

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	<b>Yeonggi Kim</b> (KOPRI, Korea)	<i>Oceanographic characteristics in the Marian Cove</i>
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PP 50	<b>Seojeong Park</b> (Inha Univ., Korea)	<i>Effects of low salinity and low pH on behavioral aspects of Antarctic amphipod, <i>Gondogeneia antarctica</i></i>
PP 51	<b>Eunchong Sin</b> (UST, KOPRI, Korea)	<i>Effect of low pH and low salinity on the behavior and physiology of the limpet, <i>Nacella concinna</i></i>
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PP 55	<b>Seong-Joong Kim</b> (KOPRI, Korea)	<i>Southern hemisphere westerly wind for the Last Glacial Maximum</i>
PP 56	<b>Gillian Li Yin Lee</b> (Universiti Putra Malaysia, Malaysia)	<i>Metabolic pathway of phenol degradation of a cold-adapted Antarctic bacterium revealed through whole genome sequencing</i>
PP 57	<b>Chang-Uk Hyun</b> (KOPRI, Korea)	<i>Monitoring glacier retreat using time-series remote sensing imagery in Marian Cove, King George Island, Antarctica</i>
PP 58	<b>Chang-Uk Hyun</b> (KOPRI, Korea)	<i>Investigating snow cover effect on distribution of lichen and moss in Barton Peninsula, King George Island, Antarctica</i>
PP 59	<b>Walker O. Smith</b> (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	<b>Craig Stevens</b> (NIWA, Univ. of Auckland, New Zealand)	<i>An Ice-Ocean Interaction Transect from the Ross Ice Shelf to Terra Nova Bay</i>

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# Investigating Snow cover effect on distribution of lichen and moss in Barton Peninsula, King George Island, Antarctica

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## ABSTRACT

Small vegetation such as lichen and moss is distributed in maritime Antarctic, and has undergone fluctuations in distribution patterns from environmental changes. Snow cover has been recognized as one of the factor affecting to the distribution patterns of lichen and moss, together with solar radiation and moisture. To investigate the effect of snow cover on distribution of lichen and moss around King Sejong Station in Barton Peninsula, King George Island, Antarctica, we acquired very-high-resolution digital images using RGB and near-infrared digital cameras attached on moving frame. Each image dataset was mosaicked using structure-from-motion (SfM) technique and spatially registered to produce an integrated multispectral imagery. The imagery was converted to a vegetation index map, which reflects vigor and biomass. The index values were divided into discrete zones along the distance from snow cover, and mean index value in each zone was calculated. From the results of the zonal analysis, decreasing vegetation index values were figured out according as the distance to snow increases, indicating a negative effect of snow cover on distribution of lichen and moss.

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