25.11.2022 | Daniel Kępski | The electricity of the atmosphere |
| 3 | 28.11.2022 | Daniel Kępski | The electricity of the atmosphere |
| 4 | 20.12.2022 | Artur Szkop | Smog in a jar |

Educational packages under the POLAR-STAR project (10):

1. Wzmocnienie arktyczne (Arctic amplification)
2. Arctic amplification
3. Plastik w Arktyce (Plastic in the Arctic)
4. Plastic in the Arctic
5. Permafrost
6. Wieloletnia zmarzlina (Permafrost)
7. Jak przetrwać w Arktyce (Surviving the Arctic)
8. Surviving the Arctic
9. Zorza polarna (Northern lights)
10. Northern lights

Workshops for teachers

1. Scientix Autumn School 21-23.10.2022 [Scientix Autumn School for teachers |](#)
2. Scientix Workshops in Warsaw 17.05.2022 [Scientix Workshops 17.05.2022 |](#)
3. Scientix Workshops in Białystok 4.02.2022 [Scientix Workshops in Białystok|](#)

Webinars for teachers

DATES AND TOPICS:

15 February 2022 [Truths and myths about climate change - where to look for reliable information?](#) – **Dr. Agata Goździk**

1 March 2022 [The story of the plastic duck, or about ubiquitous plastic](#) – **Dagmara Bożek**

15 March 2022 [Renewable energy sources – what do you need to know?](#) – **Dr. Artur Szkop**

22 March 2022 [Water in a nutshell - the most important challenges of water management](#) – **Dr. Tomasz Kijewski, Institute of Oceanology of PAS**

5 April 2022 [Arctic - a litmus test of global changes](#) – **Dr. Agata Goździk**

26 April 2022 r. [Smog being scarier than "smok" and a few words about air pollution](#) – **Dr. Artur Szkop**

Lessons for schools

5 lessons for schools were completed as part of the 2022 Science Festival:

Grades 1-3

Polar bear - the king of the Arctic, Dagmara Bożek, M.A., [27 September at 09:00](#),

Online description: Polar bears, living in the frigid climate of the Arctic, have developed many useful adaptations to help them survive - we will discuss some of them during the class.

Brief description: Meet the polar bear - the king of the Arctic and find out how it copes with polar conditions.

Polar bear - the king of the Arctic, Dagmara Bożek, M.A., [27 September at 10:30](#),

Online description: Polar bears, living in the frigid climate of the Arctic, have developed many useful adaptations to help them survive - we will discuss some of them during the class.

Brief description: Meet the polar bear - the king of the Arctic and find out how it copes with polar conditions.

Grades 4-6

Plastic in the Arctic Dagmara Bożek, M.A., [September 27 at 12:00](#),

Online description: The plastic that reaches the Arctic is a global problem, the tip of the iceberg. This is not only the result of increased production and industrial development, but also of our everyday habits. Plastic waste and even more dangerous microplastics are found everywhere: in oceans, ice, animal digestive systems, and even snow. The impact of plastic on the natural environment is alarming, and scientists are trying to estimate its impact on our health and lives. The aim of the lesson is to encourage students to reflect on our everyday activities and actions to protect the environment.

Brief description: How do our everyday choices affect areas thousands of kilometers away? Where does plastic in snow and ice come from?

Grades 7-8

Arctic - a litmus test of climate change Dr. Agata Goździk, [26 September at 10:30](#),

Online description: The warming trend in the Arctic has been twice as high as the global average in recent decades. The loss of sea ice reinforces the warming trend because the ocean surface absorbs more solar heat than the surface of snow and ice. How does this affect the planet? What is albedo? What is positive feedback?

Students will learn about albedo, the positive feedback associated with the melting of sea ice, and the impact of reduced snow and ice cover on global temperatures. The next mechanism discussed is related to the thawing of permafrost and the release of greenhouse gases into the atmosphere.

Brief description: The warming trend in the Arctic has been twice as high as the global average in recent decades. Why is this happening? What are positive feedbacks and how do they work in polar regions?

High school

The northern lights - a magical spectacle in the sky Dr. Agata Goździk, [26 September at 09:00](#),

Online description: The phenomenon of northern lights has fascinated people for centuries. Colorful lights illuminating the night sky were observed as early as in ancient China or Greece. Meanwhile, in the 21st century, the phenomenon of northern lights is well-known. We can explain the mechanisms that control it. We conduct regular observations and measurements both from Earth and from space. We have mathematical models that help us predict when and where it will appear.

What is the phenomenon of northern lights and how does it form? What color can it be? Where can we see it? Does it affect our lives and health? Does it appear only on Earth? What is the Kp index, and what do the Earth's magnetic field and solar wind have to do with it? We will answer these and other questions during the lesson.

Brief description: The phenomenon of northern lights has fascinated people for centuries. What is the phenomenon of northern lights and how does it form? What is the Kp index and what does the Earth's magnetic field and solar wind have to do with it?