

보 도 자 료

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대한민국 북극 연구 20년과 미래

극지연구소, 제27차 국제 극지과학 심포지엄 20, 21일 온라인 개최

- 극지연구소 (소장 강성호)는 오늘 (20일)부터 이틀간 제27차 국제 극지과학 심포지엄을 개최한다고 밝혔다.
- 국제 극지과학 심포지엄 (ISPS, The International Symposium on Polar Sciences)은 극지과학 분야의 최신 학술성고를 공유하고 국내외 연구원간 협력을 늘리기 위해 극지연구소에서 매년 개최하는 국제학술대회이다.
- 올해는 북극다산과학기지 20주년을 맞아 “대한민국 북극연구 20년: 미래 준비를 위한 회고 (Two decades of Korean Arctic research: Looking back to look forward)”를 주제로 정했으며, 미국과 영국, 노르웨이 등 12개 국가 약 200명 이상의 극지 전문가들이 참여할 예정이다. 코로나19 상황을 고려해 본 프로그램은 모두 온라인으로 운영된다.
- 기조 강연에서는 전(前) 극지연구소장 이홍금 박사가 다산기지 이후 대한민국 북극연구 프로그램의 주요 성과를 소개하고, 전(前) 국제북극과학위원회 (IASC) 회장 David Hik 박사가 국제 북극과학 발전과정에서 한국의 역할을 진단한다.

- 심포지엄은 대기와 기후변화 등 6개 과학세션으로 구성되며, 북극에서 30년간 연속 관측한 대기 (Marion Maturilli 박사, 독일 극지해양연구소), 간빙기 때 북극 얼음이 녹아서 발생하는 메탄배출 연구 (Pierre-Antoine Dessandier 박사, 프랑스 해양개발연구소) 등 95건의 연구성과가 발표될 예정이다.

※ 과학세션 6개: 대기, 기후변화, 육상생태계, 해양환경, 원격탐사, 그린란드 지질환경
연구성과 95건: 기조강연 5건, 구두 발표 32건, 포스터 발표 58건

- 비북극권 국가의 연구원이 타국의 영토나 영해에 속한 북극에서 원활하게 연구를 수행하기 위한 방안도 논의된다. 북극권-비북극권 국가간 협력 연구 사례를 공유하고, 일본 문부성 북극연구사업 책임자인 Hiroyuki Enomoto 박사 (일본 극지연구소)가 일본의 접근방법을 소개한다.

- 차세대 신진과학자와 기성과학자 간 대화 (브라운백 세미나), 극지연구 현장 안전을 논의하는 제13회 대한극지의학회 등 부대행사도 마련된다. 이번 심포지엄은 홈페이지 (isps2022.or.kr)에서 사전 등록을 마치면 누구나 무료로 발표를 들을 수 있다.

- 강성호 극지연구소 소장은 “국제 극지과학 심포지엄은 북극과학이 인류에 기여할 방안을 논의하는 의미 있는 자리”이며, “특히 올해는 국내외 전문가의 눈으로 우리나라 북극연구 20년을 돌아보고 앞으로 우리가 나아갈 방향을 함께 고민할 수 있어서 더 기대된다”고 말했다.

- 붙임 1. 제27차 국제 극지과학 심포지엄 (ISPS) 포스터**
2. 제27차 국제 극지과학 심포지엄 (ISPS) 프로그램



The 27th International Symposium on Polar Sciences

Two decades of Korean Arctic research : Looking back to look forward

September 20-21, 2022
Online

Abstract Submission : June 7 to July 31, 2022
www.kopri.re.kr/symposium

Registration Open : July 21, 2022
www.isps2022.or.kr



Program at a Glance

Day1 September 20 (Tuesday)

Time (KST)	Program	Place
09:00 - 09:30	Opening and Welcoming Remarks	Online
09:30 - 10:00	Keynote Speech 1	Online
10:00 - 12:00	Session 1. Retrospect and prospect of atmospheric research in Ny-Ålesund	Online
12:00 - 13:00	Early Career Scientists Seminar	On-site
13:00 - 15:00	Session 2. Svalbard as a barometer of climate change	Online
15:00 - 17:00	Session 3. Climate change impacts on Arctic terrestrial ecosystems	Online

Day2 September 21 (Wednesday)

Time (KST)	Program	Place
09:30 - 10:00	Keynote Speech 2	Online
10:00 - 12:00	Session 4. Response of the Arctic marine system to ongoing environmental changes	Online
10:00 - 17:00	The 13th Conference of the Korean Society of Polar Medicine	On-site/Online
13:00 - 15:00	Session 5. Remote sensing in the Arctic	Online
15:00 - 17:00	Session 6. Past and future of Greenland : a perspective on geology and environment	Online
17:00 - 17:30	Closing Remarks	Online

Detailed Program

Day1 September 20 (Tuesday)

09:00 - 09:30 Opening and Welcoming Remarks

Online

Welcoming remarks

Sung-Ho Kang (President of Korea Polar Research Institute)

09:30 - 10:00 Keynote Speech 1

Online

20 Years of Korea's Arctic Research

HongKum Lee (Korea Society for Technology for Sustainable Future, Former President of Korea Polar Research Institute)

10:00 - 12:00 Session 1. Retrospect and prospect of atmospheric research in Ny-Ålesund

Online

PL 01 Atmospheric Research in Ny-Alesund by AWI (Alfred-Wegener-Institute)

Marion Maturilli (Alfred Wegener Institute)

S1 01 The atmospheric activities of Italy since 2009 and the cooperation with KOPRI

Vito Vitale (Institute of Polar Sciences)

S1 02 Observation of Cloud Base Height and Precipitation Characteristics at Ny-Ålesund, Svalbard

Sourav Chatterjee (National Centre for Polar and Ocean Research)

S1 03 Investigating Wintertime Cloud Microphysical Properties and Associated Radiative Effects at Ny-Ålesund Using the Synergy of a Cloud Radar-Lidar-Ceilometer-Microwave Radiometer

Sang-Woo Kim (Seoul National University)

S1 04 Atmospheric aerosol observations over Ny-Alesund

Rohit Srivastava (National Centre for Polar and Ocean Research)

S1 05 Understanding and parameterizing turbulent fluxes of momentum and heat in the arctic stable atmospheric boundary layer

Francesco Tampieri (Institute of Atmospheric Sciences and Climate)

S1 06 Thermospheric winds over arctic regions under active geomagnetic conditions observed by Fabry-Perot Interferometers

Changsup Lee (Korea Polar Research Institute)

Detailed Program

12:00 - 13:00 Seminar for Early Career Researchers

On-site

Projecting future changes in Antarctica
Dr. Emilia Kyung Jin (Korea Polar Research Institute)

13:00 - 15:00 Session 2. Svalbard as a barometer of climate change

Online

PL 02 Svalbard's Holocene glacial history

Wesley R. Farnsworth (Globe Institute, University of Copenhagen)

S2 01 Multi-proxies approach for reconstructing glacial marine environmental changes in northern Svalbard since the last deglacial period

Kwangchul Jang (Korea Polar Research Institute)

S2 02 Mercury Sources Reflecting the Holocene Climate Change: Records from the Arctic Fjord Sediments

Eunjin Son (Pohang University of Science and Technology)

S2 03 Ice sheet melt drove methane emissions in the Arctic during the last two interglacials

Invited Speaker

Pierre-Antoine Dessandier (Ifremer)

S2 04 The composition and abundance of phytoplankton after spring bloom in the Arctic Svalbard fjords

Haryun Kim (Korea Institute of Ocean Science and Technology)

S2 05 Morphodynamic evolution of paraglacial spit complexes on a tide-influenced Arctic fjord delta (Dicksonfjorden, Svalbard)

Dohyeong Kim (Seoul National University)

15:00 - 17:00 Session 3. Climate change impacts on Arctic terrestrial ecosystems

Online

S3 01 Consequences of climate change for migratory Barnacle Geese

Invited Speaker

Maarten J.J.E. Loonen (Arctic Centre, University of Groningen)

S3 02 Micro & Macro Approaches for Conservation of Svalbard Plants

Yoo Kyung Lee (Korea Polar Research Institute)

S3 03 Climate Change Effects on Microbial Communities in Arctic Peat

Alexander Tøsdal Tveit (UiT The Arctic University of Norway)

S3 04 Lowering water table reduces carbon sink strength and carbon stocks in northern peatlands

Min Jung Kwon (University of Hamburg)

S3 05 Increased methane oxidation in Swedish tundra ecosystems

Mats P. Björkman (University of Gothenburg)

S3 06 Seasonal changes in soil biogeochemical properties in responses to long-term warming in the high Arctic Canada

Ji Young Jung (Korea Polar Research Institute)

Detailed Program

Day2 September 21 (Wednesday)

09:30 - 10:00 Keynote Speech 2

Online

The urgency of international Arctic science cooperation in the Anthropocene

David Hik (Polar Knowledge Canada)

10:00 - 17:00 The 13th Conference of the Korean Society of Polar Medicine

On-site/Online

10:00 - 12:00 Session 4. Response of the Arctic marine system to ongoing environmental changes

Online

- S4 01** **Emergent Constraint for Future changes in Arctic Phytoplankton**
Jong-Seong Kug (Pohang University of Science and Technology)
- S4 02** **Algal export in the Arctic Ocean in times of global warming**
Catherine Lalande (Korea Polar Research Institute)
- S4 03** **Primary production and fate of organic carbon in Kongsfjorden, Svalbard**
Sun-Yong Ha (Korea Polar Research Institute)
- S4 04** **Higher trophic levels in the central Arctic deep scattering layer**
Pauline Snoeijs-Leijonmalm (Stockholm University)
- S4 05** **Distributions of dissolved trace metals (Mn, Fe, Zn, Cu, and Cd) in the Chukchi Sea (western Arctic Ocean)**
Taejin Kim (Pukyong National University)

Detailed Program

13:00 - 15:00 Session 5. Remote sensing in the Arctic

Online

S5 01

Invited Speaker

**Fostering convergence of long-term observations in the Pacific Arctic sector:
A Research Networking Activity in support of food security**

Hajo Eicken (International Arctic Research Center, University of Alaska Fairbanks)

S5 02

Example of successful cooperation between Korea and Norway in sea ice monitoring and forecasting
Anton Korosov (Nansen Environmental and Remote Sensing Centre)

S5 03

Comparison between GANs for the data augmentation of Arctic sea ice concentration images
Minjoo Choi (Korea Maritime and Ocean University)

S5 04

Consistent wintertime Arctic sea ice thickness and snow depth records from satellite passive radiometer measurements
Hoyeon Shi (Seoul National University)

S5 05

Understanding spatial patterns of permafrost freeze/thaw process with SAR remote sensing
Sang-Eun Park (Sejong University)

S5 06

Studying vegetation and environmental seasonal changes by means of automatic monitoring imaging and non-imaging sensors? Experience gained from equipment established in Adventdalen, Svalbard
Lennart Nilsen (University of Tromsø)

15:00 - 17:00 Session 6. Past and future of Greenland: a perspective on geology and environment

Online

PL 03

Review of the Cambrian of northern Greenland
John S. Peel (Uppsala University)

S6 01

The history of the KOPRI expeditions to North Greenland from 2016 to 2022
Tae-Yoon S. Park (Korea Polar Research Institute)

S6 02

Diverse phosphatized fossil remains from the Ediacaran of North Greenland
Sebastian Willman (Uppsala University)

S6 03

'Terrae Nullius' in the Legal Status of Eastern Greenland Case: A Spatial and Temporal Analysis
Shazzad Mohashin (University of Glasgow)

S6 04

Long-term research exchange spanning decades and proposals for future activities
Hiroyuki Enomoto (National Institute of Polar Research)

17:00 - 17:30 Closing Remarks

Online

Announcement of Early Career Poster Award winners and Closing Remarks
Sung-Ho Kang (President of Korea Polar Research Institute)