

The 24th International Symposium on Polar Sciences

**30 years of
footsteps
in Antarctica :**

Looking Back and Looking Forward

29-30 MAY 2018

INCHEON, REPUBLIC OF KOREA

KOREA POLAR RESEARCH INSTITUTE

SYMPOSIUM PROGRAM

PP 46	Yeonggi Kim (KOPRI, Korea)	<i>Oceanographic characteristics in the Marian Cove</i>
PP 47	Heewon Yang (KOPRI, Korea)	<i>Oceanic heat transport and basal melting of the Dotson Ice Shelf</i>
PP 48	Young Wook Ko (Sungkyunkwan Univ., Korea)	<i>Changes in algal community structure of Maxwell Bay, King George Island, Antarctica: A comparison of 1988-1989 and 2016-2018 surveys</i>
PP 49	Hyo Jin Kang (UST, KOPRI, Korea)	<i>Comparison of seasonal characteristics of cloud condensation nuclei measured at polar regions</i>
PP 50	Seojeong Park (Inha Univ., Korea)	<i>Effects of low salinity and low pH on behavioral aspects of Antarctic amphipod, <i>Gondogeneia antarctica</i></i>
PP 51	Eunchong Sin (UST, KOPRI, Korea)	<i>Effect of low pH and low salinity on the behavior and physiology of the limpet, <i>Nacella concinna</i></i>
PP 52	Sun-Yong Ha (KOPRI, Korea)	<i>Distribution of DOM and CDOM by the glacial melting in the Marian Cove</i>
PP 53	Bokyung Kim (KOPRI, Korea)	<i>Physiological characteristics and related biochemical parameters of snow algae from King George Island, Antarctica</i>
PP 54	Minkyung Kim (Seoul Nat'l Univ., Korea)	<i>Episodic dumping of ice rafted benthic organisms on the Amundsen shelf, Antarctica</i>
PP 55	Seong-Joong Kim (KOPRI, Korea)	<i>Southern hemisphere westerly wind for the Last Glacial Maximum</i>
PP 56	Gillian Li Yin Lee (Universiti Putra Malaysia, Malaysia)	<i>Metabolic pathway of phenol degradation of a cold-adapted Antarctic bacterium revealed through whole genome sequencing</i>
PP 57	Chang-Uk Hyun (KOPRI, Korea)	<i>Monitoring glacier retreat using time-series remote sensing imagery in Marian Cove, King George Island, Antarctica</i>
PP 58	Chang-Uk Hyun (KOPRI, Korea)	<i>Investigating snow cover effect on distribution of lichen and moss in Barton Peninsula, King George Island, Antarctica</i>
PP 59	Walker O. Smith (Shanghai Jiao Tong Univ., People's Republic of China)	<i>Temporal and Spatial Distributions of Nutrients and Particulate Matter in the Ross Sea</i>
PP 60	Craig Stevens (NIWA, Univ. of Auckland, New Zealand)	<i>An Ice-Ocean Interaction Transect from the Ross Ice Shelf to Terra Nova Bay</i>

WELCOME
WORD

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FLOOR PLAN

WELCOME WORD	
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SOCIAL EVENTS & SIDE MEETINGS	
PROGRAM AT A GLANCE	<p style="text-align: center;">Monitoring glacier retreat using time-series remote sensing imagery in Marian Cove, King George Island, Antarctica</p> <p style="text-align: center;"><i>Chang-Uk Hyun</i></p> <p style="text-align: center;"><i>Chang-Uk Hyun¹ and Hyun-cheol Kim^{1*}</i></p> <p style="text-align: center;"><i>¹Unit of Arctic Sea-Ice Prediction, Korea Polar Research Institute, Incheon, Korea</i></p> <p style="text-align: center;">chyun@kopri.re.kr kimhc@kopri.re.kr</p>
DETAILED PROGRAM	
LIST OF POSTERS	
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ABSTRACTS OF PRESENTATION	<p style="text-align: center;">ABSTRACT</p> <p>Antarctic Peninsula is known as the area experiencing prominent global warming than other places in Antarctica. An effective way to investigate environmental changes from warming is long-term monitoring using remote sensing technique. We chose Marian Cove, King George Island, Antarctica as a monitoring site located in Antarctic Peninsula. To investigate glacier retreat trend in the target area, multiple commercial and publicly available remote sensing datasets including aerial photography, mid-resolution, i.e., a spatial resolution of about 15 m, satellite imagery and high-resolution, i.e., a spatial resolution of about or less than 1 m, satellite imagery acquired in austral summer were collected from 1956 to 2017, over sixty years. The remote sensing datasets were carefully registered to compensate spatial displacement between datasets and then glacier terminus in each dataset was mapped. From the retreat velocity of the terminuslines, acceleration trend of glacier retreat in recent years was figured out, and this approach will be applied to other monitoring sites such as Potter Cove and Collins Harbor in the coast of King George Island in further study.</p>
ALPHABETICAL LIST OF PRESENTERS	
FLOOR PLAN	