

The Ninth Symposium on Polar Science

PROGRAM

4 – 7 December 2018

National Institute of Polar Research (NIPR)



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Welcome

Welcome to the Ninth Symposium on Polar Science

The Ninth Symposium on Polar Science will be held at the National Institute of Polar Research (NIPR), Tokyo, Japan, from 4 to 7 December 2018. The NIPR is organizing this annual symposium to present and promote a wide variety of polar scientific research and interdisciplinary studies. The symposium includes a special session, the theme of which is “Antarctic ice-ocean interaction ~observation, reconstruction, and modeling~”. This session is held jointly with the 1st GRAntarctic International Symposium (<http://grantarctic.jp/2018sympo/>).

Accompanying this special session will be parallel sessions, which will include ordinary sessions and interdisciplinary sessions.

We look forward to your active participation.

Kenji Horie
Secretary,
The 9th Symposium on Polar Science executive committee

Session list

Special Session

[S] Antarctic ice-ocean interaction ~observation, reconstruction, and modeling~

Interdisciplinary Sessions

[IA] Open session for the interdisciplinary Arctic Science

[ID] Polar science developed by leading-edge analytical technology ~Beyond the micro meters and micro grams~

[IF] Toward Future Plan of the Arctic and Antarctic Science

[IW] Whole atmosphere

Ordinary Sessions

[OA] Antarctic meteorites

[OB] Polar biology

[OG] Polar geosciences

[OM] Polar meteorology and glaciology

[OS] Space and upper atmospheric sciences

Others

[SC] Winning Proposals of Junior High and High School Polar Science Contest

Session schedule

Date	Time	NIPR Auditorium (2nd floor)	NIPR Multipurpose Conference room (3rd floor)	NIPR Seminar room (3rd floor)	ISM Seminar room (3rd floor)	Poster at NIPR 1F Entrance Hall	JAXA Sagamihara Campus	
4 Dec (Tue)		10:00-10:05 Opening						
	AM	10:05-12:00 S				S	9:35-12:00 OA / Hayabusa	
	Lunch time							Lunch time
	PM	13:30-16:30 S				OB	13:30-15:00 OA / Hayabusa	
	Poster	16:30-18:00 Poster Session Core Time (for sessions S) At NIPR 1F Entrance Hall				OG		
	Transport by bus	Departure of bus from NIPR South Entrance to the Tachikawa Grand Hotel where the Banquet is to be held. Departures at 17:30, 17:40, ~18:00 and ~18:10.				OS		
	Banquet	18:30-20:30 Symposium Banquet @ Tachikawa Grand Hotel				SC		
5 Dec (Wed)	AM	9:55-11:50 OB	10:00-12:10 OM	10:00-12:00 OG	10:00-12:00 OS	S	9:30-12:00 OA / Hayabusa	
	Lunch time							Lunch time
	PM	12:50-16:30 OB	13:30-16:00 OM	13:30-16:30 OG	13:30-16:15 OS	OB	13:30-16:45 OA / Hayabusa	
	Poster	16:30-18:30 Poster Session Core Time (for sessions OB, OM, OG, OS) At NIPR 1F Entrance Hall				OG	17:00-18:15 Poster Session Core Time 2nd floor of the Research/Administr ation Building	
	Eve	18:30-20:00 OB Party at NIPR 5F Lounge	18:30-20:00 OM Party at NIPR 4F Lounge	18:30-20:00 OG Party at NIPR 6F Lounge	18:30-20:00 OS & IW Joint Party at NIPR 3F Lounge	OS		
6 Dec (Thu)	AM	10:00-11:00 OM		10:15-11:40 ID	10:00-12:00 OS	IA	9:30-12:30 OA / Hayabusa	
		11:05-12:00 IA				ID		
	Lunch time						IF	
	Poster	13:00-14:00 Poster Session Core Time (for sessions IA, IF, ID, IW) At NIPR 1F Entrance Hall				IW		
	PM	14:00-15:50 IA		14:00-16:10 ID	14:00-17:30 IW	OB	Lunch time	
16:00-17:50 IF					OG			
7 Dec (Fri)	AM					OM	9:30-12:35 OA / Hayabusa	
	Lunch time						OS	
	PM					SC	14:00-18:05 OA / Hayabusa	

NIPR : National Institute of Polar Research

ISM : Institute of Statistics and Mathematics

Information for presenters

Oral presentation

The length of oral presentation is up to the session convener. Please confirm the time schedule of your talk in the program. Please note that your time window for your talk includes (i) presentation time, (ii) time for discussions and (iii) time to switch speakers.

Please bring your own laptop computer (PC is not equipped in the presentation room).

Projector is available. The proper connectors to the projectors are miniD-sub15 pins or HDMI.

For any questions, please ask the convener of each session or the LOC.

Poster presentation

There will be afternoon poster sessions on Tuesday (16:30-18:00), Wednesday (16:30-18:30) and Thursday (13:00-14:00) of the symposium at the Entrance Hall of NIPR on the 1st floor. Posters should be put up from lunch time on the day of presentation. Posters not collected by these times will be removed by the LOC and recycled.

Size of the poster board is 1170 mm in horizontal width, 870mm in vertical width, and top height of 1800 mm. The boards are for landscape type posters. However, by suspending, portrait type posters can be also displayed.

The materials required to attach each poster to the board will be supplied. Please use a tape prepared by the LOC.

A usage of thumbtacks is prohibited.

Poster presentations of the Antarctic meteorites session would be held in the lounge on the 2nd floor of the Research/Administration Building at the JAXA Sagami-hara Campus. The size of a poster board is 1200 mm in width and 1800 mm in height. You can put an A0-size poster in both vertical and horizontal orientation. You can put your poster during whole the symposium, and two poster core times will be held during the symposium.

See also

<https://curation.isas.jaxa.jp/symposium/2018/Program.html>

Information for participants

Pre-registration

All participants are required to register in advance. If you have not yet, please register at the [registration page](#).

Symposium program and abstracts

The PDF version of the symposium program is downloadable from this web site. Please download it, and bring it with your laptop, tablet, etc. We prepare only a limited number of the printed programs at the General Information Desk for a paperless symposium.

Web image files which contain the program and abstracts are downloadable from the web site. It will be released on November 21st.

Reception desks

When you come to the symposium venue, please visit the reception desk in front of each session room first. At the reception desk, you will receive your name card with a holder. An on-site application to the session party is also possible. In addition, if you are among those who will get travel support from NIPR, you need to bring your receipt and boarding pass for your air travel coming to Tokyo.

If you have any questions which are not specific to each session (i.e., banquet, lunch, route, etc.), please visit the General Information Desk at the 1F Entrance Hall of NIPR. It will be open at 09:00 - 16:30 every day.

Wireless LAN

NIPR wireless LAN service is available in the NIPR area including Auditorium, Seminar room, Multipurpose Conference room, and lounges (connecting corridors on 2nd-6th floors) and in the ISM seminar room (D305 & 304). Please ask how to use it at each reception desk or to a symposium staff.

Food and drinks

Tea and coffee are available near each reception desk.

Food and drinks except for bottled water are prohibited in the NIPR 2F Auditorium.

Lunch

Lunch boxes are sold on the 1st floor at NIPR. There are some restaurants for lunch near NIPR. Please refer to the [lunch map in this web page](#). In case you buy a lunch box, the following areas are available for having lunch.

Rooms C201 and C301 in the NIPR main building (See Floor Map)

Entrance hall on the 1st floor in the NIPR main building

Lounges (connecting corridors) on the 3rd, 4th, 5th, and 6th floors in the NIPR main building
"Southern Cross" (a lounge adjacent to Polar Science Museum on the south of NIPR main building)
ISM seminar room (D305&304)

No food and drinks (except for bottled water) inside NIPR 2F Auditorium - thank you.

Symposium banquet

NIPR will host an informal buffet-style symposium banquet on the evening of Dec. 4th as follows. All the symposium participants are welcome to attend (regardless of pre-registration).

Date and Time : Tue., Dec. 4th 18:30~20:30

Place : Tachikawa Grand Hotel (3-minute walk from JR Tachikawa Station North Exit)

Entrance fee : 3,000 yen (1,500 yen for students)

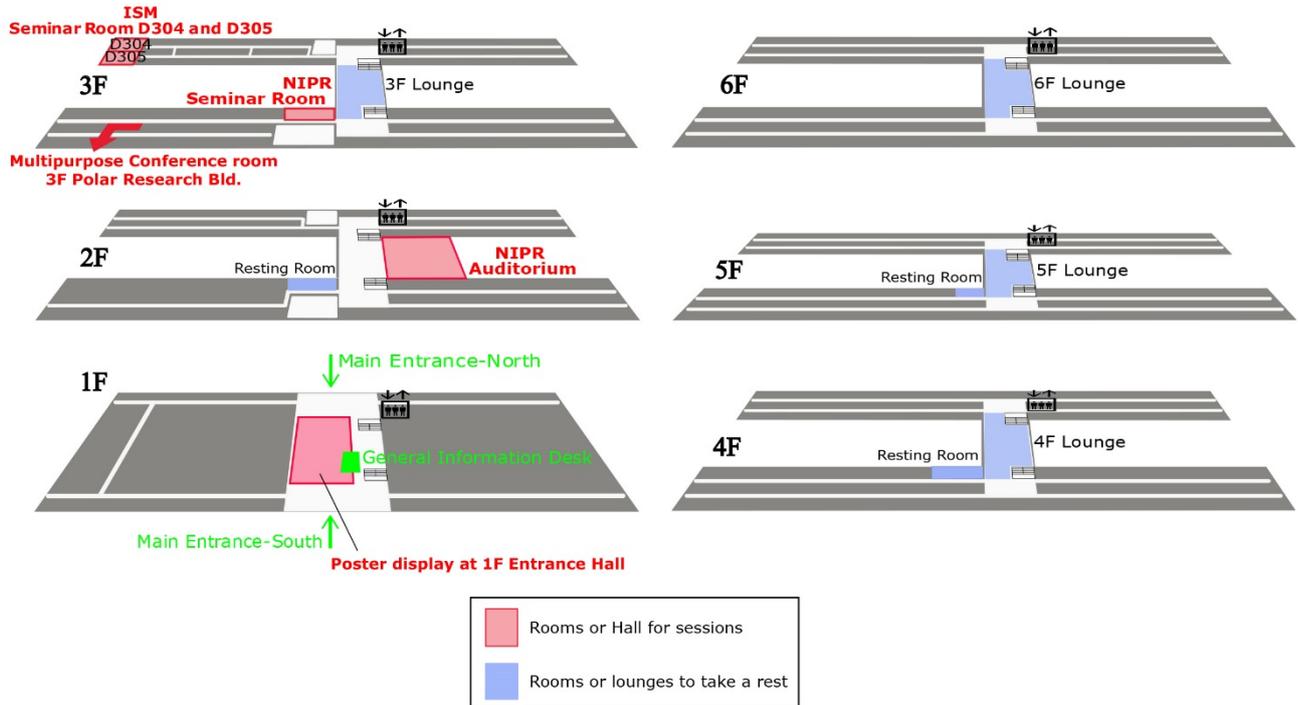
Registration and payment : at the party reception after arriving at the Grand Hotel

* Shuttle buses will be served between NIPR and the banquet place before the banquet. Buses will leave the south exit of NIPR main building (polar science museum side) between 17:30 and 18:10 on Dec. 4th. Departure times are at 17:30, 17:40, ~18:00 and ~18:10.

Session parties

Some session parties except for Antarctic meteorites/Hayabusa joint session (smaller, informal buffet-style parties with drinks and some food after the afternoon session) at NIPR are also planned by session conveners on the evening of Dec. 5th. Joint session party of Antarctic meteorites with Hayabusa will be held at the JAXA Sagami-hara Campus on the evening on Dec. 5th. Please refer to the symposium time table and register at each session reception desk. Everyone is welcome to join them, too. Please feel free to ask anyone at the reception if you have any questions or requests. Welcome and enjoy.

Floor Map of NIPR



Location of NIPR



..Lunch Map..

- [RinRin : Lunch Box]**
1F 11:00 ~ 13:00
★ 400 ~ 500 yen
- [Haiji : Curry Lunch Box]**
1F 11:00 ~ 13:00
★ 500 yen ~ with sweet on Wed.
- [Matsuya : Gyumeshi Lunch Box]**
1F 11:00 ~ 13:00
★ 400 ~ 500 yen bowl of rice with food on top
- [Ippinka : Chinese Lunch Box]**
1F 11:00 ~ 13:00
★ 350 ~ 500 yen
- [Zhikyo : Chinese Lunch Box]**
1F 11:00 ~ 13:00
★ 500 yen
- [Hello Lunch : Lunch Box]**
1F 11:00 ~ 13:00
★ 250 ~ 500 yen
- [Tachikawa City Office Restaurant]**
3F inside City Office (3 min. walk) 11:00 ~ 15:00
★ Lunch 300 ~ 500 yen
- [Café Harmony]**
1F inside City Office (3 min. walk) 10:00 ~ 16:00
★ Light meal 300 ~ 600 yen
- [Restaurant at Court]**
B1F inside Court (3 min. walk) 8:00 ~ 20:00
★ Lunch, all you can eat on Thursday lunch time
- [Chinese Restaurant Zuikyo]**
8 min. walk
11:00 ~ 14:30 / 17:00 ~ 23:00

Takeout

Restaurant

Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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The 9th Symposium on Polar Science - Session Schedule

Click a session in the time table below or select a session in the pull-down menu above or in the [session list](#) below to show the selected session program. Session codes (like S, IA, OB...) are described in the [session list](#) below.

The abstract site will be temporarily unavailable from 3 December (Mon) 17:00 to 19:00 JST, because of system maintenance of NIPR repository.

Date	Time	NIPR Auditorium (2nd floor)	NIPR Multipurpose Conference room (3rd floor)	NIPR Seminar room (3rd floor)	ISM Seminar room (3rd floor)	Poster at NIPR 1F Entrance Hall	JAXA Sagamihara Campus
4 Dec (Tue)		10:00-10:05 Opening					
	AM	10:05-12:00 S					9:35-12:00 OA/Hayabusa
		Lunch time					Lunch time
	PM	13:30-16:30 S				S OB OG OM OS SC	13:30-15:00 OA/Hayabusa
	Poster	16:30-18:00 Poster Session Core Time (for sessions S) At NIPR 1F Entrance Hall					
	Transport by bus	Departures at 17:30, 17:40, ~18:00 and ~18:10.					
Banquet	18:30-20:30 Symposium Banquet @ Tachikawa Grand Hotel						
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		Lunch time					Lunch time
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	Poster	16:30-18:30 Poster Session Core Time (for sessions OB, OM, OG, OS) At NIPR 1F Entrance Hall					17:00-18:15 Poster Session Core Time 2nd floor of the Research / Administration Building
Eve	18:30-20:00 OB Party at NIPR 5F Lounge	18:30-20:00 OM Party at NIPR 4F Lounge	18:30-20:00 OG Party at NIPR 6F Lounge	18:30-20:00 OS & IW Joint Party at NIPR 3F Lounge			
Date	Time	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above
6 Dec (Thu)	AM	10:00-11:00 OM		10:15-11:40 ID	10:00-12:00 OS	IA ID IF IW OB OG OM OS SC	9:30-12:30 OA/Hayabusa
		11:05-12:00 IA					Lunch time
	Poster	13:00-14:00 Poster Session Core Time (for sessions IA, IF, ID, IW) At NIPR 1F Entrance Hall					
	PM	14:00-16:00 IA		14:00-16:10 ID	14:00-17:30 IW		15:30-17:00 OA/Hayabusa
	16:00-17:50 IF						
Date	Time	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above
7 Dec (Fri)	AM						9:30-12:35 OA/Hayabusa
		Lunch time					
PM						14:00-18:05 OA/Hayabusa	

NIPR : National Institute of Polar Research
 ISM : Institute of Statistics and Mathematics

Session list and session code

Special session

- ▶ [S] Antarctic ice-ocean interaction –observation, reconstruction, and modeling–

Interdisciplinary sessions

- ▶ [IW] Whole atmosphere
- ▶ [ID] Polar science developed by leading-edge analytical technology –Beyond the micro meters and micro grams–
- ▶ [IF] Toward Future Plan of the Arctic and Antarctic Science
- ▶ [IA] Open session for the interdisciplinary Arctic Science

Ordinary sessions

- ▶ [OA] Antarctic meteorites / Hayabusa
- ▶ [OB] Polar biology
- ▶ [OG] Polar geosciences
- ▶ [OM] Polar meteorology and glaciology
- ▶ [OS] Space and upper atmospheric sciences

Others

- ▶ [SC] Winning Proposals of Junior High and High School Polar Science Contest

Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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[Oral session](#) | [Poster session](#)

Special session

[S] Antarctic ice-ocean interaction ~observation, reconstruction, and modeling~

Scopes

This session is held jointly with the 1st GRAntarctic International Symposium.

The accelerating ice mass loss in West Antarctica may have a significant impact on the global sea level and climate, and the understanding of ice-ocean interaction is of primary importance to better estimate the mass change in the future. In contrast to the clear changes in West Antarctic ice sheet, the current status of ice mass change in East Antarctica is still in debates. Recent studies have suggested Antarctic ice mass loss in the past warm periods, including East Antarctic mass loss through Totten Glacier. For accurate understanding and prediction of Antarctic ice mass changes, it is important to enhance in-situ and satellite observations of the Antarctic glacier, ice shelf, and surrounding ocean and sea ice. It is also urgently needed to develop new observational techniques using unmanned instruments, reconstruct the past ice and ocean variations, and to use the observational knowledge to refine numerical models on various spatial and temporal scales.

This session will be held under the support from Grantarctic (JSPS KAKENHI Grant Number JP17H06316).

Conveners : Takeshi Tamura (NIPR), Ayako Abe (AORI, U-Tokyo), Toshihiro Maki (IIS, U-Tokyo), Shin Sugiyama (ILTS, Hokkaido Univ.), Shigeru Aoki (ILTS, Hokkaido Univ.), Yusuke Suganuma (NIPR)

Note: [I] represents an invited talk.

Oral presentations (10:05 – 12:00, 13:30 – 16:30)

Date : Tue. 4 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Toshihiro Maki (IIS, U-Tokyo)			
10:05 - 10:30	[I] Exploration of the Ocean Cavities Beneath Antarctica's Floating Ice Shelves Using Autonomous Underwater Vehicles	*Adrian Jenkins (British Antarctic Survey), Pierre Dutrieux (Lamont-Doherty Earth Observatory of Columbia University), Stan Jacobs (Lamont-Doherty Earth Observatory of Columbia University), Hartmut Hellmer (Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung), Markus Janout (Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung), Mike Schröder (Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung), Steve McPhail (National Oceanography Centre, Natural Environment Research Council), Rob Templeton (National Oceanography Centre, Natural Environment Research Council)	
10:30 - 10:55	[I] Autosub Long Range AUV Deployments Beneath the Ronne and Filchner Ice Shelves - The Engineering Challenges	*Stephen McPhail (NOC, Southampton, UK), Rob Templeton (NOC, Southampton, UK), Miles Pebody (NOC, Southampton, UK), Daniel Roper (NOC, Southampton, UK), Richard Morrison (NOC, Southampton, UK)	
10:55 - 11:20	[I] Preparing for the new wave of Autonomous Underwater Vehicle exploration in Antarctica	*Guy Williams (Institute for Antarctic and Marine Studies, University of Tasmania)	
11:20 - 11:40	Design of the Variable and Compact AUV "MONACA" for Antarctic Survey	*Hirokazu Yamagata (Institute of Industrial Science, The University of Tokyo), Toshihiro Maki (Institute of Industrial Science, The University of Tokyo), Hiroshi Yoshida (Japan Marine Science and Technology Center), Yutaka Ohta (Japan Marine Science and Technology Center), Yoshihumi Nogi (National Institute of Polar Research)	
11:40 - 12:00	An Electromagnetic Under Ice Positioning System and An Underwater Drone for Under Ice	*Hiroshi Yoshida (JAMSTEC), Shojiro Ishibashi (JAMSTEC), Kiyotaka Tanaka (JAMSTEC), Ryo Sato (JAMSTEC)	
Lunch			
Chair: Shigeru Aoki (ILTS, Hokkaido Univ.)			
13:30 - 13:55	[I] The Filchner-Ronne Ice Shelf System	*Hartmut Hellmer (Alfred Wegener Institute)	
13:55 - 14:20	[I] Antarctica's Great Sub-Ice Basins: A Natural Wonder or a Global Threat?	*Donald D Blankenship (University of Texas Institute for Geophysics)	
14:20 - 14:40	Strong ice-ocean interaction at Shirase Glacier Tongue, East Antarctica	*Daisuke Hirano (Institute of Low Temperature Science, Hokkaido University), Takeshi Tamura (National Institute of Polar Research), Kazuya Kusahara (Japan Agency for Marine-Earth Science and Technology), Kay I. Ohshima (Institute of Low Temperature Science, Hokkaido University), Shuki Ushio (National Institute of Polar Research), Daisuke Simizu (National Institute of Polar Research), Kazuya Ono (Institute of Low Temperature Science, Hokkaido University), Shigeru Aoki (Institute of Low Temperature Science, Hokkaido University)	
14:40 - 14:55	Coffee Break		
Chair: Shigeru Aoki (ILTS, Hokkaido Univ.)			
14:55 - 15:15	Pathway of Circumpolar Deep Water into Pine Island and Thwaites ice shelf cavities and to their grounding lines	*Yoshihiro Nakayama (ILTS, Hokkaido Univ.), Georgy Manucharayan (California Institute of Technology), Patrice Kelin (California Institute of Technology), Hector G. Torres (California Institute of Technology), Michael Schodlok (JIFRESSE, University of California Los Angeles), Eric Rignot (California Institute of Technology), Pierre Dutrieux (Lamont-Doherty Earth Observatory Ocean and Climate Physics), Dimitris Menemenlis (California Institute of Technology)	
15:15 - 15:35	Two recirculations in the Australian-Antarctic Basin revealed by improved ice-free monthly absolute dynamic	*Kohei Mizobata (Tokyo University of Marine Science and Technology), Keishi Shimada (Tokyo University of Marine Science and Technology)	

	ocean topography using CryoSat-2 radar altimeter		
15:35 - 15:55	Subsurface cross-slope exchange in the Australian-Antarctic Basin	*Kaihe Yamazaki (Graduate School of Environmental Science, Hokkaido University), Shigeru Aoki (Institute of Low Temperature Science, Hokkaido University), Keishi Shimada (Tokyo University of Marine Science and Technology), Yujiro Kitade (Tokyo University of Marine Science and Technology)	
15:55 - 16:15	Wintering habitat of Weddell seals along the continental shelf off Enderby Land, East Antarctica	*Nobuo Kokubun (NIPR, SOKENDAI), Yukiko Tanabe (NIPR, SOKENDAI), Takeshi Tamura (NIPR, SOKENDAI), Vigan Mensah (Hokkaido University), Daisuke Hirano (Hokkaido University), Shigeru Aoki (Hokkaido University), Akinori Takahashi (NIPR, SOKENDAI)	
16:15 - 16:30	Coffee Break		
16:30 - 18:00	Poster presentations Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)		

Poster presentations (Core time: 16:30 - 18:00)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

Sp1	Reconstruction of the last glacial-interglacial cycle in the Kerguelen Plateau's PFZ and SAZ, Southern Ocean.	*Matthieu Civel (Center for Advanced Core Research, Kochi University), Xavier Crosta (UMR CNRS EPOC, Université de Bordeaux), Giuseppe Cortese (GNS Science, Lower Hutt), Elisabeth Michel (LSCE-IPSL, CEA-CNRS-UVSQ, Gif-sur-Yvette), Alain Mazaud (LSCE-IPSL, CEA-CNRS-UVSQ, Gif-sur-Yvette), Lena Thöle (Institute of Geological Sciences & Oeschger Centre for Climate Change Research, University of Bern), Samuel Jaccard (Institute of Geological Sciences & Oeschger Centre for Climate Change Research, University of Bern), Minoru Ikehara (Center for Advanced Core Research, Kochi University), Takuya Itaki (National Institute of Advanced Industrial Science and Technology (AIST))	
Sp2	Millennial-scale sea ice expansion in the glacial Southern Ocean driven by Antarctic warming	*Minoru Ikehara (Kochi University), Kota Katsuki (Shimane University)	
Sp3	Tidally controlled vertical ice motion generate seismicity near a terminus of a floating tongue, East Antarctica	*Masahiro Minowa (Institute of Low Temperature Science, Hokkaido University), Evgeny Podolskiy (Arctic Research Center, Hokkaido University), Shin Sugiyama (Institute of Low Temperature Science, Hokkaido University)	
Sp4	Seasonality in sulfur isotopic compositions of atmospheric sulfate in East Antarctica	Sakiko Ishino (Department of Chemical Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology), *Shohei Hattori (Department of Chemical Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology), Joel Savarino (Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP, IGE), Michel Legrand (Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP, IGE), Emmanuelle Albalat (Ecole Normale Supérieure de Lyon, Université de Lyon, CNRS), Francis Albarede (Ecole Normale Supérieure de Lyon, Université de Lyon, CNRS), Susanne Preunkert (Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP, IGE), Bruno Jourdain (Univ. Grenoble Alpes, CNRS, IRD, Grenoble INP, IGE), Naohiro Yoshida (Department of Chemical Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology)	
Sp5	The effect of basal melting of the Shirase Glacier on the CO ₂ system in Lützow-Holm Bay, East Antarctica	*Masaaki Kiuchi (Faculty of Fisheries Sciences, Hokkaido University), Daiki Nomura (Faculty of Fisheries Sciences, Hokkaido University), Daisuke Hirano (Institute of Low Temperature Science), Takeshi Tamura (National Institute of Polar Research), Tomohide Noguchi (Marine Works Japan), Gen Hashida (National Institute of Polar Research), Shigeru Aoki (Institute of Low Temperature Science)	
Sp6	Treatments of ice-ocean interaction in ice sheet models and implications for Antarctic ice sheet retreat in the past and future	*Takashi Obase (Atmosphere and Ocean Research Institute, the University of Tokyo), Ayako Abe-Ouchi (Atmosphere and Ocean Research Institute, the University of Tokyo), Ralf Greve (Institute of Low Temperature Science, Hokkaido University)	
Sp7	Provenances of ice-rafted detritus in sedimentary core from the Conrad Rise	*Hiroshi Sato (Senshu University), Minoru Ikehara (Center for Advanced Marine Core Research, Kochi University), Takuya Matsuzaki (Center for Advanced Marine Core Research, Kochi University)	
Sp8	Response of the Antarctic ice sheet to increased sub-ice-shelf melt rates	*Ralf Greve (Hokkaido University), Fuyuki Saito (Japan Agency for Marine-Earth Science and Technology), Shun Tsutaki (University of Tokyo), Takashi Obase (University of Tokyo), Ayako Abe-Ouchi (University of Tokyo)	
Sp9	Role of clouds on the Southern Ocean sea surface temperature bias and its impact on climate simulations	*Sam Sherriff-Tadano (AORI, the University of Tokyo), Ayako Abe-Ouchi (AORI, the University of Tokyo), Haruka Hotta (AORI, the University of Tokyo), Maki Kikuchi (Earth Observation Research Center, JAXA), Takanori Kodama (AORI, the University of Tokyo), Kentaroh Suzuki (AORI, the University of Tokyo)	
Sp10	Present-day crustal motion and gravity change around the Lützow-Holm Bay region based on GIA modeling	*Junichi Okuno (NIPR), Koichiro Doi (NIPR), Yuichi Aoyama (NIPR), Takeshige Ishiwa (NIPR), Akihisa Hattori (NIPR), Yoichi Fukuda (Kyoto Univ.)	
Sp11	Subshelf environment of Langhovde Glacier, Antarctica	*Shiori Yamane (Institute of Low Temperature Science, Hokkaido University), Shin Sugiyama (Institute of Low Temperature Science, Hokkaido University), Masahiro Minowa (Institute of Physics and Mathematics, Austral University of Chile), Masato Ito (Institute of Low Temperature Science, Hokkaido University), Daisuke Hirano (Institute of Low Temperature Science, Hokkaido University)	
Sp12	Characteristics of baseline isotope ratios in food web and trophic structure in Indian sector of the Southern Ocean	*Ayu Yamamoto (Tokyo University of Marine Science and Technology (TUMSAT)), Ryosuke Makabe (National Institute of Polar Research (NIPR)), Masayoshi Sano (National Institute of Polar Research (NIPR)), Aiko Tachibana (Tokyo University of Marine Science and Technology (TUMSAT)), Shintaro Takao (National Institute of Polar Research (NIPR)), Tsuneo Odate (National Institute of Polar Research (NIPR)), Masato Moteki (Tokyo University of Marine Science and Technology (TUMSAT))	
Sp13	AI based automatic microfossil counting system and its application for the Pleistocene <i>Cycladophora davisiana</i> curve in the Southern Ocean	*Takuya Itaki (Geological Survey of Japan, AIST), Minoru Ikehara (Kochi University)	
Sp14	How mineral dust aerosol during LGM affects temperature surrounding of the Antarctica	*Rumi Ohgaito (JAMSTEC), Ayako Abe-Ouchi (AORI, U. Tokyo), Toshihiko Takemura (RIAM, Kyushu Univ.), Akinori Ito (JAMSTEC), Ryouta Oishi (AORI, U. Tokyo), Tomohiro Hajima (JAMSTEC), Shingo Watanabe (JAMSTEC), Michio Kawamiya (JAMSTEC)	
Sp15	Observing seasonality and driver of carbon sequestration in seasonal ice zone	*Ryosuke Makabe (NIPR), Shintaro Takao (NIPR), Kohei Mizobata (TUMSAT), Itsuki Suto (Nagoya University), Norio Kurosawa (Soka University), Masato Moteki (TUMSAT), Tsuneo Odate (NIPR)	
Sp16	Reconstructing ice sheet fluctuation in Skarvesnes, southern part of Soya Coast, East Antarctica	*Moto Kawamata (SOKENDAI, The Graduate University for Advanced Studies), Yusuke Suga (National Institute of Polar Research), Koishiro Doi (National Institute of Polar Research), Takanobu Sawagaki (Hosei University)	
Sp17	Effects of melting sea ice on phytoplankton abundance and productivity	*Shintaro Takao (National Institute of Polar Research/The Graduate University for Advanced Studies (SOKENDAI)), Ayuko Kagesawa (The Graduate University for Advanced Studies (SOKENDAI)), Ryosuke Makabe (National Institute of Polar Research/The Graduate University for Advanced Studies (SOKENDAI)), Masato Moteki (National Institute of Polar Research/Tokyo University of Marine Science and Technology (TUMSAT)), Tsuneo Odate (National Institute of Polar Research/The Graduate University for Advanced Studies (SOKENDAI))	
		*Jamin S Greenbaum (University of Texas Institute for Geophysics), Jason L Roberts (Antarctic Climate &	

Sp18

Ocean-driven thinning of Totten and Denman Glaciers, the two primary outlets of the Aurora Subglacial Basin in East Antarctica

Ecosystems Cooperative Research Centre and Australian Antarctic Division), Noel Gourmelen (School of Geosciences, University of Edinburgh), Cyril Grima (University of Texas Institute for Geophysics), Dustin M Schroeder (Department of Geophysics, Stanford University), Christine F Dow (Department of Geography and Environmental Management, University of Waterloo), Patrick Heimbach (University of Texas Institute for Geophysics), Bo Sun (Polar Research Institute of China), Jingxue Guo (Polar Research Institute of China), Christopher Zappa (Lamont Doherty Earth Observatory), Tas D van Ommen (Antarctic Climate & Ecosystems Cooperative Research Centre and Australian Antarctic Division), Donald D Blankenship (University of Texas Institute for Geophysics)



Oral session on Tue. 4 Dec. | Oral session on Wed. 5 Dec. | Poster session on Wed. 5 Dec. | Oral session on Thu. 6 Dec. | Oral session on Fri. 7 Dec.

[OA] Antarctic meteorites / Hayabusa

Scopes

This session is held jointly with Hayabusa 2018 (symposium of solar system material, <https://curation.isas.jaxa.jp/symposium/2018/>), and to present recent research outcomes for Antarctic meteorites and micrometeorites. It will also be an opportunity for general and topical discussion sessions dealing with new data from non-Antarctic meteorites and extraterrestrial materials, and related experimental and theoretical works.

Conveners : Naoya Imae (NIPR) and Masanao Abe (JAXA)

Note: This session jointly with Hayabusa will be continued to Friday. See also <https://curation.isas.jaxa.jp/symposium/2018/> [I] represents an invited talk.

Oral presentations (9:35 – 12:00, 13:30 – 15:00)

Date : Tue. 4 Dec.

Place : Conference hall of the Research/Administration Building (2nd floor) at the JAXA Sagami-hara Campus

9:35 - 9:45		OPENING	
Chair: Vinciane Debaille (Université Libre de Bruxelles), Tsuyoshi Iizuka (The University of Tokyo)			
9:45 - 10:00	Metamorphic history of Vestan crust: Petrologic evidence from monomict basaltic eucrites	*Rei Kanemaru (Graduate University of Advanced Studies (SOKENDAI)), Akira Yamaguchi (National Institute of Polar Research (NIPR)), Hirotsugu Nishido (Okayama University of Science (OUS))	
10:00 - 10:15	Silica minerals and pyroxenes in the Camel Donga non-cumulate eucrite: Further evidence for its polymict nature	*Haruka Ono (The University of Tokyo), Takashi Mikouchi (The University of Tokyo), Masahiro Yasutake (Kyoto University), Atsushi Takenouchi (The University of Tokyo), Mizuho Koike (Japan Aerospace Exploration Agency), Tsuyoshi Iizuka (The University of Tokyo), Akira Yamaguchi (National Institute of Polar Research), Akira Miyake (Kyoto University), Akira Tsuchiyama (Kyoto University)	
10:15 - 10:30	Evidence for burial metamorphism on Vesta from Pb–Ar chronology of the Agoult eucrite	*Tsuyoshi Iizuka (The University of Tokyo), Fred Jourdan (Curtin University), Akira Yamaguchi (NIPR), Piers Koefoed (The Australian National University), Yuki Hibiya (The University of Tokyo), Yuri Amelin (The Australian National University)	
10:30 - 10:45	Early planetary formation processes of Vesta evidenced by highly siderophile elements concentrations in eucrites	*Vinciane Debaille (Université Libre de Bruxelles), Nicolas Slotte (Université Libre de Bruxelles), Ashlea Wainwright (Université Libre de Bruxelles), Steven Goderis (Vrije Universiteit Brussel), Ambre Luguët (Universität Bonn)	
10:45 - 11:00	⁴⁰ Ar/ ³⁹ Ar thermochronology of unbrecciated eucrites & diogenites: clues to the crustal formation of Vesta	*Fred Jourdan (Curtin University), Trudy Kennedy (Curtin University), Gretchen Benedix (Curtin University), Ela Eroglu (Curtin University), Celia Mayers (Curtin University)	
11:00 - 11:15	REE abundances and ⁸⁷ Rb– ⁸⁷ Sr and ¹⁷⁶ Lu– ¹⁷⁶ Hf systematics of diogenite meteorites	*Takaharu Saito (Nagoya University), Hiroshi Hidaka (Nagoya University), Seung-Gu Lee (Korea Institute of Geoscience and Mineral Resources)	
11:15 - 11:30	The constancy of the galactic cosmic-rays: the contribution of cosmogenic nuclides in iron meteorites	*Thomas Smith (University of Bern), Ingo Leya (University of Bern), Silke Merchel (Helmholtz-Zentrum Dresden-Rossendorf), Georg Rugel (Helmholtz-Zentrum Dresden-Rossendorf), Stefan Pavetich (Helmholtz-Zentrum Dresden-Rossendorf), Andreas Scharf (Helmholtz-Zentrum Dresden-Rossendorf)	
11:30 - 11:45	Petrology and Olivine Fabric of Lodranite NWA 2235	*Masahiro Yasutake (Graduate School of Science, Kyoto University), Akira Yamaguchi (SOKENDAI, NIPR)	
11:45 - 12:00	Investigating Trapped Solar Gases in Lunar Meteorite NWA10203	*P.M Ranjith (Chinese Academy of Sciences), HE Huaiyu (Chinese Academy of Sciences), SU Fei (Chinese Academy of Sciences), LIN Yangting (Chinese Academy of Sciences), LIU ziheng (Chinese Academy of Sciences), ZHU Rixiang (Chinese Academy of Sciences)	
Lunch			
Chair: Vinciane Debaille (Université Libre de Bruxelles), Tsuyoshi Iizuka (The University of Tokyo)			
13:30 - 13:45	Aqueous alteration of Yamato 000749 based on multi-probe microscopic observation	*Naoki Shiraishi (Hiroshima University), Hiroki Suga (The University of Tokyo), Masaaki Miyahara (Hiroshima University), Takuji Ohigashi (UVSOR synchrotron facility), Yuichi Inagaki (UVSOR synchrotron facility), Akira Yamaguchi (NIPR), Naotaka Tomioka (Kochi Institute for Core Sample Research, JAMSTEC), Yu Kodama (Marine Works Japan), Eiji Ohtani (Tohoku University)	
13:45 - 14:00	Mineralogical and H isotope study of jarosites in Yamato 000593 nakhlite	*Amiko Takano (Department of Earth and Planetary Systems Science, Hiroshima University / Kochi Institute for Core Sample Research, JAMSTEC), Sachio Kobayashi (Kochi Institute for Core Sample Research, JAMSTEC), Yu Kodama (Marine Works Japan), Tomohiro Usui (Department of Solar System Sciences, ISAS, JAXA), Motoshi Ito (Kochi Institute for Core Sample Research, JAMSTEC)	
Chair: Shoichi Itoh (Kyoto University)			
14:00 - 15:00	[I] A new class of carbonaceous chondrite (CY): Towards a reassessment of carbonaceous chondrite classification	*Sara S. Russell (Department of Earth Sciences, The Natural History Museum), Ashley J. King (Department of Earth Sciences, The Natural History Museum)	

Oral session on Tue. 4 Dec. | Oral session on Wed. 5 Dec. | Poster session on Wed. 5 Dec. | Oral session on Thu. 6 Dec. | Oral session on Fri. 7 Dec.

[OA] Antarctic meteorites / Hayabusa

Scopes

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Conveners : Naoya Imae (NIPR) and Masanao Abe (JAXA)

Note: This session jointly with Hayabusa will be continued to Friday. See also <https://curation.isas.jaxa.jp/symposium/2018/>

[I] represents an invited talk.

Oral presentations (9:30 – 12:00, 13:30 – 16:45)

Date : Wed. 5 Dec.

Place : Conference hall of the Research/Administration Building (2nd floor) at the JAXA Sagami-hara Campus

Chair: Timothy J. Fagan (Waseda University), Masahiro Yasutake (Graduate School of Science, Kyoto University)			
9:30 - 9:45	Amoeboid Pyroxene Aggregates in CO3 Yamato 81020: Implications for Nebular Condensation	*Timothy J. Fagan (Waseda University), Mutsumi Komatsu (SOKENDAI)	
9:45 - 10:00	Be-B isotope systematics in chondrules from Y82094 (ungrouped C3.2) chondrite	*Hajime Hiyagon (The University of Tokyo), Yuuki Tanimura (The University of Tokyo), Kohei Fukuda (University of Wisconsin-Madison), Wataru Fujiya (Ibaraki University), Naoji Sugiura (The University of Tokyo), Naoto Takahata (The University of Tokyo), Takanori Kagoshima (The University of Tokyo), Yuji Sano (The University of Tokyo)	
10:00 - 10:15	Primary mineralogy and secondary alteration characteristics observed in Antarctic CR chondrites	*Mutsumi Komatsu (SOKENDAI), Timothy J. Fagan (Dep. of Earth Sciences, Waseda University), Makoto Kimura (NIPR), Akira Yamaguchi (NIPR), Masahiro Yasutake (Graduate School of Science, Kyoto University), Takashi Mikouchi (University Museum, The University of Tokyo), Michael Zolensky (ARES, NASA Johnson Space Center)	
10:15 - 10:30	Sr and Ba isotopic compositions of the Cold Bokkeveld (CM2) meteorite	*Keisuke Sakuma (Nagoya University), Hiroshi Hidaka (Nagoya University), Shigekazu Yoneda (National Museum of Nature and Science)	
10:30 - 10:45	Investigating L-Amino Acid Enantiomeric Excess in CM and CR Carbonaceous Chondrites	*Eric Parker (NASA Goddard Space Flight Center), Jose Aponte (NASA Goddard Space Flight Center), Conel Alexander (Carnegie Institution of Washington), Dionysis Foustoukos (Carnegie Institution of Washington), Jason Dworkin (NASA Goddard Space Flight Center), Daniel Glavin (NASA Goddard Space Flight Center)	
10:45 - 11:00	A Record of Organic Bearing Fluids on Early Planetesimals in the Unclassified Carbonaceous Chondrite Ningqiang	*H. Changela (Chinese Academy of Sciences), Y. Lin (Chinese Academy of Sciences), L. Gu (Chinese Academy of Sciences), J. Hao (Chinese Academy of Sciences), X. Tang (Chinese Academy of Sciences), X. Xia (Guilin University of Technology), J. Li (Chinese Academy of Sciences), J. Wang (Canadian Lightsource)	
11:00 - 11:15	The Effects of Thermal Metamorphism on Organic Matter in the CO3 Carbonaceous Chondrite Meteorites	*Enrica Bonato (Department of Earth Science, Natural History Museum), Ashley J. King (Department of Earth Science, Natural History Museum), Paul F. Schofield (Department of Earth Science, Natural History Museum), Burkhard Kaulich (Diamond Light Source), Tohru Araki (Diamond Light Source), Majid K. Abyaneh (Diamond Light Source), Martin R. Lee (School of Geographical and Earth Sciences, University of Glasgow), Sara S. Russell (Department of Earth Science, Natural History Museum)	
11:15 - 11:30	Prevalence and nature of heating processes in CM and C2-ungrouped chondrites as revealed by insoluble organic matter. Impact on VNIR reflectance spectra.	*Eric Quirico (IPAG Université Grenoble Alpes), Lydie Bonal (IPAG Université Grenoble Alpes), Pierre Beck (IPAG Université Grenoble Alpes), C.M.O.D. Alexander (Carnegie Institute WD), Hikaru Yabuta (Hiroshima University), Tomoki Nakamura (Tohoku University), Aiko Nakato (JAXA), Laurene Flandinet (IPAG Université Grenoble Alpes), Gilles Montagnac (Laboratoire de Géologie de Lyon ENS), Philippe Schmitt-Kopplin (Helmoltz Zentrum Munchen), C.D.K. Herd (Alberta University)	
11:30 - 11:45	Ultraviolet irradiation experiments on olivine and the Murchison CM2 chondrite: Implications for space weathering on asteroids	*Hiroshi Kaiden (National Institute of Polar Research), Takahiro Hiroi (Brown University), Keiji Misawa (National Institute of Polar Research), Hirokazu Tanaka (Osaka University), Sho Sasaki (Osaka University), Kevin M. Robertson (Brown University), Ralph E. Milliken (Brown University), Hiroshi Masai (The University of Tokyo), Jun Terao (The University of Tokyo)	
11:45 - 12:00	Regolith Compaction Processes Recorded in Chondrites	*Michael Zolensky (ARES, NASA Johnson Space Center)	
Lunch			
Chair: Masaaki Miyahara (Hiroshima University), Lidia Pittarello (Department of Lithospheric Research, University of Vienna)			
13:30 - 13:45	Micrometeorite accumulation in the Sør Rondane Mountains of East Antarctica	*Steven Goderis (AMGC, Vrije Universiteit Brussel), Matthias van Ginneken (Royal Belgian Institute of Natural Science), Bastien Soens (AMGC, Vrije Universiteit Brussel), Vinciane Debaille (Laboratoire G-Time, Université Libre de Bruxelles), Philippe Claeys (AMGC, Vrije Universiteit Brussel)	
13:45 - 14:00	Unusual sources of fossil micrometeorites in sediments ~467 Ma old	*Philipp Heck (Field Museum of Natural History), Birger Schmitz (Field Museum of Natural History), Surya Rout (Field Museum of Natural History), Noriko Kita (University of Wisconsin, Madison), Celine Defouilly (University of Wisconsin, Madison), Fredrik Terfelt (Lund University)	
14:00 - 14:15	Synthesis of GEMS analogue particles by condensation experiments in the system of Fe-Mg-Si-O-S	*Hayate Kawano (Kyoto University), Akira Tsuchiyama (Kyoto University), Tae-Hee Kim (Jeju National University), Junya Matsuno (Kyoto University), Satomi Enju (Kyoto University)	
14:15 - 14:30	Experimental Study on Internal Porosity Structure of Chondrite Parent Bodies	*Tomomi Omura (Department of Planetology, Graduate School of Science, Kobe University), Akiko Nakamura (Department of Planetology, Graduate School of Science, Kobe University)	
14:30 - 14:45	The systematic investigations of high-pressure polymorphs in shocked ordinary chondrites	*Masaaki Miyahara (Hiroshima University), Akira Yamaguchi (NIPR), Masato Saitoh (Hiroshima University), Kanta Fukimoto (Hiroshima University), Takeshi Sakai (Ehime University), Hiroaki Ohfuji (Ehime University), Naotaka Tomioka (JAMSTEC), Yu Kodama (Marine Work Japan), Eiji Ohtani (Tohoku University)	

14:45 - 15:15	Coffee Break		
Chair: Masaaki Miyahara (Hiroshima University), Lidia Pittarello (Department of Lithospheric Research, University of Vienna)			
15:15 - 15:30	Fusion crust in ordinary chondrites: a study from nature to the experiments	*Lidia Pittarello (Department of Lithospheric Research, University of Vienna), Steven Goderis (Analytical, Environmental, and Geo-Chemistry (AMGC), Vrije Universiteit Brussel), Bastien Soens (Analytical, Environmental, and Geo-Chemistry (AMGC), Vrije Universiteit Brussel), Seann J. McKibbin (University of Potsdam), Federico Bariselli (Aeronautics and Aerospace Department, von Karman Institute of Fluid Dynamics / Department of Materials and Chemistry, Vrije Universiteit Brussel), Bruno R. Barros Dias (Aeronautics and Aerospace Department, von Karman Institute of Fluid Dynamics), Bernd Helber (Aeronautics and Aerospace Department, von Karman Institute of Fluid Dynamics), Gabriele Giuli (School of Science and Technology, University of Camerino), Giovanni O. Lepore (ESRF), Akira Yamaguchi (National Institute of Polar Research (NIPR)), Julia Roszjar (Natural History Museum Vienna), Vinciane Debaille (Laboratoire G-Time (Géochimie: Traçage Isotopique, Mineral, et Élémentaire), Université Libre de Bruxelles), Christian Koeberl (Department of Lithospheric Research, University of Vienna / Natural History Museum Vienna), Thierry Magin (Aeronautics and Aerospace Department, von Karman Institute of Fluid Dynamics), Philippe Claeys (Analytical, Environmental, and Geo-Chemistry (AMGC) Vrije Universiteit Brussel)	
15:30 - 15:45	Tracing meteorite terrestrial weathering effects on rare earth elements (REEs) distribution: implications for meteorite weathering related to climate	*Hamed Pourkhorsandi (Laboratoire G-TIME, Université libre de Bruxelles), Vinciane Debaille (Laboratoire G-TIME, Université libre de Bruxelles), Massimo D'Orazio (Dipartimento di Scienze della Terra, Università di Pisa), Pierre Rochette (AMU/CNRS, CEREGE), Rosalind Armitage (Jacobs-NASA, Johnson Space Center), Jérôme Gattacceca (AMU/CNRS, CEREGE)	
Chair: Mitsuru Ebihara (Waseda University)			
15:45 - 16:45	[I] The Meteorite Collection at the Natural History Museum in Vienna, and Selected Examples of Meteorite Impact Research	*Christian Koeberl (Natural History Museum Vienna)	
17:00 - 18:15	Poster presentations Place: 2nd floor of the Research/Administration Building at the JAXA Sagami-hara Campus		

Poster presentations (Core time: 17:00 – 18:15)

Place : 2nd floor of the Research/Administration Building at the JAXA Sagami-hara Campus

OAp1	Petrology and geochemistry of the lowest FeO ordinary chondrite, Yamato 982717: Implications to compositional diversity of ordinary chondrites	*Akira Yamaguchi (National Institute of Polar Research), Makoto Kimura (National Institute of Polar Research), Jean-Alix Barrat (JBO-IUEM), Richard Greenwood (Open University)	
OAp2	Bulk X-ray random diffraction patterns using polished thin sections of ordinary chondrites: primordial, thermal, and shock features	*Naoya Imae (NIPR), Makoto Kimura (NIPR), Yamaguchi Akira (NIPR), Hideyasu Kojima (NIPR)	
OAp3	Olivine from the "forbidden triangle": Evidence for chondrule migration?	*Devlin Lee Schrader (Center for Meteorite Studies, School of Earth and Space Exploration, Arizona State University), Jemma Davidson (Center for Meteorite Studies, School of Earth and Space Exploration, Arizona State University)	
OAp4	Two unusual carbonaceous chondrites, Asuka-9003 and Asuka 09535: Preliminary results on their classification in comparison with Yamato-82094	*Makoto Kimura (NIPR), Akira Yamaguchi (NIPR), Naoya Imae (NIPR)	
OAp5	Three-dimensional microstructure of a presolar silicate in the Acfer 094 carbonaceous chondrite	*Megumi Matsumoto (Tohoku University), Junya Matsuno (Kyoto University), Akira Miyake (Kyoto University), Aiko Nakato (JAXA), Akira Tsuchiyama (Kyoto University), Motoo Ito (JAMSTEC), Naotaka Tomioka (JAMSTEC), Yu Kodama (Marine Work Japan), Epifanio Vaccaro (Natural History Museum in London)	
OAp6	Ca-sulfate in the Jbilet Winselwan CM chondrite: Implications for the heat source of post-alteration thermal metamorphism	*Hisato Higashi (Ibaraki University), Wataru Fujiya (Ibaraki University), Akira Yamaguchi (NIPR), Makoto Kimura (NIPR), Ko Hashizume (Ibaraki University)	
OAp7	Estimation of post hydrothermal alteration process before accretion process using trace element distribution of matrix from a reduced CV chondrite	*Shoichi Itoh (Kyoto University)	
OAp8	Petrographic study of a compact type A CAIs with partial melting process	*Akimasa Suzumura (Department of Earth and Planetary Science, Kyoto University), Yusuke Seto (Graduate school of Science, Kobe university), Shoichi Itoh (Department of Earth and Planetary Science, Kyoto University)	
OAp9	Hydrothermal experiments of anorthite with implications for Na-metasomatism on carbonaceous chondrite parent body	*Yusuke Seto (Kobe University), Shiori Adachi (Kobe University), Kazushige Tomeoka (Kobe University)	
OAp10	Building Queen Alexandra Range 99177 Parent Body: Aqueously-Altered And Thermally Metamorphosed Clasts In The Matrix, Revealing Insights Into Accretionary Processes.	*Epifanio Vaccaro (Natural History Museum), M. Matsumoto (Kyoto University), A. Nakato (Kyoto University), K. Uesugi (JASRI), A. Takeuchi (JASRI), T. Nakano (AIST), J. Matsuno (Kyoto University), A. Takayama (Kyoto University), A. Tsuchiyama (Kyoto University), S. S. Russell (Natural History Museum)	
OAp11	Nature of five polymict eucrites from the Antarctic Yamato dense collecting area	*Julia Roszjar (NHM Vienna, Department of Mineralogy and Petrography), Stella Rombeck (University of Münster, Institute for Mineralogy), Christian Vollmer (University of Münster, Institute for Mineralogy), Stephan Klemme (University of Münster, Institute for Mineralogy), Adam R. Sarafian (Corning Incorporated, Science and Technology Division)	
OAp12	Bombardment history of Asteroid 4 Vesta recorded by brecciated eucrites: Large impact event clusters at 4.50 Ga and discrete bombardment until 3.47 Ga.	*Fred Jourdan (Curtin University), Trudi Kennedy (Curtin University), Ela Eroglu (Curtin University), Celia Mayers (Curtin University)	
OAp13	A summary on recent petrographic investigation of a metal nodule in the Bondoc mesosiderite	*Naoki Sugiura (Chiba Institute of Technology), Naoya Imae (NIPR), Makoto Kimura (NIPR), Tomoko Arai (Chiba Institute of Technology), Takafumi Matsui (Chiba Institute of Technology)	
OAp14	Characterization of fluid flow path regarding iddingsite formation in the Martian meteorite Yamato 000593 based on the 3D Fe chemical species imaging	*Hiroki Suga (the University of Tokyo), Keika Suzuki (the University of Tokyo), Akira Yamaguchi (NIPR), Tomohiro Usui (ISAS/JAXA), Yoshio Takahashi (the University of Tokyo)	
	Martian water environment of iddingsite formation in		

OAp15	Yamato 000593 studied by the detailed analysis of secondary minerals and the investigation of the analog site on Earth	*Keika Suzuki (the University of Tokyo), Hiroki Suga (the University of Tokyo), Akira Yamaguchi (NIPR), Tomohiro Usui (ISAS), Yoshio Takahashi (the University of Tokyo)	
OAp16	Geochemically heterogeneous Martian mantle inferred from Pb isotope systematics of two depleted shergottites Yamato 980459 and Dar al Gani 476	*Ryota Moriwaki (Chiba Institute of Technology), Tomohiro Usui (Japan Aerospace Exploration Agency), Minato Tobita (Tokyo Institute of Technology), Tetsuya Yokoyama (Tokyo Institute of Technology)	



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Conveners : Naoya Imae (NIPR) and Masanao Abe (JAXA)

Note: This session jointly with Hayabusa will be continued to Friday. See also <https://curation.isas.jaxa.jp/symposium/2018/>

[I] represents an invited talk.

Oral presentations (09:30 – 12:30, 15:30 – 17:00)

Date : Thu. 6 Dec.

Place : Conference hall of the Research/Administration Building (2nd floor) at the JAXA Sagami-hara Campus

Please see details: <https://curation.isas.jaxa.jp/symposium/2018/index.html>

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[I] represents an invited talk.

Oral presentations (09:30 – 12:35, 14:00 – 18:05)

Date : Fri. 7 Dec.

Place : Conference hall of the Research/Administration Building (2nd floor) at the JAXA Sagamihara Campus

Please see details: <https://curation.isas.jaxa.jp/symposium/2018/index.html>

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[OB] Polar Biology

Scopes

This session covers the following research topics.

- Polar Marine Ecosystems -from biogeochemistry to apex predators
- Polar Terrestrial Ecosystem -diversity and biological response

Convener : **Yukiko Tanabe (NIPR)**

Note: [I] represents an invited talk.

Oral presentations (9:55 – 11:50, 12:50 – 16:30)

Date : Wed. 5 Dec.

Place : 2F Auditorium, National Institute of Polar Research

9:55 - 10:00	OPENING		
Chair: Nobuo Kokubun (NIPR), Yuuki Watanabe (NIPR)			
10:00 - 10:30	[I] Ecology of the Arctic Tern, a bird linking Arctic and Antarctic	*Maarten Loonen (University of Groningen, Arctic Centre)	
10:30 - 10:55	Sea ice loss and Arctic planktivorous seabird's post-breeding migration	*Alexis Will (NIPR), Jean-Baptiste Thiebot (NIPR), Akinori Takahashi (NIPR, SOKENDAI), Alexander Kitaysky (UAF)	
10:55 - 11:25	[I] Weddell seals and shelf ice-associated cryobenthos	*Horst Bornemann (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung), Dominik Nachtsheim (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung), Nils Owsianowski (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung), Richard Steinmetz (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung), Claudio Richter (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung), Christoph Held (Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung)	
11:25 - 11:50	Feeding behaviour of Weddell seals on Antarctic krill near Syowa Station, East Antarctica	*Nobuo Kokubun (NIPR, SOKENDAI), Yukiko Tanabe (NIPR, SOKENDAI), Akinori Takahashi (NIPR, SOKENDAI)	
Lunch			
Chair: Yukiko Tanabe (NIPR)			
12:50 - 13:20	[I] How geese shape arctic ecosystems	*Maarten Loonen (University of Groningen, Arctic Centre)	
13:20 - 13:45	Passive warming experiment on nitrification properties of soils in the foreland of East Brøgger Glacier near Ny-Ålesund, Svalbard	*Kentaro Hayashi (Institute for Agro-Environmental Sciences, NARO), Yukiko Tanabe (NIPR, SOKENDAI), Keisuke Ono (NIAES/NARO), Maki Asano (University of Tsukuba), Shohei Hattori (Tokyo Institute of Technology), Masaki Uchida (NIPR, SOKENDAI), Masahito Hayatsu (NIAES/NARO)	
13:45 - 14:10	Preliminary report of lake sediment investigation in Lützw-Holm Bay, East Antarctica by JARE58/59	*Kota Katsuki (Shimane University), Yusuke Saganuma (NIPR, SOKENDAI), Yukiko Tanabe (NIPR, SOKENDAI), Daisuke Shibata (University of Tsukuba), Moto Kawamata (SOKENDAI), Koji Seto (Shimane University), Toshiaki Irizuki (Shimane University), Hiroaki Shakutsui (Shimane University), Kaoru Kashima (Kyushu University), Minoru Ikehara (Kochi University), Sakae Kudoh (NIPR, SOKENDAI)	
14:10 - 14:35	Characterization of dissolved organic matter in the Yukidori and Yatsude Valleys, Antarctica	*Taichi Kojima (Kobe University), Morimaru Kida (Kobe University), Yukiko Tanabe (NIPR, SOKENDAI), Kentaro Hayashi (Institute for Agro-Environmental Sciences, NARO), Sakae Kudoh (NIPR, SOKENDAI), Nobuhide Fujitake (Kobe University)	
14:35 - 14:40	Coffee Break		
Chair: Kunio Takahashi (NIPR)			
14:40 - 15:05	Warming as driver of beach metabolism in Antarctic sedimentary shores. A case study in Deception Island, Antarctic Peninsula	*Mariano Lastra (Universidad de Vigo, Spain), Jesús López (Universidad de Vigo), Jesús S. Troncoso (Universidad de Vigo), Luis Sampedro (Consejo Superior de Investigaciones Científicas, Spain), Manuel A. García-Gallego (Universidad de Vigo)	
15:05 - 15:30	Freezing and melting stress on the photophysiology of ice algae: <i>Ex situ</i> incubation of ice algae using an ice tank	*Kazuhiro Yoshida (Hokkaido University), Andreas Seger (South Australian Research and Development Institute), Andrew McMinn (University of Tasmania), Koji Suzuki (Hokkaido University)	
15:30 - 15:55	Phytoplankton composition in the Indian Ocean sector of the Southern Ocean during austral summer of 2013 and 2015: In-situ and Remote sensing approach	*Rajani Kanta Mishra (National Centre for Antarctic and Ocean Research, India), Ravidas Krishna Naik (NCAOR), Babula Jena (NCAOR), Vankara Venkataramana (NCAOR), Narayana Pillai Anilkumar (NCAOR), Amit Sarkar (NCAOR), Melena A. Soares (NCAOR)	
15:55 - 16:20	Possibilities of GGOI in the Ecuadorian waters affecting by the Humboldt Current derived from the Antarctic Ocean	*Mikio Naganobu (JICA / Instituto Nacional de Pesca, Ecuador), Telmo De la Cuadra (Instituto Nacional de Pesca), Mario Hurtado Dominguez (Instituto Nacional de Pesca), Alvaro Romero (Instituto Nacional de Pesca), Masafumi Yagi (Tokai University), Kunio Kutsuwada (Tokai University)	
16:20 - 16:30	Coffee Break		

Poster presentations (Core time: 16:30 - 18:30)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

OBp1	Near-surface foraging of Rhinoceros auklets as revealed by depth and video data loggers	*Mindaugas Mitkus (NIPR), Kozue Shiomi (NIPR, SOKENDAI), Akinori Takahashi (NIPR, SOKENDAI)	
OBp2	Post-release behavior, physiological stress, and survival rates of longline-caught Greenland sharks	*Yuuki Watanabe (NIPR, SOKENDAI), Amanda Barkley (University of Windsor), Nigel Hussey (University of Windsor)	
OBp3	Diving activity of Rhinoceros auklets during molt and winter periods	*Ui Shimabukuro (SOKENDAI), Akinori Takahashi (NIPR, SOKENDAI)	
OBp4	Are foraging areas of Adélie penguins affected by neighboring colonies?	*Kentaro Ito (SOKENDAI), Yuuki Y. Watanabe (NIPR, SOKENDAI), Nobuo Kokubun (NIPR, SOKENDAI), Akinori Takahashi (NIPR, SOKENDAI)	
OBp5	Foraging behaviour and prey selection in Adélie and chinstrap penguins at Signy Island, South Orkneys	*Jean Baptiste Thiebot (NIPR), Philip N. Trathan (British Antarctic Survey), Akinori Takahashi (NIPR, SOKENDAI)	
OBp6	Foraging movements of Caspian terns <i>Hydroprogne caspia</i> breeding in a coastal area of Sweden	*Kozue Shiomi (NIPR, Lund University, SOKENDAI), Tom Evans (Marine Scotland Science), Ulrik Lötberg (Swedish Ornithological Society), Willem Bouten (University of Amsterdam), Susanne Åkesson (Lund University)	
OBp7	Tardigrade diversity around Syowa Station, Dronning Maud Land in East Antarctica	*Megumu Tsujimoto (NIPR), Atsushi C. Suzuki (Keio University), Ryosuke Nakai (AIST), Satoshi Imura (NIPR, SOKENDAI)	
OBp8	A comparison on internal structures of a leaf in <i>Dryas octopetala</i> between populations growing in the Arctic and mid-latitude alpine II	*Naoya Wada (University of Toyama), Moeka Murai (University of Toyama), Akane Shima (University of Toyama), Daisuke Tamaoki (University of Toyama), Ichirou Karahara (University of Toyama), Seikoh Sekikawa (Tamagawa University), Elisabeth J. Cooper (UIT- The Arctic University of Norway), Masaki Uchida (NIPR, SOKENDAI)	
OBp9	An Antarctic terrestrial green alga, <i>Prasiola crispa</i> , has an unique red-shifted chlorophyll binding protein which permits large uphill energy transfer	*Makiko Kosugi (Chuo University), Shin-ichiro Ozawa (Okayama University), Rika Okamoto (Chuo University), Yurie Kubo (Chuo University), Mitsuo Iwadate (Chuo University), Yasuhiro Kamei (National Institute for Basic Biology), Sakae Kudoh (NIPR, SOKENDAI), Yasuhiro Kashino (University of Hyogo), Yuichiro Takahashi (Okayama University), Shigeru Itoh (Nagoya University), Kojiro Hara (Akita Prefectural University), Hiroyuki Koike (Chuo University)	
OBp10	Comparison of analytical methods for RGB data of photographs for vegetation survey of terrestrial ecosystems on Antarctica	*Akiko Mizuno (Nagoya University), Takeshi Inoue (NIPR), Yukiko Tanabe (NIPR, SOKENDAI)	
OBp11	Photosynthetic activity of microbes in cryoconite on the Issunguata Sermia Glacier, south-eastern Greenland Ice Sheet	*Ayumi Kizawa (Chiba university, Tokyo Metropolitan University), Naoko Nagatsuka (NIPR), Rigen Shimada (Japan Aerospace Exploration Agency, Meteorological Research Institute), Makiko Kosugi (Chuo University), Megumi Kuroiwa (Chuo University), Naoto Tanaka (Chuo University), Takumi Suzuki (Chiba university), Shinichi Takaichi (Tokyo University of Agriculture), Jun Uetake (Colorado State University), Shigeki Ehira (Tokyo Metropolitan University), Nozomu Takeuchi (Chiba university)	
OBp12	Analysis of gene expression of aquaporins inducing stress tolerant in the Antarctic midge, <i>Belgica antarctica</i>	*Mizuki Yoshida (Osaka City University)	
OBp13	Study on habitat mapping of benthos ecosystem in Antarctic lake using underwater Remotely Operated Vehicle (ROV)	*Shinpei Gotoh (Tokyo University of Marine Science and Technology), Yukiko Tanabe (NIPR, SOKENDAI), Daisuke Shibata (University of Tsukuba), Kota Katsuki (Shimane University), Rachel Rudd (The University of Adelaide), Sakae Kudoh (NIPR, SOKENDAI)	
OBp14	Triple oxygen and nitrogen isotopic constrains on the fate of nitrate in East and West Brøgger Glacier near Ny-Ålesund, Svalbard	*Shohei Hattori (Tokyo Institute of Technology), Kentaro Hayashi (Institute for Agro-Environmental Sciences, NARO), Masaki Uchida (NIPR, SOKENDAI), Naohiro Yoshida (Tokyo Institute of Technology)	
OBp15	Taxonomic and functional diversity of fungi associated with mosses and planktonic algae in continental Antarctica	*Takumi Yoshida (Doshisha University), Seri Matsuzuka (Kyoto University), Yukiko Tanabe (NIPR, SOKENDAI), Masaki Uchida (NIPR, SOKENDAI), Sakae Kudoh (NIPR, SOKENDAI), Takashi Osono (Doshisha University)	
OBp16	Fungal diversity on a retreating glacier area on Ellesmere Island in the Canadian High Arctic	*Masaharu Tsuji (NIPR), Yukiko Tanabe (NIPR, SOKENDAI), Warwick F. Vincent (Université Laval), Masaki Uchida (NIPR, SOKENDAI)	
OBp17	Soil bacterial communities and environments in the Canadian subarctic tundra	*Ryo Kaneko (NIPR), Ryo Kiatagawa (Yokohama National University), Keita Nishizawa (Yokohama National University), Shota Masumoto (Yokohama National University), Akira Mori (Yokohama National University), Jun Uetake (Colorado State University), Masaharu Tsuji (NIPR), Masaki Uchida (NIPR, SOKENDAI)	
OBp18	Seasonal water dynamics in Ward Hunt Lake at the top of the Canadian high Arctic	*Yukiko Tanabe (NIPR, SOKENDAI), Paschale N. Bégin (Université Laval), Denis Sarrazin (Université Laval), Alexander Culley (Université Laval), Masaki Uchida (NIPR, SOKENDAI), Warwick F. Vincent (Université Laval)	
OBp19	Seasonal change of photosynthesis of benthic communities in Antarctic lakes	*Yukiko Tanabe (NIPR, SOKENDAI), Nobuo Kokubun (NIPR, SOKENDAI), Kentaro Hayashi (Institute for Agro-Environmental Sciences, NARO), Nobuhide Fujitake (Kobe University), Morimaru Kida (Kobe University), Sakae Kudoh (NIPR, SOKENDAI)	
OBp20	Seasonal change of CO ₂ concentration in soil laters throughout the year on Svalbard, high-Arctic Norway - model construction and first evaluation -	*Masaki Uchida (NIPR, SOKENDAI), Seiichiro Yonemura (Institute for Agro-Environmental Sciences, NARO), Ayaka W. Kishimoto-Mo (Institute for Agro-Environmental Sciences, NARO), Gen Sakurai (Institute for Agro-Environmental Sciences, NARO), Julia Boike (Alfred Wegener Institute Helmholtz Center for Polar and Marine Research)	
OBp21	Assessment of fungal diversity on plant litter in a subarctic tundra	*Takashi Osono (Doshisha University), Kaho Tanaka (Doshisha University), Shunsuke Matsuoka (University of Hyogo), Ryo Kitagawa (Yokohama National University), Shota Masumoto (Yokohama National University), Keita Nishizawa (Yokohama National University), Motohiro Hasegawa (Forestry and Forest Products Research Institute), Masaki Uchida (NIPR, SOKENDAI), Akira S. Mori (Yokohama National University)	
OBp22	Cultured anaerobic bacteria in a tropical glacier and the glacier foreland in Uganda	*Tadahiro Inoue (Tamagawa University), Jun Uetake (Colorado State University), Simon Anguma (Mbarara University of Science and Technology), Shiro Kohshima (Kyoto University), Yoshitaka Yoshimura (Tamagawa University)	
OBp23	Distribution and ecology of Oomycetes in polar regions	*Motoaki Tojo (Osaka Prefecture University)	
OBp24	Analysis of bacterial microbiota associated with genus <i>Umbilicaria</i> lichen by Illumina MiSeq and Sanger sequencing methods	*Merry Faluaburu (Hiroshima University), Katsuhiko Kashihara (Hiroshima University), Ayaka Ohsato (Hiroshima University), Jun Uetake (NIPR), Satoshi Imura (NIPR), Martin Hahn (University of Innsbruck), Takeshi Naganuma (Hiroshima University)	
OBp25	Vegetation survey of high Arctic lichens on Austre Brøggerbreen glacier foreland, Svalbard archipelago in 1994	*Takeshi Inoue (NIPR), Sakae Kudoh (NIPR, SOKENDAI), Masaki Uchida (NIPR, SOKENDAI), Masakane Inoue (Akita University), Ryo Kaneko (NIPR), Hiroshi Kanda (NIPR)	
OBp26	Phylogenetic diversity of labyrinthulomycetes in Antarctic freshwater lakes	*Ryosuke Nakai (AIST), Yuiki Takahashi (University of Tsukuba), Masaki Yoshida (University of Tsukuba), Megumu Tsujimoto (NIPR), Atsushi C. Suzuki (Keio University), Sakae Kudoh (NIPR, SOKENDAI), Satoshi Imura (NIPR, SOKENDAI)	

OBp27	Bipolar distribution and dispersal pattern of snow algae	*Takahiro Segawa (University of Yamanashi), Ryo Matsuzaki (National Institute for Environmental Studies), Nozomu Takeuchi (Chiba University), Ayumi Akiyoshi (NIPR), Francisco Navarro (Universidad Politecnica de Madrid), Hiroshi Mori (National Institute of Genetics)	
OBp28	Comparison of biosurfactants produced by the Antarctic hydrocarbon-degrading <i>Pseudomonas</i> sp. ADL15 and <i>Rhodococcus</i> sp. ADL36 and their characterization	*Nur Adeela Yasid (Universiti Putra Malaysia), Siti Aqlima Ahmad (Universiti Putra Malaysia), Nurul Hani Saruni (Universiti Putra Malaysia), Nur Syafiqah Abd Razak (Universiti Putra Malaysia), Mohd Yunus Abd Shukor (Universiti Putra Malaysia)	
OBp29	Characterization of Molybdenum-reduction by an Acrylamide-degrading Antarctic Bacterium	*Mohd Fadhil Abd Rahman (Universiti Putra Malaysia), Nur Adeela Yasid (Universiti Putra Malaysia), Siti Aqlima Ahmad (Universiti Putra Malaysia), Nor Aripin Shamaan (Universiti Sains Islam Malaysia), Mohd Yunus Shukor (Universiti Putra Malaysia)	
OBp30	Mathematical modelling of the growth of an Antarctic bacterium <i>Rhodococcus</i> sp. strain ADL36 on palm oil	Maryam Abubakar (Universiti Putra Malaysia), Siti Aqlima Ahmad (Universiti Putra Malaysia), Nur Adeela Yasid (Universiti Putra Malaysia), Mohd Fadhil Abd Rahman (Universiti Putra Malaysia), Siti Aisyah Alias (Universiti Putra Malaysia), Mohd Ali Hassan (Universiti Putra Malaysia), *Mohd Yunus Abd Shukor (Universiti Putra Malaysia)	
OBp31	Potential diesel and phenol biodegradation by the Antarctic bacterium <i>Rhodococcus</i> sp. strain AQ5-07	*Siti Aqlima Ahmad (Universiti Putra Malaysia), Nur Adeela Yasid (Universiti Putra Malaysia), Gillian Li Yin Lee (Universiti Putra Malaysia), Ahmad Fareez Ahmad Roslee (Universiti Putra Malaysia), Nur Nadhirah Zakaria (Universiti Putra Malaysia), Peter Convey (British Antarctic Survey), Mohd Yunus Shukor (Universiti Putra Malaysia)	
OBp32	The long-term trends in mean total zooplankton abundance and average copepod community size of the Southern Ocean from the SO-CPR activities of the first 25 years	*Kunio T. Takahashi (NIPR / SOKENDAI), John A. Kitchener (Australian Antarctic Division), Karen V. Robinson (National Institute of Water and Atmospheric Research Ltd.), Graham W. Hosie (Sir Alister Hardy Foundation for Ocean Science), SO-CPR Survey Team	
OBp33	Research plan and prior examination for analyzing marine snow food web in the marginal sea ice zone of the Southern Ocean	*Masayoshi Sano (NIPR), Ryosuke Makabe (NIPR, SOKENDAI), Masato Moteki (Tokyo University of Marine Science and Technology), Tsuneo Odate (NIPR, SOKENDAI)	
OBp34	Capture of the giant Antarctic toothfish <i>Dissostichus mawsoni</i> (Nototheniidae) in Lützow-Holm Bay (East Antarctica) with notes on the effects of exhibition in aquarium	*Satoru Matsumura (Tokyo Sea Life Park), Naoko Ohya (Hadano City, Kanagawa Prefecture), Tetsuo Iwami (Tokyo Kasei Gakuin University), Sakae Kudoh (NIPR, SOKENDAI)	
OBp35	Population structure of planktonic Foraminifera near the sea ice edge in January 2016	*Aki Nosaka (University of Marine Science and Technology), Kunio T. Takahashi (NIPR, SOKENDAI) Masato Moteki (University of Marine Science and Technology)	
OBp36	Growth rate of larval myctophid fish <i>Electrona antarctica</i> in the Southern Ocean	*Satoshi Nirazuka (Tokyo University of Marine Science and Technology), Masato Moteki (Tokyo University of Marine Science and Technology)	
OBp37	Genetic differences in spatially and temporally isolated populations: winter and spring populations of pelagic Mollusk <i>Clione</i> (Gymnosomata), Southern Okhotsk Sea, Japan	*Tomoyasu Yamazaki (Shellfish Museum of Rankoshi), Takashi Kuwahara (Okhotsk Sea Ice Museum of Hokkaido), Kunio T. Takahashi (NIPR, SOKENDAI)	
OBp38	Increased temperature benefits growth and photosynthetic performance of the sea ice diatom <i>Nitzschia</i> cf. <i>neglecta</i> isolated from Lake Saroma, Hokkaido, Japan	*Dong Yan (Hokkaido University), Hisashi Endo (Hokkaido University), Koji Suzuki (Hokkaido University)	
OBp39	Intertidal meiobenthos from Deception Island (Antarctica). A place of ice and fire	Marcos Rubal (CIIMAR, University of Porto, Portugal), Puri Veiga (CIIMAR, University of Porto), Mariano Lastra (ECIMAT, University of Vigo, Spain), Jesús López (ECIMAT, University of Vigo), *Jesús Troncoso (ECIMAT, University of Vigo)	
OBp40	Nutrient cycling and CO ₂ fluxes linked to algal wrack strandings in beaches of Deception Island, Antarctica	*Jesús López (University of Vigo), Mariano Lastra (University of Vigo), Jesús Souza Troncoso (University of Vigo), Luis Sampedro (Consejo Superior de Investigaciones Científicas (CSIC)), Manuel García-Gallego (University of Vigo)	

Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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[Oral session](#) | [Poster session](#)

[OG] Polar Geosciences

Scopes

This session covers research topics from the fields of geology, mineralogy, geomorphology, quaternary research, geodesy, and geophysics.

Conveners : Tomokazu Hokada and Masakazu Fujii (NIPR)

Note: [I] represents an invited talk.

Oral presentations (10:00 – 12:00, 13:30 – 16:30)

Date : Wed. 5 Dec.

Place : 3F Seminar room, National Institute of Polar Research

Chair: Kenji Horie (NIPR), Tomokazu Hokada (NIPR)				
10:00 – 10:20	Rayner Complex and Western Rayner Complex in Enderby Land	*Tomokazu Hokada (National Institute of Polar Research), Sotaro Baba (University of the Ryukyus), Atsushi Kamei (Shimane University), Ippei Kitano (Kyushu University), Kenji Horie (National Institute of Polar Research), Yoichi Motoyoshi (National Institute of Polar Research), Yoshikuni Hiroi (National Institute of Polar Research), Kazuyuki Shiraishi (National Institute of Polar Research), Mami Takehara (National Institute of Polar Research)		
10:20 – 10:40	Present understanding of Cl-rich fluid/melt infiltration events recorded in a granulitic lower crustal section of the Sør Rondane Mountains, East Antarctica	*Tetsuo Kawakami (Kyoto University)		
10:40 – 11:00	Multiple timings of garnet formation in granulites constrained from in situ U-Pb zircon dating and REE compositions of garnet and zircon (Sør Rondane Mountains, East Antarctica)	*Fumiko Higashino (Tohoku University), Tetsuo Kawakami (Kyoto University), Shuhei Sakata (Gakushuin University), Takafumi Hirata (The University of Tokyo)		
11:00 – 11:10	Coffee Break			
Chair: Tomokazu Hokada (NIPR)				
11:10 – 11:30	Timescales of Cl-bearing fluid infiltration estimated by multiple trace elements profiles in apatite for granulite/amphibolite-hosted reaction zones, Sør Rondane Mountains, East Antarctica	*Diana Mindaleva (Tohoku University, GSES), Masaaki Uno (Tohoku University, GSES), Fumiko Higashino (Tohoku University, GSES), Atsushi Okamoto (Tohoku University, GSES), Noriyoshi Tsuchiya (Tohoku University, GSES)		
11:30 – 12:00	[I] Multidisciplinary approaches to exploration of the subglacial geology in East Antarctica	*John Goodge (University of Minnesota Duluth)		
Lunch				
Chair: Diana Mindaleva (Tohoku Univ.), Silpa Ammini Sasidharan (Niigata Univ.)				
13:30 – 13:50	Precambrian mafic dykes in Western Dharwar craton and their implications on the evolution of Dharwar craton	*Silpa Ammini Sasidharan (Niigata University), Madhusoodhan Satish-Kumar (Niigata University)		
13:50 – 14:10	Neoproterozoic arc magmatism in Bhavani suture zone, South India: Insights from geochemistry and zircon U-Pb geochronology	*Sam Uthup (Graduate School of Life And Environmental Sciences, University of Tsukuba), Toshiaki Tsunogae (Graduate School of Life And Environmental Sciences, University of Tsukuba), V.J Rajesh (Department of Earth and Space Sciences, Indian Institute of Space Science and Technology), Yusuke Takamura (Graduate School of Life And Environmental Sciences, University of Tsukuba), M. Santosh (School of Earth Sciences and Resources, China University of Geosciences), Yukiyasu Tsutsumi (Department of Geology and Paleontology, National Museum of Nature and Science)		
14:10 – 14:30	Petrogenesis and tectonic setting of ultramafic rocks in Attapadi Valley, Bhavani Shear Zone, South India	*Rajesh Viswanathan Jagadambal (Department of Earth and Space Sciences, Indian Institute of Space Science and Technology), Faisal Muhammed (Department of Earth and Space Sciences, Indian Institute of Space Science and Technology), Claude Nambaje (Centre for Earth Sciences, Indian Institute of Science), Sajeev Krishnan (Centre for Earth Sciences, Indian Institute of Science)		
14:30 – 14:50	Chemical and spectral characterization of chromites from Sittampundi Anorthosite Complex, South India: Implications for remote observations of spinel on Moon	Saranya R. Chandran (Department of Geology, University of Kerala), Thesniya P.M. (Department of Earth and Space Sciences, Indian Institute of Space Science and Technology), *Rajesh Viswanathan Jagadambal (Department of Earth and Space Sciences, Indian Institute of Space Science and Technology), Sajeev Krishnan (Centre for Earth Sciences, Indian Institute of Science)		
14:50 – 15:10	Coffee Break			
Chair: Masakazu Fujii (NIPR), Akihisa Hattori (SOKENDAI)				
15:10 – 15:30	Geology, texture and zonation micro-characterisation of cassiterite from Karagwe Ankole Belt (Rwanda), Center-east Africa	*Claude Nambaje (Indian Institute of Science, Centre for Earth Sciences), Sajeev Krishnan (Indian Institute of Science, Centre for Earth Sciences)		
15:30 – 15:50	Upcoming IODP Expedition 379: Development and sensitivity of the West Antarctic Ice Sheet tested from drill records of the Amundsen Sea Embayment	*Karsten Gohl (Alfred Wegener Institute Helmholtz-Centre for Polar and Marine Research), Julia Wellner (Dept. of Earth and Atmospheric Sciences, University of Houston), Adam Klaus (IODP, Texas A&M University, College Station)		
15:50 – 16:10	Possible fossil ridge and seafloor evolution between the Conrad Rise and the Del Cano Rise in the Southern Indian	Taichi Sato (AIST), *Yoshifumi Nogi (NIPR), Masakazu Fujii (NIPR), Hiroshi Sato (Senshu Univ.)		

	Ocean		
16:10 – 16:30	Understanding Circum-Antarctic Ridges: Magnetic insights into off-axis volcanism and hydrothermal systems near the Rodrigues Triple Junction	*Masakazu Fujii (National Institute of Polar Research/SOKENDAI), Kyoko Okino (Atmosphere and Ocean Research Institute, University of Tokyo)	
16:30 – 18:30	Poster presentations Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)		

Poster presentations (Core time: 16:30 - 18:30)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

OGp1	Formation of shear zone in Akebono Rock, Prince Olav Coast, East Antarctica	*Sotaro Baba (University of the Ryukyus), Tomokazu Hokada (NIPR), Atsushi Kamei (Shimane University), Ippei Kitano (Kyushu University), Yoichi Motoyoshi (NIPR), Prayath Nantasin (Kasetsart University), Nugroho Setiawan (Gadjah Mada University), Davaa-ochir Dashbaatar (Mongolian University of Science and Technology)	
OGp2	Igneous activity of Middle Proterozoic meta-tonalite in Cape Hinode, Prince Olav Coast, East Antarctica	*Atsushi Kamei (Shimane University), Hazumi Tashima (Shimane University), Tomokazu Hokada (National Institute of Polar Research), Sotaro Baba (University of the Ryukyus), Ippei Kitano (Kyushu University), Yoshikuni Hiroi (National Institute of Polar Research), Yoichi Motoyoshi (National Institute of Polar Research)	
OGp3	Geochemical comparison of eastern and western meta-igneous rocks from Lützow-Holm Complex, East Antarctica	*Hikari Awata (Shimane University), Atsushi Kamei (Shimane University), Tomokazu Hokada (National Institute of Polar Research), Sotaro Baba (University of the Ryukyus), Ippei Kitano (Kyushu University), Davaa-ochir Dashbaatar (Mongolian University of Science and Technology), Nugroho Setiawan (Gadjah Mada University), Prayath Nantasin (Kasetsart University), Yoichi Motoyoshi (National Institute of Polar Research)	
OGp4	Variation in microstructures and chemical compositions in pelitic gneisses from the Lützow-Holm Complex at Akarui Point, East Antarctica	*Hayato Yodoya (Kyushu University), Takeshi Ikeda (Kyushu University)	
OGp5	Occurrence and chemical composition of a corona around garnet from the Lützow-Holm Complex at Rundvågshetta, East Antarctica	*Yuki Mori (Kyushu University), Takeshi Ikeda (Kyushu University)	
OGp6	Pressure-temperature estimates of selected regions of the Lützow-Holm Complex utilizing Zr-in-rutile geothermometer	*Kouta Suzuki (Kyoto University), Tetsuo Kawakami (Kyoto University), Yohei Igami (Nagoya University)	
OGp7	Evidence of partial melting and melt extraction in mafic granulites	*Yoshikuni Hiroi (NIPR), Tomokazu Hokada (NIPR), Kazuyuki Shiraishi (NIPR), Yoichi Motoyoshi (NIPR), Edward Grew (University of Maine)	
OGp8	Petrological analyses and U-Pb geochronology with REE geochemistry of zircons in granulites from Tenmondai Rock in the Lützow-Holm Complex, East Antarctica	*Yusuke Takamura (University of Tsukuba), Toshiaki Tsunogae (University of Tsukuba), Yukiyasu Tsutsumi (National Museum of Nature and Science)	
OGp9	The Lützow-Holm Bay Suture Zone: A major crustal break in the Lützow-Holm Complex, East Antarctica	*Toshiaki Tsunogae (Univ. Tsukuba), Yusuke Takamura (Univ. Tsukuba), Kazuki Takahashi (Univ. Tsukuba)	
OGp10	Preliminary report for zircon geochronology of tonalitic gneiss at an unnamed nunatak in western part of the Napier Complex, East Antarctica	*Kenji Horie (National Institute of Polar Research), Mami Takehara (National Institute of Polar Research), Tomokazu Hokada (National Institute of Polar Research), Sotaro Baba (University of the Ryukyus), Atsushi Kamei (Shimane University), Ippei Kitano (Kyushu University), Prayath Nantasin (Kasetsart University), Nugroho Setiawan (Gadjah Mada University), Davaa-ochir Dashbaatar (Mongolian University of Science and Technology), Yoichi Motoyoshi (National Institute of Polar Research)	
OGp11	Elemental redistribution in zircons of felsic gneiss from the Harvey Nunatak in the Napier Complex, East Antarctica	*Mami Takehara (National Institute of Polar Research), Kenji Horie (National Institute of Polar Research), Tomokazu Hokada (National Institute of Polar Research), Sotaro Baba (University of the Ryukyus), Atsushi Kamei (Shimane University), Ippei Kitano (Kyushu University), Prayath Nantasin (Kasetsart University), Nugroho Setiawan (Gadjah Mada University), Davaa-ochir Dashbaatar (Mongolian University of Science and Technology), Yoichi Motoyoshi (National Institute of Polar Research)	
OGp12	Proterozoic magma activities and crustal evolution of Sør Rondane Mountains, eastern Dronning Maud Land, East Antarctica	*Masaaki Owada (Yamaguchi University), Atsushi Kamei (Shimane University), Yasuhito Osanai (Kyushu University), Nobuhiko Nakano (Kyushu University)	
OGp13	Petrogenesis of kyanite-bearing pelitic schists from the La France Formation, Murchison Greenstone Belt in the northern Kaapvaal Craton, South Africa	*Toshiaki Tsunogae (Univ. Tsukuba), Tatsuya Koizumi (Univ. Tsukuba), Dirk D. van Reenen (Univ. Johannesburg), C. Andre Smit (Univ. Johannesburg)	
OGp14	Petrology of orthogneisses from the Mozambique Belt in southern Malawi: Preliminary report	*Toshiaki Tsunogae (Univ. Tsukuba), Sam Uthup (Univ. Tsukuba), Mzee Wandembo Nyirongo (Spring Stone LTD), Yusuke Takamura (Univ. Tsukuba), Kazuki Takahashi (Univ. Tsukuba), Md. Sazzadur Rahman (Univ. Tsukuba)	
OGp15	FeAlO ₃ phase at ultrahigh-temperature metamorphic conditions: experimental evidences from sillimanite-hematite and sillimanite-magnetite systems at 9 kbar and 1050°C	*Toshisuke Kawasaki (Ehime University), Hiroaki Ohfuji (Ehime University)	
OGp16	Possible Evolution of Volcanic Activity of a subducting spreading ridge at the Chile Triple Junction based on geomagnetic survey data by R/V MIRAI	*Takeshi Matsumoto (University of the Ryukyus), Takanori Ishihara (University of the Ryukyus), Yoshifumi Nogi (National Institute of Polar Research)	
OGp17	Snowpack mapping at Syowa Station with UAV photogrammetry	*Akihisa Hattori (SOKENDAI (The Graduate University for Advanced Studies)), Yuichi Aoyama (National Institute of Polar Research), Koichiro Doi (National Institute of Polar Research), Hajime Oishi (NEC Networks & System Integration Corporation), Jun Nishijima (Kyushu University), Hiroshi Ikeda (University of Tsukuba), Jun'ichi Okuno (National Institute of Polar Research)	
OGp18	Field absolute gravity and GNSS measurements in JARE59	*Koichiro Doi (NIPR, SOKENDAI), Yuichi Aoyama (NIPR, SOKENDAI), Jun Nishijima (Kyushu University), Hiroshi Ikeda (University of Tsukuba), Akihisa Hattori (SOKENDAI), Jun'ichi Okuno (NIPR, SOKENDAI), Yoichi Fukuda (Kyoto University)	
OGp19	Attractive Himalayan Geology: Summary of the Student Himalayan Exercise Program 7 Years and Invitation to Join	*Masaru Yoshida (Gondwana Institute for Geology and Environment), Student Himalayan Exercise Project	

Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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Oral session on Wed. 5 Dec. | Poster session on Wed. 5 Dec. | Oral session on Thu. 6 Dec.

[OM] Polar Meteorology and Glaciology

Scopes

This session covers research topics from the fields of atmospheric science, meteorology, glaciology, sea ice, oceanography, and paleoclimatology.

Convener : **Yutaka Tobo (NIPR)**

Note: This session will be continued to Thursday.

[I] represents an invited talk.

Oral presentations (10:00 – 12:10, 13:30 – 16:00)

Date : Wed. 5 Dec.

Place : 3F Multipurpose Conference room, National Institute of Polar Research

Chair: Fumio Nakazawa (NIPR)			
10:00 - 10:20	Black Carbon in Snowpack over the Different Regions in the Arctic	*Tatsuhiko Mori (Tokyo University of Science), Kumiko Goto-Azuma (National Institute of Polar Research), Yutaka Kondo (National Institute of Polar Research), Yoshimi Ogawa-Tsukagawa (National Institute of Polar Research), Kazuhiko Miura (Tokyo University of Science), Motohiro Hirabayashi (National Institute of Polar Research), Makoto Koike (The University of Tokyo), Nobuhiro Moteki (The University of Tokyo), Sho Ohata (The University of Tokyo), Naga Oshima (Meteorological Research Institute), Puna Ram Sinha (Tata Institute of Fundamental Research), Konosuke Sugiura (University of Toyama), Teruo Aoki (Okayama University), Martin Schneebeli (WSL Institute for Snow and Avalanche Research), Konrad Steffen (WSL Institute for Snow and Avalanche Research), Atsushi Sato (former Snow and Ice Research Center), Akane Tsushima (Research Institute for Humanity and Nature), Vladimir Makarov (Melnikov's Permafrost Institute), Satoshi Omiya (ILTS, Hokkaido University (Present CERL)), Atsuko Sugimoto (Hokkaido University), Shinya Takano (Hokkaido University)	
10:20 - 10:40	Important contributions of sea-salt aerosols to atmospheric bromine cycle in the Antarctic coasts	*K. Hara (Fukuoka Univ.), K. Osada (Nagoya Univ.), M. Yabuki (RISH Kyoto Univ.), H. Takashima (Fukuoka Univ.), N. Theys (Belgian Institute for Space Aeronomy), T. Yamanouchi (NIPR)	
10:40 - 11:00	Radiative forcing due to warm-moist air intrusion into the Antarctic	*Takashi Yamanouchi (National Institute of Polar Research), Naohiko Hirasawa (NIPR and SOKENDAI)	
11:00 - 11:30	[I] Two faces of polar climate change	*Seong-Joong Kim (Korea Polar Research Institute), Baek-Min Kim (Pukyong National University), Sang-Yun Jun (Korea Polar Research Institute), Joo-Hong Kim (Korea Polar Research Institute)	
11:30 - 11:50	Shallow ice core drillings at three sites near the Dome Fuji station, Antarctica, during the summer season of JARE-59 (2017-2018)	*Fumio Nakazawa (NIPR), Kenji Kawamura (NIPR), Ikumi Oyabu (NIPR), Hiroshi Ohno (Kitami Institute of Technology), Konosuke Sugiura (University of Toyama), Shuji Fujita (NIPR), Kumiko Goto-Azuma (NIPR), Hideaki Motoyama (NIPR)	
11:50 - 12:10	Dating of coastal ice cores drilled by Japanese Antarctic Research Expedition and environmental change study	*Hideaki Motoyama (National Institute of Polar Research), Kenji Kawamura (National Institute of Polar Research), Toshimitsu Sakurai (Civil Engineering Research Institute for Cold Region), Kenji Sudo (SOKENDAI), Miho Arai (Yamagata University), Toshitaka Suzuki (Yamagata University), Motohiro Hirabayashi (National Institute of Polar Research), Shuji Fujita (National Institute of Polar Research)	
Lunch			
Chair: Kumiko Goto-Azuma (NIPR)			
13:30 - 14:00	The upper 1650m in EGRIP - First results from physical properties of NEGIS	Ilka Weikusat (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Johanna Kerch (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Ina Kleitz (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Jan Eichler (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Wataru Shigeyama (SOKENDAI), Tomoyuki Homma (Nagaoka University of Technology), Daniela Jansen (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), *Nicolas Stoll (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Maddalena Bayer-Giraldi (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Ernst-Jan Kuiper (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Julien Westhoff (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Tomotaka Saruya (Nagaoka University of Technology), Sérgio Henrique Faria (Henrique Basque Centre for Climate Change), Sepp Kipfstuhl (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Dorte Dahl-Jensen (University of Copenhagen)	
14:00 - 14:20	Particle alignments observed in a Greenland ice core, retrieved by North Eemian Ice Drilling (NEEM)	*Wataru Shigeyama (SOKENDAI, National Institute of Polar Research), Tomoyuki Homma (Nagaoka University of Technology), Morimasa Takata (Nagaoka University of Technology), Kumiko Goto-Azuma (National Institute of Polar Research, SOKENDAI), Nobuhiko Azuma (Nagaoka University of Technology), Dorte Dahl-Jensen (University of Copenhagen)	
14:20 - 14:40	Concentrations and size distribution of black carbon in Northwest Greenland during the past 350 years reconstructed from an ice core	*Kumiko Goto-Azuma (NIPR), Yoshimi Ogawa-Tsukagawa (NIPR), Yutaka Kondo (NIPR), Remi Dallmayr (NIPR), Motohiro Hirabayashi (NIPR), Jun Ogata (NIPR), Kyotaro Kitamura (NIPR), Kenji Kawamura (NIPR), Hideaki Motoyama (NIPR), Sumito Matoba (Hokkaido Univ.), Teruo Aoki (Okayama Univ.), Nobuhiro Moteki (Univ. of Tokyo), Sho Ohata (Univ. of Tokyo), Tatsuhiko Mori (Tokyo Univ. of Science), Makoto Koike (Univ. of Tokyo), Yuki Komuro (Yamagata Univ.), Akane Tsushima (Hideaki), Naoko Nagatsuka (NIPR), Wataru Shigeyama (SOKENDAI), Koji Fujita (Nagoya Univ.)	
14:40 - 15:00	Coffee Break		
Chair: Kumiko Goto-Azuma (NIPR)			
15:00 - 15:20	Quantification of influence of Arctic sea-ice decline and natural variability to recent Eurasian cooling	*Masato Mori (University of Tokyo), Yu Kosaka (University of Tokyo), Masahiro Watanabe (University of Tokyo), Hisashi Nakamura (University of Tokyo), Masahide Kimoto (University of Tokyo)	

15:20 - 15:40	The influence of regional-scale sea-ice and meteorological condition on d-excess in ice core in northwestern Greenland	*Yutaka Kurosaki (Hokkaido University), Sumito Matoba (Hokkaido University), Yoshinori Izuka (Hokkaido University), Masashi Niwano (MRI, JMA), Tomonori Tanikawa (MRI, JMA), Takuto Ando (Hokkaido University), Teruo Aoki (Okayama University)	
15:40 - 16:00	Bio-related material cycle in a coastal polynya observed with moored acoustic and optical instruments in the northeastern Chukchi Sea	*Masato Ito (ILTS, Hokkaido University), Kay I. Ohshima (ILTS, Hokkaido University), Yasushi Fukamachi (ILTS, Hokkaido University), Hajo Eicken (International Arctic Research Center, University of Alaska Fairbanks), Andrew R. Mahoney (Geophysical Institute, University of Alaska Fairbanks), Joshua Jones (Geophysical Institute, University of Alaska Fairbanks), Toru Takatsuka (ILTS, Hokkaido University)	
16:30 - 18:30	Poster presentations Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)		

Poster presentations (Core time: 16:30 - 18:30)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

OMP1	A statistical analysis of ozone depletion in the polar mesosphere caused by solar proton precipitation	*Riku Ishijima (Nagoya University), Tomoo Nagahama (Nagoya University), Akira Mizuno (Nagoya University)	
OMP2	HFC-23 column abundances retrieved from FTIR observations at Syowa Station, Rikubetsu and Tsukuba	*Masanori Takeda (Tohoku University), Hideaki Nakajima (NIES), Isao Murata (Tohoku University), Tomoo Nagahama (Nagoya University)	
OMP3	The cloud patterns in the snowfall conditions at Syowa Station, Antarctica	*Kazue Suzuki (National Center of Neurology and Psychiatry), Terumasa Tokunaga (Kyushu Institute of Technology), Masaki Fukuchi (Kyushu Institute of Technology), Takashi Yamanouchi (National Institute of Polar Research / SOKENDAI)	
OMP4	Maritime aerosol optical properties measured on the Korean R/V Araon in both Antarctic and Arctic regions	*Hiroshi Kobayashi (University of Yamanashi), Seohee Ahn (Korea Polar Research Institute), Young Jun Yoon (Korea Polar Research Institute), Masataka Shiobara (NIPR)	
OMP5	Predictability of a polar low over the Sea of Japan	*Hiroaki Asai (Japan Meteorological Agency), Jun Inoue (National Institute of Polar Research)	
OMP6	In-situ continuous observations of atmospheric O ₂ /N ₂ ratio and CO ₂ concentration on-board "SHIRASE" in the Southern Ocean	*Shuichiro Takebayashi (Tohoku University), Shinji Morimoto (Tohoku University), Daisuke Goto (National Institute of Polar Research), Gen Hashida (National Institute of Polar Research), Yoichi Inai (Tohoku University), Shuji Aoki (Tohoku University)	
OMP7	Monitoring of the light absorbing aerosols and the impact on radiation budget of atmosphere and snow ice	*Masahiro Hosaka (MRI), Hiroshi Ishimoto (MRI), Tomonori Tanikawa (MRI), Masashi Niwano (MRI), Koji Adachi (MRI), Naga Oshima (MRI), Mizuo Kajino (MRI), Yasumichi Tanaka (MRI), Sumito Matoba (ILTS)	
OMP8	Continuous automatic measurement of an amount of sublimation in the summer season at the S17 base on the Antarctic ice sheet near Syowa station	*Hiroyuki Konishi (Osaka Kyoiku Univ.), Naohiko Hirasawa (NIPR)	
OMP9	Characteristics of cloud fractions from whole-sky camera and ceilometer observations onboard R/V <i>Shirase</i>	Makoto Kuji (Nara Women's University), *Saori Yamano (Nara Women's University), Masahiro Hori (Japan Aerospace Exploration Agency), Kyohei Yamada (National Institute of Polar Research), Naohiko Hirasawa (National Institute of Polar Research), Masataka Shiobara (National Institute of Polar Research)	
OMP10	Cloud characteristics from satellite observations along the ship track of R/V <i>Shirase</i>	Makoto Kuji (Nara Women's University), *Naho Nakatsuji (Nara Women's University), Saori Yamano (Nara Women's University), Masahiro Hori (JAXA), Masataka Shiobara (NIPR)	
OMP11	Improvement of snow detection product from Himawari-8 and the validation	*Yusuke Ioka (JMA/MSC), Tomonori Tanikawa (JMA/MRI), Masahiro Hosaka (JMA/MRI), Teruo Aoki (Okayama University), Yusuke Yogo (JMA/MSC)	
OMP12	Seasonal features and origins of carbonaceous aerosols at Syowa Station, Antarctica	*Keiichiro Hara (Fukuoka Univ.), Kengo Sudo (Nagoya Univ.), Takato Ohnishi (Nagoya Univ.), Kazuo Osada (Nagoya Univ.), Masanori Yabuki (RISH Kyoto Univ.), Masataka Shiobara (NIPR), Takashi Yamanouchi (NIPR)	
OMP13	Aerosol measurement around the rege of East Antarctica using Rogallo type UAV	*Masahiko Hayashi (Fukuoka Univ.), Ryohei Harada (Fukuoka Univ.), Keiichiro Hara (Fukuoka Univ.), Naohiko Hirasawa (NIPR), Koki Nakata (kkt Innovation Co. Ltd.)	
OMP14	Local climate change in the snow period in Central Siberia	*Natalia I. Ianchenko (Irkutsk National Research Technical University), Igor R. Ognev (Irkutsk National Research Technical University), Anatoly Baranov (Irkutsk National Research Technical University)	
OMP15	Role of surface snow albedo feedback in boreal climate of northern Eurasia	*Manabu Abe (JAMSTEC)	
OMP16	Deuterium excess variations in seasonal snowpack during the winter seasons of 2015-2017 in Alaska	*Konosuke Sugiura (University of Toyama, JAMSTEC, IARC/JAF), Shin Nagai (JAMSTEC), Hideki Kobayashi (JAMSTEC), Masayuki Takigawa (JAMSTEC), Hajo Eicken (IARC/JAF)	
OMP17	Glaciological and meteorological observations at East GRIP site, northeastern Greenland Ice Sheet	*Sumito Matoba (Institute of Low Temperature Science, Hokkaido University), Masashi Niwano (Meteorological Research Institute), Rigen Shimada (Earth Observation Research Center, Japan Aerospace Exploration Agency), Teruo Aoki (Graduate School of Natural Science and Technology, Okayama University, Meteorological Research Institute), Masahiro Hori (Earth Observation Research Center, Japan Aerospace Exploration Agency), Kumiko Goto-Azuma (National Institute of Polar Research / SOKENDAI)	
OMP18	Investigation of heterogeneous deformation of ice-sheet ice from deformation experiments and microstructural observations using artificial ice	*Tomotaka Saruya (Nagaoka University of Technology), Morimasa Takata (Nagaoka University of Technology), Tomoyuki Homma (Nagaoka University of Technology), Nobuhiko Azuma (Nagaoka University of Technology), Kumiko Goto-Azuma (NIPR / SOKENDAI)	
OMP19	Variations in mineralogy of dust in an ice core obtained from Northwestern Greenland during the past 100 years	*Naoko Nagatsuka (NIPR), Kumiko Goto-Azuma (NIPR, SOKENDAI), Akane Tsushima (RIHN), Hideaki Motoyama (NIPR, SOKENDAI), Sumito Matoba (ILTS), Koji Fujita (Nagoya University), Tetsuhide Yamasaki (Avanqnaq Arctic Project Corp.), Yukihiro Onuma (University of Tokyo), Masahiro Minowa (Universidad Austral de Chile), Teruo Aoki (Okayama University), Motohiro Hirabayashi (NIPR)	
OMP20	Culture of ancient fungi resting in the polar ice cores and future prospects of this research	*Fumio Nakazawa (NIPR), Masaharu Tsuji (NIPR), Satoshi Imura (NIPR)	
OMP21	Optical, biological and remote sensing observations at the Issunguata Sermia Glacier, south-western Greenland Ice Sheet, 2018	*Rigen Shimada (JAXA), Naoko Nagatsuka (NIPR), Teruo Aoki (Okayama University), Ayumi Kizawa (Chiba University), Takumi Suzuki (Chiba University), Nozomu Takeuchi (Chiba University)	
OMP22	Analysis of dissolved and insoluble inorganic species in ice core by continuous flow analysis system	*Motohiro Hirabayashi (NIPR), Jun Ogata (NIPR), Kumiko Goto-Azuma (NIPR, SOKENDAI), Hideaki Motoyama (NIPR, SOKENDAI)	
OMP23	An ice-flow modeling study for evaluation of sites for an oldest ice core around dome Fuji, Antarctica	*Takashi Obase (Atmosphere and Ocean Research Institute, the University of Tokyo), Ayako Abe-Ouchi (Atmosphere and Ocean Research Institute, the University of Tokyo), Fuyuki Saito (Japan Agency for Marine-Earth Science and Technology (JAMSTEC)), Shun Tsutaki (Atmosphere and Ocean Research Institute, the	

		University of Tokyo), Shuji Fujita (National Institute of Polar Research), Kenichi Matsuoka (Norwegian Polar Institute, Norway), Kenji Kawamura (National Institute of Polar Research)	
OMp24	UAV cryosphere monitoring at Ichinoseki, Iwate and Meili Snow Mountain, Yunnan	*Tatsuru Sato (National Institute of Technology, Ichinoseki Collage), Ken-ichi Kobayashi (National Institute of Technology, Ichinoseki Collage)	
OMp25	Elevation changes and ice volume loss of marine-terminating glaciers in northwestern Greenland from 1985 to 2012	*Daiki Sakakibara (Arctic Research Center, Hokkaido University, Institute of Low Temperature Science, Hokkaido University), Anders Anker Bjørk (Natural History Museum of Denmark, University of Copenhagen), Shin Sugiyama (Institute of Low Temperature Science, Hokkaido University, Arctic Research Center, Hokkaido University)	
OMp26	Sensitivities in ice-sheet simulation due to a variation of numerical formulation of the ice/temperature transport equation	*Fuyuki Saito (JAMSTEC)	
OMp27	Notes on observational data from automatic weather stations in Antarctica	*Hideaki Motoyama (National Institute of Polar Research), Naohiko Hirasawa (National Institute of Polar Research), Konosuke Sugiura (University of Toyama), Kenji Kawamura (National Institute of Polar Research), Teruo Aoki (Okayama University), Takao Kameda (Kitami Institute of Technology), Hiroyuki Enomoto (National Institute of Polar Research)	
OMp28	Microwave signal changes by melting and refreezing of ice sheets and ice caps in the Arctic	*Nuerasimuguli Alimasi (NIPR), Hiroyuki Enomoto (NIPR, SOKENDAI)	
OMp29	An analysis of the influence of deformation and recrystallization on microstructures of the EGRIP ice core	*Nicolas Stoll (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Johanna Kerch (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Ina Kleitz (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Jan Eichler (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Wataru Shigeyama (SOKENDAI), Tomoyuki Homma (Nagaoka University of Technology), Daniela Jansen (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Maddalena Bayer-Giraldo (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Ernst-Jan Kuiper (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Julien Westhoff (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Tomotaka Saruya (Nagaoka University of Technology), Sérgio Henrique Faria (Basque Centre for Climate Change), Sepp Kipfstuhl (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research), Dorte Dahl-Jensen (University of Copenhagen), Ilka Weikusat (Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research)	
OMp30	Multi-decadal Variability of Sea Ice from CMIP6 Experiment by MRI-ESM2	*Takuro Aizawa (AORI), M. Ishii (Meteorological Research Institute), S. Yukimoto (Meteorological Research Institute), H. Hasumi (The University of Tokyo)	
OMp31	High-resolution modeling of the Arctic Ocean with a nested-grid ice-ocean model	*Yoshiki Komuro (JAMSTEC), Masao Kurogi (JAMSTEC), Takao Kawasaki (AORI, the University of Tokyo), Ryu Saiki (AORI, the University of Tokyo), Hiroyasu Hasumi (AORI, the University of Tokyo)	
OMp32	Sea-water spray observation and analysis along JARE59 Shirase cruise	*Shuichi Fushimi (The University of Tokyo), Shuki Ushio (National Institute of Polar Research), Toshihiro Ozeki (Hokkaido University of Education), Hajime Yamaguchi (The University of Tokyo), Akihisa Konno (Kogakuin University)	
OMp33	"Shirase" navigation data analysis to improve future ice operation and icebreaker design	*Yuto Takahashi (The University of Tokyo), Hajime Yamaguchi (The University of Tokyo), Shuki Ushio (National Institute of Polar Research), Yutaka Yamauchi (Japan Marine United Corporation), Shigeya Mizuno (Japan Marine United Corporation)	
OMp34	Comparison L-band ALOS-2/PALSAR signature with Helicopter-borne measurements of sea ice condition at Lützow-Holm Bay, Antarctica	*Shungo Yaguchi (Graduate School of Frontier Sciences, The University of Tokyo), Yuto Takahashi (Graduate School of Frontier Sciences, The University of Tokyo), Shuichi Fushimi (Graduate School of Frontier Sciences, The University of Tokyo), Hajime Yamaguchi (Graduate School of Frontier Sciences, The University of Tokyo), Shuki Ushio (National Institute of Polar Research)	
OMp35	Retrieval of deformed sea ice area in the southern Sea of Okhotsk using satellite L-band SAR images	*Takenobu Toyota (Hokkaido University), Junno Ishiyama (Toma Town Office, Hokkaido)	
OMp36	Relationship between thickness of thin sea ice and microwave brightness temperature derived from a sea ice tank experiment	*Kazuhiro Naoki (TRIC), Masashige Nakayama (Hokkaido University of Education), Tomonori Tanikawa (Meteorological Research Institute), Kohei Cho (TRIC)	
OMp37	Carbon transport by Dense Shelf Water formation in the Cape Darnley Polynya, East Antarctica	*Kan Murakami (HU), Daiki Nomura (HU), Gen Hashida (NIPR), Shin-ichiro Nakaoka (NIES), Yujiro Kitade (TUMSAT), Daisuke Hirano (ILTS), Kay, I. Ohshima (ILTS)	
OMp38	Measurements of lake ice thickness in the Saroma-ko Lagoon using the sledge-borne Electro-Magnetic induction device during 2013-2018	*Kazutaka Tateyama (Kitami Institute of Technology), Momoi Kita (Ministry of Land, Infrastructure and Transport), Kazuki Nakamura (Nihon University), Seita Hoshino (Japan Aerospace Exploration Agency)	
OMp39	The history of the Arctic expeditions and the climatic and political background of the time	*Shuhei Takahashi (Okhotsk Sea Ice Museum of Hokkaido)	

[Oral session on Wed. 5 Dec.](#) |
 [Poster session on Wed. 5 Dec.](#) |
 [Oral session on Thu. 6 Dec.](#)

[OM] Polar Meteorology and Glaciology

Scopes

This session covers research topics from the fields of atmospheric science, meteorology, glaciology, sea ice, oceanography, and paleoclimatology.

Convener : **Yutaka Tobo (NIPR)**

Note: This session will be continued to Thursday.

[!] represents an invited talk.

Oral presentations (10:00 – 11:00)

Date : Thu. 6 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Shuhei Takahashi (Okhotsk Sea Ice Museum of Hokkaido)			
10:00 - 10:20	Geothermal heat flux distribution for the Greenland ice sheet, derived by combining a global representation and information from deep ice cores	*Ralf Greve (Hokkaido University)	
10:20 - 10:40	Effects on SICOPOLIS Greenland ice sheet simulations of a hot spot and large basal river, two proposed geographic features hidden at the base of the ice.	*Christopher Chambers (Hokkaido University, Institute of Low Temperature Science), Ralf Greve (Hokkaido University, Institute of Low Temperature Science), Bas Altena (University of Oslo), Pierre-Marie Lefevre (University of Oslo)	
10:40 - 11:00	Statistical analysis of long-term dynamics of atmospheric precipitation in Central Siberia	*Igor Ognev (Irkutsk National Research Technical University), Natalia Ianchenko (Irkutsk National Research Technical University)	

Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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[Oral session on Wed. 5 Dec.](#) | [Poster session on Wed. 5 Dec.](#) | [Oral session on Thu. 6 Dec.](#)

[OS] Space and upper-atmosphere sciences

Scopes

This session covers the solar-terrestrial science related to topics in the polar upper atmosphere, ionosphere and magnetosphere.

Conveners : Yasunobu Ogawa and Yoshimasa Tanaka (NIPR)

Note: This session will be continued to Thursday.

[I] represents an invited talk.

[J] represents a talk in Japanese.

Oral presentations (10:00 – 12:00, 13:30 – 16:15)

Date : Wed. 5 Dec.

Place : 3F Seminar room D304, Institute of Statistics and Mathematics

Chair: Yasunobu Ogawa (NIPR)			
10:00 – 10:30	[I] Novel radar measurement techniques enabled by EISCAT 3D	*Juha Vierinen (University of Tromsø)	
10:30 – 11:00	[I] Overview of Argentinean Activities regarding Space Weather Studies in Antarctica	*Adriana Maria Gulisano (Instituto Antartico Argentino, DNA, Argentina, IAFE (UBA - CONICET), Argentina, UBA, FCEyN ,Departamento de Fisica, Argentina), Sergio Dasso (IAFE (UBA - CONICET), Argentina, UBA, FCEyN ,Departamento de Fisica, Argentina ,UBA, FCEN, DCAO, Argentina), Viviana E. López (Servicio Meteorologico Nacional, Argentina), Omar Areso (IAFE (UBA - CONICET), Argentina), Maximiliano Ramelli (IAFE (UBA - CONICET), Argentina), Vanina Lanabere (UBA, FCEN, DCAO, Argentina), Matias Pereira (IAFE (UBA - CONICET), Argentina), Ubaldo HereHereñú (IAFE (UBA - CONICET), Argentina), Hernan Asorey (Laboratorio Deteccion de Particulas y Radiacion, Instituto Balseiro y Centro Atómico Bariloche), Hector Ochoa (Instituto Antartico Argentino, DNA, Argentina), Antonio Niemela (UBA, FCEN, DCAO, Argentina), lagoproject.org For the LAGO Collaboration (see the full list of members and institutions at lagoproject.org/collab.html)	
11:00 – 11:15	Coffee Break		
Chair: Yasunobu Ogawa (NIPR)			
11:15 – 11:30	Reassessment of SuperDARN/SENSU near range echoes	*Akira Sessai Yukimatu (NIPR/SOKENDAI)	
11:30 – 11:45	Preliminary Results of Tomography Analysis of Westward Traveling Surge	*Yoshimasa Tanaka (National Institute of Polar Research), Yasunobu Ogawa (National Institute of Polar Research), Akira Kadokura (National Institute of Polar Research), Takanori Nishiyama (National Institute of Polar Research), Björn Gustavsson (The Arctic University of Norway), Kirsti Kauristie (Finnish Meteorological Institute), Carl-fredrik Enell (EISCAT Scientific Association), Urban Brändström (Swedish Institute of Space Physics), Tima Sergienko (Swedish Institute of Space Physics), Alexander Kozlovsky (Sodankyla Geophysical Observatory), Tero Raita (Sodankyla Geophysical Observatory), Vanhamäki Heikki (University of Oulu), Akimasa Yoshikawa (Kyushu University)	
11:45 – 12:00	Magnetospheric Effects in a Whole Atmosphere-Ionosphere Coupled Model and Prediction Analysis	*Hidekatsu Jin (National Institute of Information and Communications Technology), Chihiro Tao (National Institute of Information and Communications Technology), Hiroyuki Shinagawa (National Institute of Information and Communications Technology), Yasunobu Miyoshi (Kyushu University), Hitoshi Fujiwara (Seikei University), Mitsuru Matsumura (Nagoya University)	
Lunch			
Chair: Yoshimasa Tanaka (NIPR)			
13:30 – 14:00	[I] Global MHD simulation study on auroral substorm	*Yusuke Ebihara (Kyoto University), Takashi Tanaka (Kyushu University)	
14:00 – 14:20	[I] Study on the solar modulation of GeV-energy electrons observed with the CALET	*Yotaro Migita (ASE Waseda Univ.), Shoji Torii (ASE Waseda Univ.), Yoichi Asaoka (WISE Waseda Univ.), Toshio Terasawa (WISE Waseda Univ.), Shunsuke Ozawa (WISE Waseda Univ.), Shoko Miyake (NIT IC), Ryuho Kataoka (NIPR), Kazuoki Munakata (Shinshu Univ.)	
14:20 – 14:35	Toward magnetospheric region identification from the SuperDARN data by using FLR signals identified in the data by the gradient method	*Hideaki Kawano (International Center for Space Weather Science and Education, Kyushu University), Akira Sessai Yukimatu (National Institute of Polar Research, and Department of Polar Science, SOKENDAI), Nozomu Nishitani (Institute for Space-Earth Environmental Research, Nagoya University), Yoshimasa Tanaka (National Institute of Polar Research, and Department of Polar Science, SOKENDAI), Satoko Saita (National Institute of Technology, Kitakyushu College), Tomoaki Horii (Institute for Space-Earth Environmental Research, Nagoya University)	
14:35 – 15:00	Coffee Break		
Chair: Yoshimasa Tanaka (NIPR)			
15:00 – 15:15	Temporal and spatial variations of midlatitude trough during geomagnetic storms based on Arase and GNSS-TEC observation data analysis	*Atsuki Shinbori (Institute for Space-Earth Environmental Research, Nagoya University), Yuichi Otsuka (Institute for Space-Earth Environmental Research, Nagoya University), Takuya Tsugawa (National Institute of Information and Communications Technology), Michi Nishioka (National Institute of Information and Communications Technology), Atsushi Kumamoto (Graduate School of Geophysics, Tohoku University), Fuminori Tsuchiya (Planetary Plasma and Atmospheric Research Center, Tohoku University), Shoya Matsuda (Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency), Yoshiya Kasahara (Graduate School of Natural Science and Technology, Kanazawa University), Ayako Matsuoka (Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency)	
15:15 – 15:30	Fine structures of aurora: A review	*Ryuho Kataoka (NIPR)	

15:30 - 15:45	Characteristics of electron flux variations associated with Pc5 auroral arc pulsations observed onboard THEMIS and DMSP	*Natsuo Sato (NIPR)	
15:45 - 16:00	Energetics of middle and upper mesospheric gravity waves determined from two Arctic lidar systems	*Kim Nielsen (Utah Valley University), Brittany Williams (Utah Valley University), Colin Triplett (University of Alaska, Fairbanks), Richard Collins (University of Alaska, Fairbanks), Dylan Morden (Utah Valley University), Eric Davis (Utah State University), Takuo Tsuda (University of Electro Communication), Satonori Nozawa (ISEE, Nagoya University)	
16:00 - 16:15	Anomalous enhancement of ambipolar diffusion coefficient: three meteor radars observation installed in the polar region	*Toru Takahashi (National Institute of Polar Research), Masaki Tsutsumi (National Institute of Polar Research), Yasunobu Ogawa (National Institute of Polar Research), Satonori Nozawa (3Institute for Space-Earth Environmental Research, Nagoya University), Chris Hall (Tromsø Geophysical Observatory, The Arctic University of Norway), Hiroshi Miyaoka (National Institute of Polar Research)	
16:30 - 18:30	Poster presentations Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)		

Poster presentations (Core time: 16:30 - 18:30)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

OSp1	Current status of Iceland-Syowa conjugate observation in 2018	*Akira Kadokura (ROIS DS PEDSC/NIPR), Yoshimasa Tanaka (ROIS DS PEDSC/NIPR), Ryuho Kataoka (NIPR), Akihito Uchida Herbert (NIPR), Masaki Okada (NIPR), Yasunobu Ogawa (NIPR), Makoto Taguchi (Rikkyo Univ.), Mitsunori Ozaki (Kanazawa Univ.), Kazuo Shiokawa (ISEE, Nagoya Univ.), Yuka Sato (NIT), Masashi Kamogawa (Tokyo Gakugei Univ.), Yasuhiro Minamoto (Tokyo Gakugei Univ.), Keisuke Hosokawa (Univ. of Elec. Comm.), Tetsuo Motoba (Johns Hopkins Univ.), Akira Sessai Yukimatu (NIPR), Hisao Yamagishi (NIPR), Natsuo Sato (NIPR)	
OSp2	Plasma fluid and electron-hybrid cross-reference simulations for the study of the resonant scattering of auroral electrons by whistler-mode chorus emissions	*Yuto Katoh (Tohoku Univ.), Yasunobu Ogawa (NIPR)	
OSp3	Ionospheric Hall Polarization and Deformation of the Ionospheric Potential Pattern	*Aoi Nakamizo (National Institute of Information and Communications Technology (NICT)), Akimasa Yoshikawa (Faculty of Science, Kyushu University)	
OSp4	System upgrade of the Na Lidar at Tromsø for the thermospheric Na observation	*Takuya Kawahara (Shinshu University), Satonori Nozawa (ISEE, Nagoya University), Norihito Saito (Photonics Control Technology Team, RIKEN), Takuo Tsuda (The University of Electro-Communications), Tetsuya Kawabata (ISEE, Nagoya University), Toru Takahashi (NIPR), Satoshi Wada (Photonics Control Technology Team, RIKEN)	
OSp5	Survey of conditions for artificial aurora experiments at EISCAT Tromsø using dynasonde data	*Takuo Tsuda (UEC), Michael Rietveld (EISCAT), Michael Kosch (SANSa), Shin-ichiro Oyama (Nagoya Univ.), Yasunobu Ogawa (NIPR), Keisuke Hosokawa (UEC), Satonori Nozawa (Nagoya Univ.), Tetsuya Kawabata (Nagoya Univ.), Akira Mizuno (Nagoya Univ.)	
OSp6	Ground-based observations of MF/HF auroral radio emissions at three stations	*Yuka Sato (NIT), Atsushi Kumamoto (Tohoku Univ.), Yuto Katoh (Tohoku Univ.), Yasunobu Ogawa (NIPR), Akira Kadokura (NIPR), Atsuki Shinbori (ISEE)	
OSp7	Estimation of the lifetime of O(¹ S) state excited oxygen atom	*Yuki Kawamura (University of Electro-Communications), Keisuke Hosokawa (University of Electro-Communications), Satonori Nozawa (ISEE, Nagoya University), Yasunobu Ogawa (National Institute of Polar Research), Tetsuya Kawabata (ISEE, Nagoya University), Ryoichi Fujii (Research Organization of Information and Systems)	
OSp8	Ionospheric electron density variations in association with geomagnetic storms deduced from EISCAT observations	*Satoshi Kurita (Institute for Space-Earth Environmental Research, Nagoya University), Yasunobu Ogawa (National Institute of Polar Research), Keisuke Hosokawa (3Department of Communication Engineering and Informatics, University of Electro-Communications), Yoshizumi Miyoshi (3Department of Communication Engineering and Informatics, University of Electro-Communications)	
OSp9	Bi-directional electrons and their ionization in the ionosphere: ERG-EISCAT simultaneous observations	*Yasunobu Ogawa (NIPR), ERG-EISCAT team	
OSp10	1-year observation of imaging spectrum for aurora and airglow in near infrared wavelength (1.0-1.6 microns) at Syowa Station	*Takanori Nishiyama (National Institute of Polar Research), Makoto Taguchi (Rikkyo University), Hidehiko Suzuki (Meiji University), Takeshi Sakanoi (Tohoku University)	
OSp11	Effect of the substorm onset to the plasma behavior in the dayside magnetosheath-cusp region	*Shigeru Fujita (Meteorological College / NIPR), Takashi Tanaka (Kyushu University), Ryuho Kataoka (NIPR), Masakazu Watanabe (Kyushu University)	
OSp12	Coupling of the current generator and the voltage generator in the dayside interplanetary magnetic field B_y -dependent field-aligned current system	*Masakazu Watanabe (Kyushu University), Takashi Tanaka (Kyushu University), Shigeru Fujita (National Institute of Polar Research)	
OSp13	Statistical study of Ionospheric Conductivity Dependence of the Subauroral Polarization Streams using the SuperDARN Hokkaido East HF Radar	*Yuting Zhang (Nagoya University), Nozomu Nishitani (Nagoya University, ISEE), Tomoaki Hori (Nagoya University, ISEE)	
OSp14	Observation of energetic particles in the inner radiation belt with HEP onboard the Arase	*Honoka Toda (Tokai University), Wataru Miyake (Tokai University), Takefumi Mitani (ISAS, JAXA), Takeshi Takashima (ISAS, JAXA), Yoshizumi Miyoshi (ISEE, Nagoya University), Inchun Park (ISEE, Nagoya University), Tomoaki Hori (ISEE, Nagoya University)	
OSp15	Effect of viscosity on propagation of MHD waves in astrophysical plasma	*Alemayehu Mengesha Cherkos (Addis Ababa University, Ethiopia), S. B. Tessema	

[Oral session on Wed. 5 Dec.](#) | [Poster session on Wed. 5 Dec.](#) | [Oral session on Thu. 6 Dec.](#)

[OS] Space and upper-atmosphere sciences

Scopes

This session covers the solar-terrestrial science related to topics in the polar upper atmosphere, ionosphere and magnetosphere.

Conveners : Yasunobu Ogawa and Yoshimasa Tanaka (NIPR)

Note: This session will be continued to Thursday.

[I] represents an invited talk.

[J] represents a talk in Japanese.

Oral presentations (10:00 – 12:05)

Date : Thu. 6 Dec.

Place : 3F Seminar room D304, Institute of Statistics and Mathematics

Chair: Akira Sessai Yukimatu (NIPR)			
10:00 - 10:15	[J] Numerical modeling of the thermospheric and ionospheric dynamics in the auroral region	*Tomokazu Oigawa (Grad school of Science, Kyoto Univ.), Hiroyuki Shinagawa (NICT), Satoshi Taguchi (Grad school of Science, Kyoto Univ.)	
10:15 - 10:30	[J] Yearly variations in Be-7 concentrations in the atmosphere in Iceland and Japan during 14 years from 2003 compared with the solar activity	*H. Sakurai (Yamagata University), S. Suzuki (Yamagata University), F. Tokanai (Yamagata University), E. Inui (Yamagata University), K. Masuda (Nagoya University), A. Kadokura (NIPR), N. Sato (NIPR), B. Gunnlaugur (Iceland University)	
10:30 - 10:45	[J] Horizontal temperature gradients in the polar MLT region (83-105 km) above Tromsø	*Satonori Nozawa (ISEE, Nagoya University), Yasunobu Ogawa (NIPR), Hitoshi Fujiwara (Faculty of Science and Technology, Seikei University), Takuo Tsuda (Department of Computer and Network Engineering, The University of Electro-Communications), Takuya Kawahara (Faculty of Engineering, Shinshu University), Norihito Saito (ASI, RIKEN), Satoshi Wada (ASI, RIKEN), Testuya Kawabata (ISEE, Nagoya University), Toru Takahashi (NIPR), Masaki Tsutsumi (NIPR), Chris Hall (TGO, UiT The Arctic University of Norway), Asgeir Brekke (Faculty of Science and Technology, UiT The Arctic University of Norway)	
10:45 - 11:00	[J] Long-term variation of galactic cosmic ray intensity observed with the Nagoya multidirectional muon detector	*Kazuoki Munakata (Shinshu University), Rafael Mendonca (INPE), Chihiro Kato (Shinshu University), Munetoshi Tokumaru (ISEE)	
11:00 - 11:15	[J] Magnetic topology inducing the substorm	*Takashi Tanaka (Kyushu University)	
11:15 - 11:30	Characteristics of dynamics of fast westward flows in the subauroral region during the 2018 August geomagnetic storm	*Nozomu Nishitani (ISEE, Nagoya Univ.), Tomoaki Hori (ISEE, Nagoya Univ.), Yuting Zhang (ISEE, Nagoya Univ.)	
11:30 - 11:45	A case study of on a numerically simulated ionospheric convection with a global MHD simulation	*Satoko Saita (NIT/Kitakyushu College), Shigeru Fujita (Meteor. College), Akira Kadokura (NIPR), Takashi Tanaka (ICSWSE/Kyushu Univ.), Yoshimasa Tanaka (NIPR)	
11:45 - 12:05	[I] Project for Solar-Terrestrial Environment Prediction: Predicting Solar Cycle 25	*Shinsuke Imada (Institute for Space-Earth Environmental Research (ISEE), Nagoya University), Haruhisa Iijima (Institute for Space-Earth Environmental Research (ISEE), Nagoya University), Hideyuki Hotta (Chiba Univ.), Kanya Kusano (Institute for Space-Earth Environmental Research (ISEE), Nagoya University), Daiko Shiota (National Institute of Information and Communications Technology (NICT))	

[Oral session](#) | [Poster session](#)

Interdisciplinary session

[IA] Open session for the interdisciplinary Arctic Science

Scopes

This session invites presentations from the wide range of the topics related to the Arctic, including all disciplines of natural sciences, engineering, humanities and social sciences.

The Arctic is experiencing rapid environmental and amplified climatic changes, creating significant challenges for people living in this region and various impacts around the globe, which is cascading to the all level of environment in various time scales. We have been trying to elucidate the whole pictures of these changes in the Arctic and their phenomena, but many open questions still remain. Arctic change also has impacts on the global climate as well as ecosystems and human societies in higher-middle latitudes, which is also a scope of the session.

We welcome the contributions on the latest findings on the ongoing change in the Arctic, as well as its past change and perspectives on future change, improved understanding of processes and mechanism, its impact on our society.

Conveners : Tetsuo Sueyoshi, Yuji Kodama, Hiroshi Miyaoka, Kumiko Goto-Azuma, and Hiroyuki Enomoto (NIPR)

Oral presentations (11:05 – 12:00, 14:00 – 15:50)

Date : Thu. 6 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Yuji Kodama (NIPR)			
11:05 - 11:40	Climate impacts arising from Arctic sea ice retreat	*Peter Wadhams (University of Cambridge)	
11:40 - 12:00	On the optimum route search along the Arctic sea routes	*Hajime Yamaguchi (Graduate School of Frontier Sciences, The University of Tokyo), Takatoshi Matsuzawa (National Maritime Research Institute)	
Lunch			
Chair: Tetsuo Sueyoshi (NIPR)			
14:00 - 14:30	Ny-Ålesund as an international research platform	*Maarten J.J.E. Loonen (University of Groningen, Arctic Centre)	
14:30 - 14:50	Sea ice surface morphology imaged with UAV and SfM-MVS photogrammetry	*Tatsuya Watanabe (Kitami Institute of Technology), Kazutaka Tateyama (Kitami Institute of Technology)	
14:50 - 15:10	A simple-model simulation of Late Quaternary Arctic ground ice and soil organic carbon changes	*Kazuyuki Saito (JAMSTEC), Hirokazu Machiya (JAMSTEC), Go Iwahana (UAF), Hiroshi Ohno (Kitami Inst Tech), Tokuta Yokohata (NIES)	
15:10 - 15:30	Ground deformation over permafrost region in Eastern Siberia, revealed by L-band SAR Interferometry	*Takahiro Abe (JAXA/EORC), Go Iwahana (IARC, University of Alaska, Fairbanks), Takeo Tadono (JAXA/EORC)	
15:30 - 15:50	Information retrieval for Northern Sea Route (NSR) navigation: a statistical approach using the TOPAZ4 data	*Tomoko Koyama (National Institute of Polar Research), Takuya Nakanowatari (National Institute of Polar Research), Jun Inoue (National Institute of Polar Research)	
15:50 - 16:00	Coffee Break		

Poster presentations (Core time: 13:00 - 14:00)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

IAp1	International organization's science plan and Japan's Arctic policy - As a reference for the next Arctic Research Project-	*Yuji Kodama (AERC, NIPR), Tetsuo Ohata (AERC, NIPR)	
IAp2	Arctic GIS on ADS	*Hironori Yabuki (NIPR), Shigeru Hagiwara (NIPR), Takeshi Terui (NIPR), Takeshi Sugimura (NIPR)	
IAp3	Evolution of winter mixed layer in the Canada basin from 2015 to 2016	*Sayaka Kumakawa (Tokyo University of Marine Science and Technology), Michiyo Yamamoto-Kawai (Tokyo University of Marine Science and Technology)	
IAp4	A process-based estimation of Greenland melt toward coupled ISM-GCM development	*Ryouta Oishi (AORI, the Univresity of Tokyo), Fuyuki Saito (JAMSTEC), Takashi Obase (AORI, the Univresity of Tokyo), Ayako Abe-Ouchi (AORI, the Univresity of Tokyo)	
IAp5	Segmentation of sea ice and open water from ship radar images using U-net	*Toshiyuki Takagi(National Institute of Technology), Kazutaka Tateyama (Kitami Institute of Technology)	

Interdisciplinary session

[ID] Polar science developed by leading-edge analytical technology ~Beyond the micro meters and micro grams~

Scopes

The recent developments of analytical technology have allowed us to acquire data with high precision and high resolution from microscale targets in many scientific fields. Targets with a small size and/or small amount can produce valuable information. Nowadays, we have a chance to access that information. The scientific methods for processing the samples properly, extracting information from it and applying the information to various fields can make a breakthrough in natural science as well as the polar science.

In this session, "microscale" is focused on and the oral presenters from the fourth one will be invited to introduce their specialty for "microscale". The conveners would like delegates from any fields to talk about and discuss laboratory techniques for investigating any subjects in microscale, such as samples, textures, trace elements, and isotopes, with high precision and resolution and/or application of the techniques for natural science as well as polar science. The conveners also intend to provide the delegates the opportunities to share the information of applicable techniques for each their own field and to start new collaborative works.

Conveners : **Mami Takehara, Tomokazu Hokada, and Ryosuke Makabe (NIPR)**

Oral presentations (10:15 - 11:40, 14:00 - 16:10)

Date : Thu. 6 Dec.

Place : 3F Seminar room, National Institute of Polar Research

10:15 - 10:20		OPENING	
Chair: Kento Motomura (Kyushu Univ.), Kenji Horie (NIPR)			
10:20 - 10:40	Disturbance of U-Pb and trace-element systems in hydrothermally altered zircon revealed by sensitive high-resolution ion microprobe (SHRIMP)	*Mami Takehara (National Institute of Polar Research), Kenji Horie (National Institute of Polar Research), Tomokazu Hokada (National Institute of Polar Research), Shoichi Kiyokawa (Kyushu University)	
10:40 - 11:00	Effect of impact energy on U-Pb zircon dating by a sensitive high-resolution ion microprobe (SHRIMP-II)	*Kenji Horie (National Institute of Polar Research), Mami Takehara (National Institute of Polar Research)	
11:00 - 11:20	Geochemical studies about late Paleoproterozoic ocean environment: The Cape Smith belt, Canada	*Kento Motomura (Kyushu Univ.), Shoichi Kiyokawa (Kyushu Univ.), Minoru Ikehara (Kochi Univ.), Kentaro Tanaka (Univ. of Tokyo), Takashi Sano (National Museum of Nature and Science), Yukiyasu Tsutsumi (National Museum of Nature and Science), Yuji Sano (Univ. of Tokyo)	
11:20 - 11:40	Elemental mapping with a micro X-ray fluorescence spectrometer (micro-XRF) : applications for geological samples	*Masatsugu Ogasawara (Geological Survey of Japan, AIST)	
Lunch			
13:00 - 14:00		Poster presentations	
Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)			
Chair: Mami Takehara (NIPR), Kenji Horie (NIPR)			
14:00 - 14:20	Quantitative determination of silica content in siliceous shell plankton using Microfocus X-ray CT	*Takahito Ikenoue (MERI), Katsunori Kimoto (JAMSTEC), Yuriko Nakamura (JAMSTEC), Naoki Kuramoto (AIST), Masaaki Ueki (AIST), Yuichi Ota (AIST), Kjell Bjørklund (University of Oslo), Jonaotaro Onodera (JAMSTEC), Naomi Harada (JAMSTEC)	
14:20 - 14:40	Identification of origins and biogeochemical process of cryoconite on glaciers using Sr and Nd stable isotope ratios	*Naoko Nagatsuka (National Institute of Polar Research), Nozomu Takeuchi (Chiba University), Kicheol Shin (Research Institute for Humanity and Nature), Takanori Nakano (Waseda University)	
14:40 - 15:10	Dynamic phenomena recorded in geochemical and environmental materials	*Satoshi Utsunomiya (Kyushu University)	
15:10 - 15:20	Coffee Break		
Chair: Mami Takehara (NIPR), Tomokazu Hokada (NIPR)			
15:20 - 15:50	Systematic REE Isotopic Analyses for Cosmochemistry	*Hiroshi Hidaka (Nagoya University)	
15:50 - 16:10	Chemical composition of fluid in the subduction zone: Quantitative analysis of individual fluid inclusions by LA-ICP-MS	*Mayuko Fukuyama (Akita University), Masatsugu Ogasawara (Geological Survey of Japan, AIST), Tatsuhiro Kawamoto (Kyoto University)	

Poster presentations (Core time: 13:00 - 14:00)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

IDp1	Wind forced near-inertial period internal waves and their contribution to the mixed layer at the Antarctic Circumpolar current	*Matheus Ferreira Azevedo (Tokyo University of Marine Sciences and Technology), Yujiro Kitade (Tokyo University of Marine Sciences and Technology), Shigeru Aoki (Institute of Low Temperature Science, Hokkaido University)	
IDp2	Nd isotopic analysis of silicates by using a 5-head advanced multi-collector sensitive high-resolution ion microprobe (SHRIMP-II/AMC)	*Kenji Horie (National Institute of Polar Research), Mami Takehara (National Institute of Polar Research)	
IDp3	Recovery rates and external morphologies of zircon grains from mechanical and electrical pulverization of rock samples: examples from TEMORA2 and AS3	*Mami Takehara (National Institute of Polar Research), Kenji Horie (National Institute of Polar Research), Tomokazu Hokada (National Institute of Polar Research), Shoichi Kiyokawa (Kyushu University)	

Interdisciplinary session

[IF] Toward Future Plan of the Arctic and Antarctic Science

Scopes

This session will be a forum to discuss the scientific program and the framework of the future integrated multidisciplinary study focused on the polar regions, and to consider how a large-scale science plan for Polar Science should be formulated. The focus of the discussion will be on the preparation of the Master Plan 2020, which will be announced by the Science Council of Japan.

The changes in the polar regions are essential for future projection of the Earth system. The Antarctic and Greenland ice sheet holds most of ice and is the largest fresh water reservoir on the Earth, which is equivalent to about 70 m height of sea level. Moreover, dense seawater is produced in the polar regions and formed bottom water that drives the thermohaline circulation. Changes in the thermohaline circulation are considered to be a large impact on global environment. Therefore, the polar regions are the key components that control global climate and sea level changes. However, the polar regions are still poorly unknown components in the Earth system and the systematic various field of scientific observations is required. From such background, the convener believe that the polar science is one of the important topics which should be proposed to the Master Plan 2020.

Conveners : **Takuji Nakamura, Tetsuo Sueyoshi, and Yoshifumi Nogi (NIPR)**

Note: [J] represents a talk in Japanese.

Oral presentations (16:00 – 17:50)

Date : Thu. 6 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Tetsuo Sueyoshi (NIPR)			
16:00 - 16:20	Schedule of the Master Plan 2020 by Science Council of Japan	*Takuji Nakamura (NIPR), Yoshifumi Nogi (NIPR)	
16:20 - 16:40	[J] Potentiality of development for integrated geology and paleoceanography science in polar oceans	*Minoru Ikehara (Kochi University), Masanobu Yamamoto (Hokkaido University), Naomi Harada (JAMSTEC), Yusuke Suganuma (NIPR), Takuya Itaki (AIST)	
16:40 - 17:00	Mass balance study on the Greenland ice sheet	*Teruo Aoki (Okayama University, Meteorological Research Institute, National Institute of Polar Research), Masashi Niwano (Meteorological Research Institute), Kumiko Goto-Azuma (National Institute of Polar Research, SOKENDAI), Hideki Miura (National Institute of Polar Research, SOKENDAI), Jun'ichi Okuno (National Institute of Polar Research, SOKENDAI), Tetsuo Sueyoshi (National Institute of Polar Research, Japan Agency for Marine-Earth Science and Technology), Ralf Greve (Hokkaido University), Ayako Abe-Ouchi (University of Tokyo)	
17:00 - 17:20	[J] Sea level rise caused by ice sheet melt	*Takeshi Tamura (NIPR)	
17:20 - 17:50	[J] Future Plan of the Polar Science	*Yoshifumi Nogi (NIPR), Tetsuo Sueyoshi (NIPR), Takuji Nakamura (NIPR)	

Poster presentations (Core time: 13:00 - 14:00)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

IFp1	"Terra-Astronomy": multi-disciplinary studies with Antarctic Ice cores and Numerical Simulations	*Yuko Motizuki (RIKEN), Kazuya Takahashi (RIKEN), Yoichi Nakai (RIKEN), Satoshi Wada (RIKEN), Kazuho Horiuchi (Hiroshima University), Fusa Miyake (Nagoya University), Hideaki Motoyama (NIPR), Hideharu Akiyoshi (NIES), Takashi Imamura (NIES), Kunihiko Kodera (MRI)	
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Special session	Interdisciplinary sessions	Ordinary sessions	Others	Time Table
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[Oral session](#) | [Poster session](#)

Interdisciplinary Session

[IW] Whole atmosphere

Scopes

Earth's lower, middle, and upper atmosphere interacts with one another through various kinds of vertical coupling processes induced by waves, physical and chemical processes, and energy input from the sun and magnetosphere. It compelled us to deal with the earth's atmosphere comprehensively, so that a new concept of "whole atmosphere" was recently introduced to the atmospheric research community. In the Antarctic, the first MST (Mesosphere-Stratosphere-Troposphere)/IS (Incoherent Scatter) radar has been operated since 2011 as a part of the JARE (Japanese Antarctic Research Expedition) phase VIII and IX prioritized projects. These projects aim at detecting climate change signals in each layer of the Antarctic atmosphere and exploring vertical coupling processes between these layers through the coordinated observations including the MST/IS radar in the Antarctic. These backgrounds stimulated us to propose this "whole atmosphere" session. Viewpoints of both aeronomy and meteorology, and related interdisciplinary studies, are essential to understanding a wide altitude region from the troposphere to the thermosphere. This session provides an opportunity to present and discuss observational, theoretical, and modeling studies focusing on a variety of phenomena in each layer or across multiple layers of the earth's atmosphere.

Conveners : Yoshihiro Tomikawa, Mitsumu K. Ejiri, and Toru Takahashi (NIPR)

Note: [I] represents an invited talk.

[J] represents a talk in Japanese.

Oral presentations (14:00 – 17:30)

Date : Thu. 6 Dec.

Place : 3F Seminar room D304, Institute of Statistics and Mathematics

13:00 - 14:00		Poster presentations	
		Place: Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)	
Chair: Yoshihiro Tomikawa (NIPR)			
14:00 - 14:30	[I] The Role of the Polar Vortex in Whole Atmosphere Coupling	*V Lynn Harvey (University of Colorado Laboratory for Atmospheric and Space Physics), Cora Randall (University of Colorado Laboratory for Atmospheric and Space Physics), Erich Becker (Leibniz Institute of Atmospheric Physics), Larisa Goncharenko (MIT Haystack), Jeff France (University of Colorado Laboratory for Atmospheric and Space Physics and GATS, Inc), Charles Bardeen (NCAR and CU)	
14:30 - 14:45	Small Antarctic Ozone Hole in 2012 and 2017 and the Relationship to Dynamical Fields	*Guangyu Liu (Kyushu University), Toshihiko Hirooka (Kyushu University), Nawo Eguchi (RIAM, Kyushu University)	
14:45 - 15:00	Stratospheric front-like structure and characteristics of gravity waves during a stratospheric sudden warming event in 2016	*Yukari Sumi (The University of Tokyo), Kaoru Sato (The University of Tokyo)	
15:00 - 15:15	Concentrations and sources of climatically important particles and gases in the Antarctic Peninsula, Argentine station Marambio	*Eija Asmi (SMN), Maria E Barlasina (SMN), Gustavo Copes (SMN), German P Fogwill (SMN), Jonathan Ferrara (SMN), Gonzalo Gambarte (SMN), Juha Hatakka (FMI), Tuomas Laurila (FMI), Kimmo Neitola (FMI), Ewan O'Connor (FMI), Edith Rodriguez (FMI), Pasi P Aalto (INAR), Ricardo Sánchez (SMN)	
15:15 - 15:30	Lidar Ozone and Temperature Profiles with Satellite Validation at mid-latitude Station (51.5°S, 69.3°W), Southern Hemisphere: Results and a retrospective	*Jacobo Omar Salvador (Centro de Investigaciones en Láseres y Aplicaciones, CEILAP-UNIDEF (MINDEF-CONICET), UMI-FAECI-CNRS-3351, UMI3351), Pablo Liamedo Soria (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Jonathan Quiroga (Universidad Nacional de la Patagonia Austral, Unidad Académica Río Gallegos (UNPA-UARG) and CIT-CONICET Santa Cruz), Alejandro de la Torre (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Peter Alexander (Instituto de Física de Buenos Aires, CONICET), Rodrigo Hierro (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Sophie Godin-Beekmann (Laboratoire Atmosphère, Milieux, Observations Spatiales (LATMOS), Institut Pierre Simon Laplace, Université Pierre et Marie Curie, Université Versailles St-Quentin-en-Yvelines, Centre National de la Recherche Scientifique), Andrea Pazmiño (Laboratoire Atmosphère, Milieux, Observations Spatiales (LATMOS), Institut Pierre Simon Laplace, Université Pierre et Marie Curie, Université Versailles St-Quentin-en-Yvelines, Centre National de la Recherche Scientifique), Felix Zamorano (Laboratorio de Ciencias Atmosféricas, Universidad de Magallanes), Takuji Nakamura (NIPR), Shin Suzuki (Aichi University), Mitsumu K. Ejiri (NIPR), Katsuhiko Tsuno (RIKEN), Hirofumi Oyama (NIES), Akira Mizuno (ISEE, Nagoya University), Eduardo Quel (Universidad Tecnológica Nacional, Facultad Regional Bs. As. (UTN-FRBA))	
15:30 - 15:45	Long Term Rayleigh Lidar and Satellite Observations of Gravity Wave Activity above the Southern Tip of South America	*Alejandro de la Torre (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Pablo Liamedo (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Jacobo Salvador (Laser and Application Research Center (CEILAP) UNIDEF (MINDEF-CONICET), UMI-FAECI-CNRS-3351), Peter Alexander (Instituto de Física de Buenos Aires, CONICET), Rodrigo Hierro (LIDTUA, CIC, Facultad de Ingeniería, Universidad Austral and CONICET), Torsten Schmidt (Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences), Andrea Pazmiño (LATMOS, UVSQ Univ. Paris Saclay, UPMC Univ. Paris 06, CNRS), Eduardo Quel (Universidad Tecnológica Nacional, Facultad Regional Buenos Aires (UTN-FRBA))	
15:45 - 16:00	Coffee Break		
Chair: Mitsumu K. Ejiri (NIPR)			
16:00 - 16:15	Super-pressure balloon observation of gravity waves over the Antarctic	*Yoshihiro Tomikawa (NIPR), Kaoru Sato (The University of Tokyo), Yoshitaka Saito (ISAS, JAXA), Isao Murata (Tohoku University), Naohiko Hirasawa (NIPR), Masashi Kohma (The University of Tokyo)	

16:15 - 16:30	The climatology of quasi-stationary waves with zonal wavenumber 1 in the Southern Hemisphere stratosphere and its relation with tropospheric condition	*Soichiro Hirano (The University of Tokyo), Masashi Kohma (The University of Tokyo), Kaoru Sato (The University of Tokyo)	
16:30 - 16:45	A study of the relationship between middle atmosphere interannual variability and wave forcing	*Yuki Matsushita (The University of Tokyo), Daiki Kado (RCAST, The University of Tokyo), Masashi Kohma (The University of Tokyo), Kaoru Sato (The University of Tokyo)	
16:45 - 17:00	Comparison of gravity wave characteristics in the OH layer over Syowa and Davis, the Antarctic, using OH airglow imagers	*Masaru Kogure (SOKENDAI), Takuji Nakamura (NIPR), Yoshihiro Tomikawa (NIPR), Mitsumu K. Ejiri (NIPR), Takanori Nishiyama (NIPR), Masaki Tsutsumi (NIPR), Michael J. Taylor (Physics Department, Utah State University), Yucheng Zhao (Physics Department, Utah State University), P.-Dominique Pautet (Physics Department, Utah State University), Damian Murphy (Australian Antarctic Division)	
17:00 - 17:15	Development of the optimal data assimilation system for the whole neutral atmosphere	*Dai Koshin (The University of Tokyo), Kaoru Sato (The University of Tokyo), Kazuyuki Miyazaki (JAMSTEC), Shingo Watanabe (JAMSTEC)	
17:15 - 17:30	[J] Atmospheric electric field due to snow blizzard electrification at Syowa station, Antarctica	*Yasuhiro Minamoto (Tokyo Gakugei University), Masashi Kamogawa (Tokyo Gakugei University), Akira Kadokura (NIPR), Nachiko Hirasawa (NIPR), Satoshi Omiya (Civil Engineering Research Institute for Cold Region), Mitsuteru Sato (Hokkaido University)	

Poster presentations (Core time: 13:00 - 14:00)

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

IWp1	Millimeter-wave spectroscopy at Syowa Station - Temporal variation of Nitric Oxide in the middle- and upper-atmosphere and near future plan of simultaneous multi-line observation -	*Akira Mizuno (Nagoya University), Tomoo Nagahama (Nagoya University), Taku Nakajima (Nagoya University), Hiroyuki Iwata (Nagoya University), Mitsumu K. Ejiri (NIPR), Masaki Tsutsumi (NIPR), Yoshihiro Tomikawa (NIPR), Kaoru Sato (The University of Tokyo)	
IWp2	Profile retrieval of the stratospheric ozone and nitrogen dioxide from the spectra observed with balloon-borne optical ozone sensor	*Isao Murata (Tohoku University), Katsuyuki Noguchi (Nara Women's University), Andreas Richter (Institute of Environmental Physics, University of Bremen), Alexei Rozanov (Institute of Environmental Physics, University of Bremen), John P. Burrows (Institute of Environmental Physics, University of Bremen)	
IWp3	Turbulent kinetic energy dissipation rates depending on the polar vortex and on synoptic-scale disturbances in the UTLS region in the Antarctic	*Masashi Kohma (The University of Tokyo), Kaoru Sato (The University of Tokyo), Koji Nishimura (NIPR), Masaki Tsutsumi (NIPR)	
IWp4	Development of a Phase Velocity Spectral Analysis Software Package (M-Transform) for Airglow Imaging Data	*Septi Perwitasari (NIPR), Takuji Nakamura (NIPR), Masaru Kogure (SOKENDAI), Masaki Tsutsumi (NIPR), Yoshihiro Tomikawa (NIPR), Mitsumu K. Ejiri (NIPR), Kazuo Shiokawa (Nagoya University)	
IWp5	Vertical fine structure and time evolution of plasma irregularities in the E_s layer, observed by a high resolution Ca^+ lidar	*Mitsumu K. Ejiri (NIPR), Takuji Nakamura (NIPR), Takuo T. Tsuda (UEC), Takanori Nishiyama (NIPR), Makoto Abo (TMU), Toru Takahashi (NIPR), Katsuhiko Tsuno (RIKEN, RAP), Takuya D. Kawahara (Shinshu Univ., Faculty of Engineering), Takayo Ogawa (RIKEN, RAP), Satoshi Wada (RIKEN, RAP)	
IWp6	Temperature and metallic atom variability near the mesopause obtained from a frequency-tunable resonance scattering lidar at Syowa, Antarctica in 2017-18	*Takanori Nishiyama (NIPR), Mitsumu K. Ejiri (NIPR), Takuo T. Tsuda (The University of Electro-Communications), Katsuhiko Tsuno (RIKEN), Makoto Abo (Tokyo Metropolitan University), Taku D. Kawahara (Shinshu University), Takayo Ogawa (RIKEN), Satoshi Wada (RIKEN), Takuji Nakamura (NIPR)	
IWp7	Meteor radar functionality on the PANSY radar	*Taishi Hashimoto (Kyoto University), Koji Nishimura (NIPR), Masaki Tsutsumi (NIPR), Toru Sato (Kyoto University), Kaoru Sato (The University of Tokyo)	

[SC] Winning Proposals of Junior High and High School Polar Science Contest

Scopes

NIPR holds the Junior High and High School Polar Science Contest, which invites research and experimental proposals from junior high and high school students. Here are the awarded proposals of this year.

Poster presentations

Date : Tue. 4 - Thu. 6 Dec.

Place : Entrance Hall (1st floor) at National Institute of Polar Research (NIPR)

SCp1	Briefing poster of the Junior High and High School Polar Science Contest	
SCp2	Can we recognize distance in the polar regions? 極地の距離感は、わからない？	PC Club (Mizuki Hanai, Tomohiro Kamitani, Haruna Kobayashi) (Kyoto Municipal Shimogamo Junior High School) 下鴨中学校パソコン部 (代表：花井 瑞己) (京都市立下鴨中学校)
SCp3	Study on "Earth shadow" 地球影の研究	Aoi Ishimure (Yokohama Science Frontier High School) 石牟礼 碧衣 (横浜市立横浜サイエンスフロンティア高等学校)
SCp4	Can blue light and ultraviolet light A accelerate the growth of moss pilar (Kokebouzu)? 青色光＋紫外線Aはコケ坊主の成長を促進するか？	Scientific Reserch Group 3-C-1 (Shin'ya Fujii, Junko Shiraishi, Aoi Uejima, Miyu Iida) (Nara Prefectural Seisho Senior High School) 探究科学3年C1班 (代表：藤井 慎也) (奈良県立青翔高等学校)
SCp5	Psychological effects of artificial ornamental plants to expeditioners at Syowa Station, Antarctica 昭和基地で調べる人工観葉植物の心理的効果	Shujiro Araoka (Tokyo Metropolitan Minamitamama Secondary Education School) 荒岡 啓二郎 (東京都立南多摩中等教育学校)
SCp6	Measurement of the earth's magnetic field in the Arctic and the Antarctic with a neodymium magnet ネオジム磁石を用いた南極北極における地磁気の測定	Group of the earth's magnetic field, Science Club(Yushi Miyamoto, Hayato Ishiguro, Shun Takada, Kento Nakayama, Ryusei Sato, Fuya Makino) (Sapporo Nihon University Senior High school) 札幌日本大学高等学校 科学部 地磁気グループ (代表：宮本 悠史) (札幌日本大学高等学校)
SCp7	Demonstrative experiment for conventional method to determine the position in the polar region 位置を知らせる簡便法に関する極地での実証実験	Chemistry and Biology Club (Jun'ya Yoshioka, Mao Okamura, Haruka Yanai, Ayuka Iwamura, Keisuke Mitsuda, Tomoya Mihara, Akinari Tomiie, Yumi Higashi, Ren Yamamoto) (Yamaguchi Prefectural Yamaguchi High School) 山口県立山口高等学校 化学・生物部 (代表：吉岡 潤哉) (山口県立山口高等学校)
SCp8	Prevent scientists in the polar regions and in the space station from UV damage! 極地と宇宙の研究者の紫外線ダメージを防げ！！	Kaname Ishikura (Matsue Municipal Yakumo Junior High School) 石倉 要 (松江市立八雲中学校)
SCp9	Relationship between atmospheric pressure and human's health in the polar regions 極地の気圧と健康の関係について	Mai Seto (Toyo Eiwa Junior High School) 瀬戸 真愛 (東洋英和女学院中学部)
SCp10	Magnetic field and cosmic dust on earth : Can we detect geomagnetic reversal? 地球磁場と宇宙塵～地磁気逆転が見えるか？～	Science Club (Haruka Ono, Koushi Hashimoto, Yoshie Sawazaki, Takeo Matsuda, Takako Yamashita, Takeru Wakabayashi) (The Evening Course, Otemae Senior High School of Osaka Prefecture) 大阪府立大手前高等学校 定時制の課程 科学部 (代表：小野 晴香) (大阪府立大手前高等学校 定時制の課程)
SCp11	Confirmation of ice in the lunar crater: an experimental approach 月のクレーター内に残る氷を実験的に確かめる	Science Club (Koushi Hashimoto, Haruka Ono, Yoshie Sawazaki, Takeo Matsuda, Takako Yamashita, Takeru Wakabayashi) (The Evening Course, Otemae Senior High School of Osaka Prefecture) 大阪府立大手前高等学校 定時制の課程 科学部 (代表：橋本 見志) (大阪府立大手前高等学校 定時制の課程)
SCp12	Experiment to synthesize Fulvic-iron complex in order to enrich the Antarctic Ocean using Blood Fall in Victoria Land, Antarctica 南極海を豊かにするための血の滝を用いたフルボ酸鉄形成実験	Taiga Shimizu (Osaka Prefectural Naganokita High School) 清水 大河 (大阪府立長野北高等学校)