



ISAES 2019

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22 July (Mon) – 26 July (Fri) , 2019

Songdo Convensia, Incheon, Republic of Korea



Abstract List – Poster (Wed/Thu)



Poster Presentation

No.	Day	Time	Presenter	E-mail	Institution/Organization	Abstract no.	Session no.	Title
42	WED/THU	13:30-15:00	Jun'ichi Okuno	okuno@nipr.ac.jp	National Institute of Polar Research, Japan	A267	08	Crustal motion and gravity change in East Antarctica inferred from GIA modeling
43	WED/THU	13:30-15:00	Chaoyang Zhang	zhang.6404@osu.edu	The Ohio State University, USA	A450	08	GOCE constrained Antarctic crustal thickness and dynamic topography
44	WED/THU	13:30-15:00	German Leitchenkov	german_j@mail.ru	Research institute for geology and mineral resources of the world ocean, Russia	A080	11	New bathymetric and multi-channel seismic data from the NW Weddell Sea: Implications for the late Cenozoic glacial history of the South Orkney Islands continental shelf
45	WED/THU	13:30-15:00	Jan Erik Arndt	Jan.Erik.Arndt@awi.de	Fred Wegener Institute for Polar and Marine Research, Germany	A244	11	IBCSO V2.0: A collaborative effort towards improved bathymetric information
46	WED/THU	13:30-15:00	Jude Castelino	judste@bas.ac.uk	British Antarctic Survey, United Kingdom	A375	11	Evidence of accelerated glacial retreat on King George Island, South Shetland Islands
47	WED/THU	13:30-15:00	Dustin Schroeder	Dustinms@stanford.edu	Stanford University, USA	A017	11	A subglacial hydrologic switching hypothesis for silt sorting and deposition during ice sheet retreat in the in the Amundsen Sea Embayment.
48	WED/THU	13:30-15:00	Matthew Chadwick	machad27@bas.ac.uk	British Antarctic Survey, United Kingdom	A032	13	Reconstructing Antarctic sea ice extent during MIS 5e
49	WED/THU	13:30-15:00	Werner Nel	wnel@ufh.ac.za	University of Fort Hare, South Africa	A074	13	Classifying synoptic air circulation patterns over the Southern Indian Ocean: Observations from Marion Island on recent change and current landscape impacts.
50	WED/THU	13:30-15:00	Li Wu	wuli@tongji.edu.cn	Tongji University, China	A020	14	Late Quaternary deep stratification-climate coupling in the Southern Ocean: implications for changes in abyssal carbon storage
51	WED/THU	13:30-15:00	Zhihua Chen	chenzia@fio.org.cn	The First Institute of Oceanography, China	A070	14	Glacial-interglacial cycles of ice sheet dynamics and paleoceanography in the Amundsen Sea sector, West Antarctica
52	WED/THU	13:30-15:00	German Leitchenkov	german_j@mail.ru	Research Institute for Geology and Mineral Resources of the World Ocean, Russia	A149	14	Seismic stratigraphy of the upper continental rise and abyssal plain off Marie Byrd Land
53	WED/THU	13:30-15:00	Michael Bollen	bolmi518@student.otago.ac.nz	University of Otago, New Zealand	A212	14	Diatom micropaleontology and paleomagnetism of the sediment core RS15-LC42: Insights to paleoceanographic processes at the continental rise.
54	WED/THU	13:30-15:00	Elisabetta Olivo	eolivo@inogs.it	Istituto Nazionale di Oceanografia e Geofisica Sperimentale, Italy	A219	14	The Whales Deep Basin - Houtz and Hayes Bank system (Southeastern Ross Sea, Antarctica): a scenario for Pleistocene continental outer shelf and slope processes evolution
55	WED/THU	13:30-15:00	Jiyoung Shin	jyshin@kopri.re.kr	Korea Polar Research Institute, Korea	A389	14	Magnetic mineral properties linked to iceberg-derived sediment transport in the Scotia Sea (Southern Ocean)
56	WED/THU	13:30-15:00	Laura De Santis	ldesantis@inogs.it	Istituto Nazionale di Oceanografia e Geofisica Sperimentale, Italy	A435	14	The ODYSSEA Drift depositional archive (Ross Sea, Antarctica)
57	WED/THU	13:30-15:00	Jaewoo Jung	jaewoojung87@yonsei.ac.kr	Yonsei University, Korea	A117	15	Microbial alteration of Fe-bearing minerals in freezing condition
58	WED/THU	13:30-15:00	Chaewon Chang	cwchang@kopri.re.kr	Korea Polar Research Institute, Korea	A276	15	Analysis of main ion components and variation in shallow ice core in Northern Victoria Land (GV7, Styx) using ion chromatography.
59	WED/THU	13:30-15:00	Seokhyun Ro	xenonist@naver.com	Inha University, Korea	A277	15	Reconstruction of environmental proxies including conductivity, dust and ionic components from Styx firm core using Continuous Flow Analysis system combined with Melted and Ion Chromatography system
60	WED/THU	13:30-15:00	Duhyeong Lee	dhllee@kopri.re.kr	Korea Polar Research Institute, Korea	A356	15	Proton-induced Crystallization of Amorphous Solid Water
61	WED/THU	13:30-15:00	Yongsu Baek	windstar527@gmail.com	Kyungpook National University, Korea	A359	15	Existence of IO2H and its role in the formation of I2 in icy water
62	WED/THU	13:30-15:00	Yunhak Lee	yhlee@kopri.re.kr	Korea Polar Research Institute, Korea	A361	15	Freeze concentration effect enhanced fluorescence analysis method for Fe(II)
63	WED/THU	13:30-15:00	Svetlana Shostak	sa.shostakk@gmail.com	Kyungpook National University, Korea	A365	15	Ice Surface Sulfuric Acid Formations via the Oxidation of Sulfurous Acid by Hydrogen Peroxide
64	WED/THU	13:30-15:00	Hyunyoung Chung	hychung@kopri.re.kr	Korea Polar Research Institute, Korea	A368	15	Chemical reactions between hexavalent chromium and iodide in ice
65	WED/THU	13:30-15:00	Kitae Kim	ktkim@kopri.re.kr	Korea Polar Research Institute, Korea	A369	15	Enhanced chemical processes in ice and its impact on cold environment
66	WED/THU	13:30-15:00	Taeuk Han	taeukhan@kopri.re.kr	Korea Polar Research Institute, Korea	A372	15	Enhanced removal of Cr(VI) in the presence of rice husk biochar in frozen aqueous solution
67	WED/THU	13:30-15:00	Jaehyeock Bang	kevinpotter@snu.ac.kr	Seoul National University, Korea	A391	15	Low Energy Electron Transmission and Trapping in Crystalline Ice Films
68	WED/THU	13:30-15:00	Bomi Kim	bomi@kopri.re.kr	Korea Polar Research Institute, Korea	A403	15	Chemical Detection and Characterization in Quasi-Liquid Layer on Ice Using in-situ Raman Spectroscopy
69	WED/THU	13:30-15:00	Heejin Hwang	heejin@kopri.re.kr	Korea Polar Research Institute, Korea	A484	15	Plutonium fallout reconstructed from an Antarctic Plateau snowpack using inductively coupled plasma sector field mass spectrometry
70	WED/THU	13:30-15:00	Keehwan Lee	khlee1009@yonsei.ac.kr	Yonsei University, Korea	A118	17	Characteristics of clay minerals deposited in the sediment: Larsen Ice Shelf B embayment, Antarctica
71	WED/THU	13:30-15:00	Claudio Mazzoli	claudio.mazzoli@unipd.it	University of Padova, Italy	A136	17	The Antarctic barnacle Bathylasma corolliforme as geochemical archive of environmental conditions in the Ross Sea
72	WED/THU	13:30-15:00	Claudio Mazzoli	claudio.mazzoli@unipd.it	University of Padova, Italy	A138	17	Latitudinal screening of Southern Ocean limpet isotope compositions and incremental banding across the Polar Front
73	WED/THU	13:30-15:00	Julie Zurbuchen	asimms@geol.ucsb.edu	University of California Santa Barbara, USA	A187	17	Late Holocene ice mass changes recorded in a relative sea-level record from Joinville Island, Antarctica
74	WED/THU	13:30-15:00	Olivia Truax	olivia.truax1@gmail.com	University of Otago, New Zealand	A238	17	Holocene paleoceanographic evolution at the Ross Sea-Southern Ocean interface
75	WED/THU	13:30-15:00	Marcello Blaxell	marcello.blaxell@canberra.edu.au	University of Canberra, Australia	A362	17	Deglaciation of large East Antarctic glacial basins that are grounded below sea level: A preliminary study of the Denman Glacier system
76	WED/THU	13:30-15:00	Gerhard Kuhn	gerhard.kuhn@awi.de	Alfred Wegener Institute for Polar and Marine Research, Germany	A071	17	Marine ecosystem response to Late Pleistocene climate conditions - evidence from snow petrel stomach oil deposits ("mumiyo") in East Antarctica
77	WED/THU	13:30-15:00	Marcelo A Reguero	wrm@mrecic.gov.ar	Instituto Antártico Argentino (IAA), Argentina	A086	20	Paleobiological inferences of the Antarctic dinosaur Antartcopelta oliveroi (Ornithischia: Ankylosauria) based on the bone histology of the holotype specimen
78	WED/THU	13:30-15:00	Docho Dochev	dochev@gea.uni-sofia.bg	Sofia University, Bulgaria	A095	20	Palynological study on parts of the Byers Group, Livingston Island, Antarctica – proxy for age, palaeoenvironmental and palaeoclimatic assessment
79	WED/THU	13:30-15:00	Jose Ogorman	joseogorman@fcnym.unlp.edu.ar	Museo de La Plata, Argentina	A111	20	SEARCHING ON THE BOUNDARY: A RICH VERTEBRATE ASSEMBLAGE ON THE ANTARCTIC UPPERMOST MAASTRICHTIAN
80	WED/THU	13:30-15:00	Marcelo A Reguero	regui@fcnym.unlp.edu.ar	Instituto Antártico Argentino (IAA), Argentina	A182	20	FIRST REPORT OF A SKELETAL PATHOLOGY OF A MOSASAUR FROM THE SOUTHERN HEMISPHERE
81	WED/THU	13:30-15:00	Marcelo A Reguero	wrm@mrecic.gov.ar	Instituto Antártico Argentino (IAA), Argentina	A269	20	The early radiation of modern whales: new insights from Eocene records from Antarctica.
82	WED/THU	13:30-15:00	Soledad Gouiric Cavalli	sgouiric@fcnym.unlp.edu.ar	Museo de La Plata, Argentina	A353	20	Jurassic marine fishes from the Antarctic Peninsula: a key to understand the evolution of Southern Gondwanan ichthyofaunas

Analysis of main ion components and variation in shallow ice core in Northern Victoria Land (GV7, Styx) using ion chromatography.

Chaewon Chang^{1,†}, Sang-Bum Hong¹, Jangil Moon^{1,2}, Seokhyun Ro^{1,2},
Yeongcheol Han¹, Seong Joon Jun¹, Ji Woong Chung¹, Soon Do Hur¹

¹Korea Polar Research Institute, Incheon, Korea, Korea, ²Department of Ocean Sciences, Inha University, Incheon, Korea, Korea

Since the major ion components (F⁻, Na⁺, Cl⁻, SO₄²⁻, Ca²⁺, etc.) of ice sheets of Antarctica originate mainly from atmospheric fine dust and gas, their composition and concentration change characteristics restore the past atmospheric environment changes. Recovered fluoride ion (F⁻) recordings in polar regions are known as representative proxies that point to past large-scale volcanic activity, along with nss-SO₄²⁻, and can identify specific local volcanic activities where no nss-SO₄²⁻. However, there are few comparable data except for some studies in the Antarctic region related to large-scale volcanic activity, because the F⁻ content of polar snow and ice core is contained in sub-ppb.

In this study, we reconstruct the F⁻ record of 80 m shallow ice core obtained from GV7 (70° 41'S, 158° 52'E, 1950 m) and the main ion components record of 47 m shallow core from Styx (73° 51.10'S, 163° 41.22'E, 1623 m) located in Northern Victoria Land, Antarctica. The concentration range of F⁻ was found to be 0.05 µg/L to 2.12 µg/L in GV7 and 0.04 µg/L to 122 µg in Styx. As a result of calculating the contribution to the main origin of F⁻, F⁻ showed the highest contribution of volcanoes and other factors (coal burning, etc.) than sea salt or crust. It is believed that the F⁻ influx into Victoria Land mainly comes from volcanoes and other factors.