



The 26th International Symposium on Polar Sciences

Finding solutions to global issues: Polar science and technology

May 12-13, 2020

Korea Polar Research Institute

Incheon, Republic of Korea

SECOND CIRCULAR

The 26th International Symposium on Polar Sciences organized by Korea Polar Research Institute (KOPRI) will be held on May 12-13, 2020 in Incheon, Republic of Korea. This symposium aims to bring polar scientists together to discuss their research findings and to promote international collaborative research. We cordially invite you to share your knowledge and perspectives on the outlook in polar research.

Theme

Humanity is undergoing dramatic global climate changes and facing global issues such as extreme weather, rising sea levels, food and water shortage. 'IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC)' has also expressed concern about rapid sea level rise and the possibility of increasing frequency of extreme sea level events in the near future.

The polar region is the place that holds the oldest climate records and shows the environmental changes earlier and clearer than any other place on earth. During the symposium, we will highlight the findings in polar science and technology to understand the changes we are currently experiencing in the global perspective and to find the solutions to those global issues.

Sessions

The following 6 sessions are proposed;

S1. Polar climate and its global perspective

Even the coldest places on earth are not free from the effects of climate change. Rather, polar regions are most sensitive to global warming and it is causing the rising temperatures, decreasing sea ice, retreating glaciers and melting ice sheets. Since the 'polar high' plays a major role in global atmospheric circulation, changes in climate factors in the polar regions affect not only large scale circulation but also in mid-latitude and low-latitude climates, e.g., it may alter strength and position of jets. This session will focus on recent studies of polar climate and their connectivity to other regions in the world.

S2. Earth's cryosphere and sea level change

Earth's cryosphere is one of the most vulnerable components in the world because of its widespread loss due to global warming over the last decades. Global warming continues to reduce the ice sheets of Greenland and Antarctica, melt the mass glacier, and expand ocean thermal expansion, accelerating global mean sea level (GMSL) rise. This session invites studies using observational and/or modeling approaches to understand recent sea level changes and to project the future sea level changes, especially related to cryospheric changes such as ice sheet dynamics, ice-ocean boundary interactions, and atmosphere-ice-ocean interactions.

S3. Advances in understanding the sea ice variability and changes in polar oceans

Sea ice in polar oceans is the most obvious indicator of climate change and plays a significant role in projecting future climate variability and changes. Recent changes in the Arctic and Antarctic sea ice affect the air-sea exchange of freshwater, gas, heat, light, and momentum. This session invites studies on interdisciplinary approaches including field surveys, remote sensing, and modeling to understand the Arctic and Antarctic sea ice variability and changes.

S4. Research for living organism adapted to the polar environment

The Arctic and the Antarctic are home to the life of various shapes and sizes. Various animals and plants including microorganisms manage to live in the polar regions. Living organisms in the polar regions have been evolving and thriving as they protect their bodies against all kinds of extreme and harsh environments, such as intense UV (ultraviolet rays), ozone (O₃), a sudden temperature change, and etc. This session invites recent studies on the adaptation mechanism of living organisms in the polar regions.

S5. Innovative technologies in polar sciences

Although the polar regions are key places to study the global issues we are facing today, there are difficulties in research activities due to harsh environments and limited infrastructures. To overcome these situations, technological development and innovation for polar research continue. This session invites studies on technologies for safer and more efficient polar research, as well as innovative technologies that enable new methods of it. Topics to be investigated include: unmanned and automated technologies in polar regions; novel polar research technologies; research data management and application; drilling technologies; other low-temperature science and technologies

S6. Integrated approaches to climate change: IPCC SR1.5 and SROCC

The unprecedented pace of climate change is one of the greatest threats facing humanity in our time. Under these circumstances, multi-, inter-, and transdisciplinary research (MIT) approaches are continued to create collective knowledge for social, economic, environmental, and ecological sustainability. A case in point, IPCC produced SR1.5 and SROCC to address the gravity of the climate change situation. This session aims not only to exchange recent research progress but also to provide an outlook on future climate change and keen insight into impacts on global and regional climate.

Side Meetings

Side meetings will be organized during the symposium to provide a platform for exchanging ideas with experts on appropriate themes as proposed. If you wish to hold a meeting, please contact us at symposium@kopri.re.kr

Abstract Submission

Please submit your abstract at the symposium website from January 6 to February 7, 2020. (<http://www.kopri.re.kr/symposium/>)

Registration

Registration will be available at the symposium website from February 7 to April 24, 2020. (<http://www.kopri.re.kr/symposium/>)

If you have any question, please do not hesitate to contact us at symposium@kopri.re.kr
We look forward to your participation.

The 26th ISPS Secretariat