The Tenth Symposium on Polar Science

PROGRAM

3 – 5 December 2019

National Institute of Polar Research (NIPR)

CONTENTS

Welcome

Welcome to the Tenth Symposium on Polar Science

The Tenth Symposium on Polar Science will be held at the National Institute of Polar Research (NIPR), Tokyo, Japan, from 3 to 5 December 2019. 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 “Future plan of Antarctic research: Towards phase X of the Japanese Antarctic Research Project (2022-2028) and beyond”.

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

We look forward to your active participation.

Gen Hashida
Secretary,
The 10th Symposium on Polar Science executive committee

Session list

Special Session

[S] Future plan of Antarctic research: Towards phase X of the Japanese Antarctic Research Project (2022-2028) and beyond

Interdisciplinary Sessions

[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

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
3 Dec (Tue)		10:00-10:10 Opening address				S
	AM	10:10-12:10 S				
	Lunch time					
	PM	13:15-16:20 S				
	Poster	16:30-18:00 **Poster Session Core Time (for sessions S)** At NIPR 1F Entrance Hall				
	Banquet	18:30-20:00 Symposium Banquet @ NIPR Multipurpose Conference room (3rd floor of the Building of Antarctic Operation Center)				
4 Dec (Wed)	AM	10:00-12:00 OM	09:55-11:45 OB	10:30-12:00 OG	09:45-12:00 IW	OA OB OG OM OS IW
	Lunch time					
	PM	13:30-16:10 OM	12:50-16:20 OB	13:20-16:20 OG	13:00-16:00 OS	
	Poster	16:30-18:00 **Poster Session Core Time (for sessions OA, OB, OG, OM, OS, IW)** At NIPR 1F Entrance Hall				
	Eve	18:30-20:00 OM Party at NIPR 4F Lounge	18:30-20:00 OB Party at NIPR 5F Lounge	18:30-20:00 OG Party at NIPR 6F Lounge	18:30-20:00 OS & IW Joint Party at NIPR 3F Lounge	
5 Dec (Thu)	AM	10:00-12:00 OM	10:00-12:00 OA			
	Lunch time					
	PM	13:30-15:30 OM	13:30-15:45 OA			

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 core time of poster sessions on Tuesday (16:30-18:00) and Wednesday (16:30-18:00) 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 16:00 on Thursday 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.

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 by December 1st.

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 at “Southern Cross” by the Polar Science Museum. 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

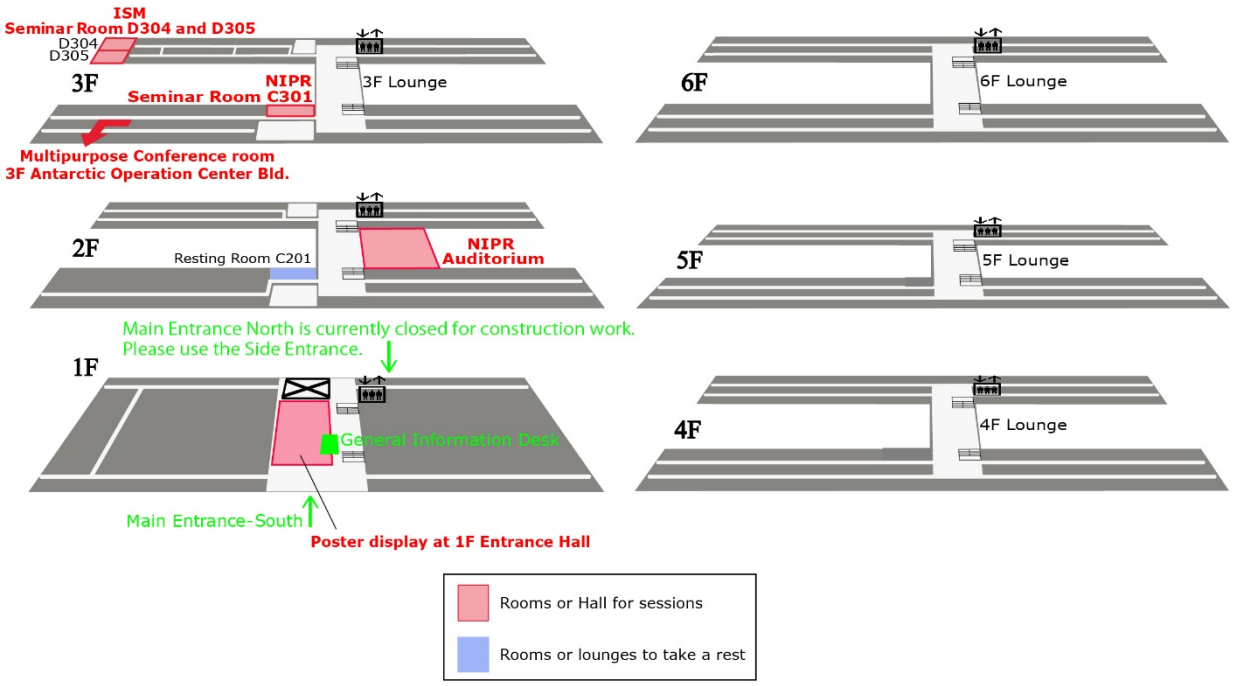
NIPR will host an informal buffet-style symposium banquet on the evening of Dec. 3rd as follows. All the symposium participants are welcome to attend (regardless of pre-registration).

Date and Time : Tue., Dec. 3rd 18:30 - 20:00
Place : Multipurpose Conference room (3rd floor of the building of Antarctic Operation Center)
Entrance fee : 2,000 yen (1,000 yen for students)
Payment : at the banquet reception

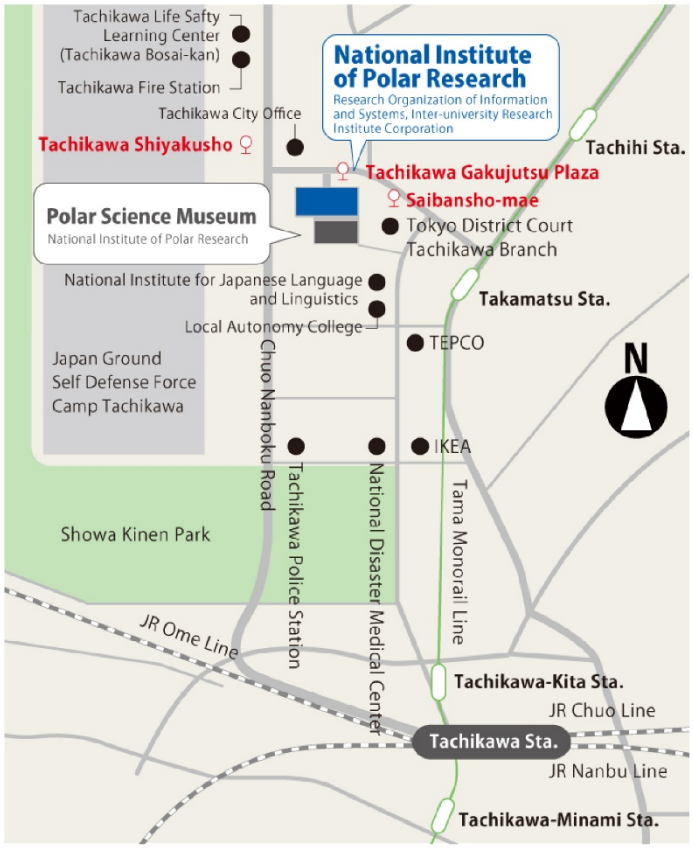
Session parties

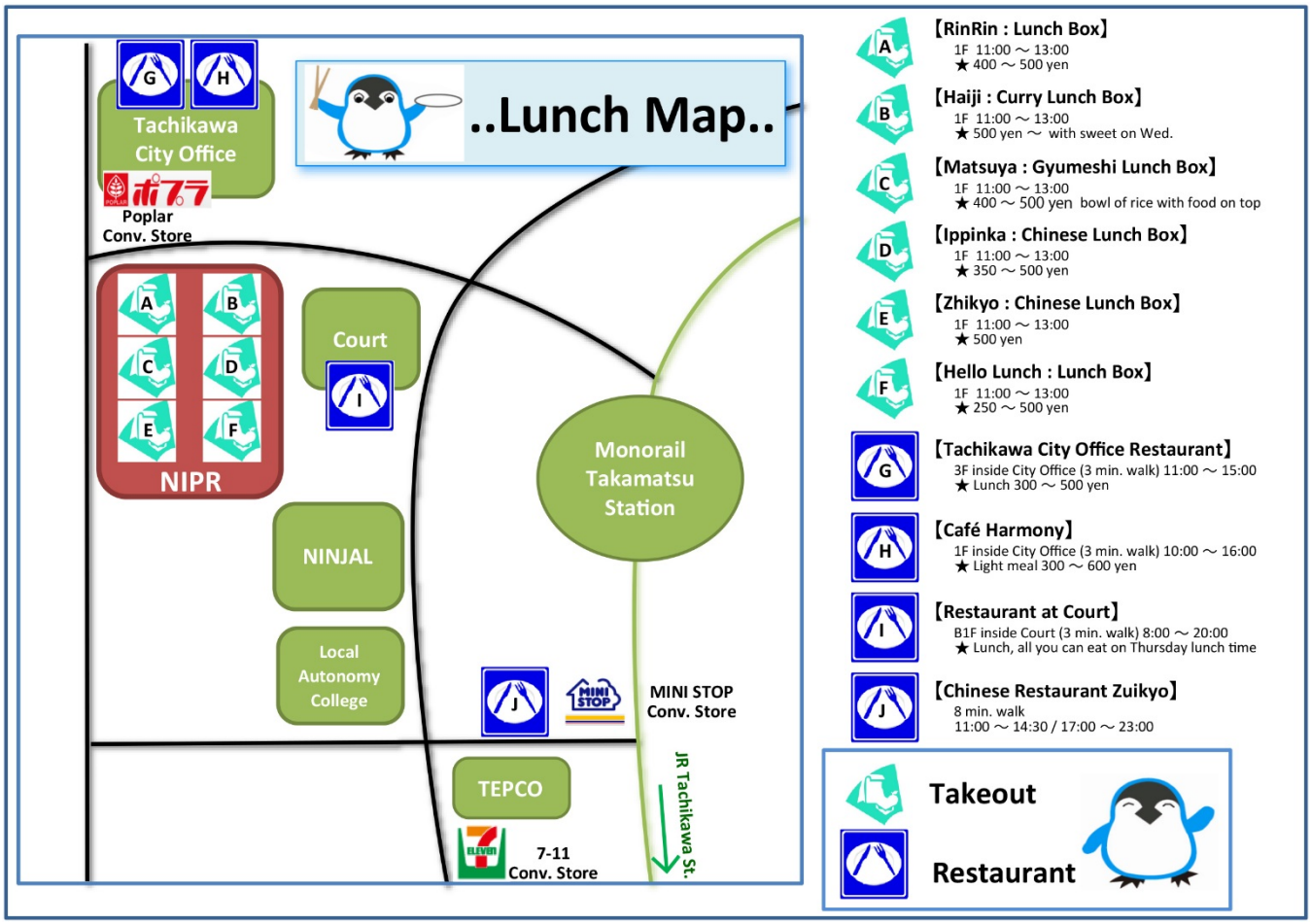
Some session parties (smaller, informal buffet-style parties with drinks and some food after the afternoon session) at NIPR are also planned by session conveners on the evening of Dec. 4th. Please refer to the symposium time table and register at each session reception desk. Everyone is welcome to join 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..
Tachikawa City Office
Poplar Conv. Store
NIPR
Court
NINJAL
Local Autonomy College
Monorail Takamatsu Station
MINI STOP Conv. Store
TEPCO
7-11 Conv. Store
JR Tachikawa St.
【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

The 10th 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, IW, OB...) are described in the session list below.

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
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Date	**Time**	**Same as above**	**Same as above**	**Same as above**	**Same as above**	**Same as above**
5 Dec (Thu)	AM	10:00-12:00 OM	10:00-12:00 OA			
	Lunch time					
	PM	13:30-15:30 OM	13:30-15:45 OA			

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ISM : Institute of Statistics and Mathematics

Session list and session code

Special session

- [S] Future plan of Antarctic research: Towards phase X of the Japanese Antarctic Research Project (2022-2028) and beyond.

Interdisciplinary sessions

- [IW] Whole atmosphere

Ordinary sessions

- [OA] Antarctic Meteorites
- [OB] Polar Biology
- [OG] Polar Geosciences

- [OM] Polar Meteorology and Glaciology
- [OS] Space and upper-atmosphere sciences

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

Special session
[S] Future plan of Antarctic research: Towards phase X of the Japanese Antarctic Research Project (2022-2028) and beyond.

Scopes

The phase IX of the Japanese Antarctic Research Projects, centered on the main scientific theme of “Investigation of changes in the Earth system from Antarctica” has been initiated from 2016 and entered the latter half of the six-year program. It is time to consider next phase X of the Japanese Antarctic Research Project (2022-2028) and beyond. This session features keynote lectures on present status and prospects of Antarctic research, presentations of research proposals from various scientific fields including interdisciplinary studies, and discussions toward next six years project of the Japanese Antarctic Research commenced from 2022.

Conveners : **Yoshifumi Nogi, Gen Hashida, Shuki Ushio, Koichiro Doi, Akira S. Yukimatu and Akinori Takahashi (NIPR)**
Note: [I] represents an invited talk.

Oral presentations (10:10 – 12:10, 13:15 – 16:20)

Date : Tue. 3 Dec.

Place : 2F Auditorium, National Institute of Polar Research

10:00 - 10:10	Opening address		
Chair: Shuki Ushio (NIPR), Koichiro Doi (NIPR)			
10:10 - 10:40	**[I]** Beyond EPICA - Oldest Ice Core: The European effort to obtain a 1.5 Myr greenhouse gas - climate feedback record from an ice core in East Antarctica	*Carlo Barbante (Ca' Foscari University of Venice)	PDF
10:40 - 11:00	A paleo-environmental study in JARE Phase X - Deep ice coring in the Dome Fuji area for “Oldest Ice Core”-	*Kawamura Kenji (National Institute of Polar Research)	PDF
11:00 - 11:20	Understanding of the sensitivity of East Antarctic Ice Sheet to global climatic and oceanic changes based on reconstruction/observation of the ice sheet geometry, volume, and interactions in ocean-ice-solid earth	*Hideki Miura (National Institute of Polar Research)	PDF
11:20 - 11:50	**[I]** Why do we find so many meteorites on the Nansen blue ice field and where else could we look?	*Harry Zekollari (Delft University of Technology (Netherlands)), Steven Goderis (Vrije Universiteit Brussel (Belgium)), Vinciane Debaille (Universit* libre de Bruxelles (Belgium)), Matthias van Ginneken (University of Kent (United Kingdom)), J*ro*me Gattacceca (CEREGE (France)), A J Timothy Jull (University of Arizona (United States of America)), Jan Lenaerts (University of Colorado (United States of America)), Akira Yamaguchi (National Institute of Polar Research (Japan)), Naoya Imae (National Institute of Polar Research (Japan)), Philippe Huybrechts (Vrije Universiteit Brussel (Belgium)), Veronica Tollenaar (Delft University of Technology (Netherlands)), Stef Lhermitte (Delft University of Technology (Netherlands)), Philippe Claeys (Vrije Universiteit Brussel (Belgium))	PDF
11:50 - 12:10	The Final Frontier for Satellite Laser Ranging: Antarctica	*Toshimichi Otsubo (Hitotsubashi University)	PDF
Lunch			
Chair: Akira S. Yukimatu (NIPR), Shuki Ushio (NIPR)			
13:15 - 13:35	Understanding space weather and space climate from Antarctica	*Ryuho Kataoka	PDF
13:35 - 13:55	Current status and future plan of the Program of the Antarctic Syowa MST/IS radar (PANSY)	*Kaoru Sato (Department of Earth and Planetary Science, The University of Tokyo), Masaki Tsutsumi (National Institute of Polar Research, and The Graduate University for Advanced Studies), Toru Sato (Institute for Liberal Arts and Sciences, Kyoto University), Takuji Nakamura (National Institute of Polar Research, and The Graduate University for Advanced Studies), Akinori Saito (Department of Geophyscis, Kyoto University), Yoshihiro Tomikawa (National Institute of Polar Research, and The Graduate University for Advanced Studies), Koji Nishimura (National Institute of Polar Research, and The Graduate University for Advanced Studies), Masashi Kohma (Department of Earth and Planetary Science, The University of Tokyo), Taishi Hashimoto (National Institute of Polar Research, and The Graduate University for Advanced Studies)	PDF
13:55 - 14:25	**[I]** The Past, Present, and Future of the Antarctic Automatic Weather Station Network	*Matthew Lazzara (Madison Area Technical College and University of Wisconsin-Madison), Lee Welhouse (University of Wisconsin-Madison), David Mikolajczyk (University of Wisconsin-Madison), Andy Kurth (Madison Area Technical College), Josh Thorsland (Madison Area Technical College), Forbes Filip (Madison Area Technical College), Taylor Norton (University of Wisconsin-Madison), Sophie Orendorf (University of Wisconsin-Madison), George Weidner (University of Wisconsin-Madison), Allison Boerner (University of Wisconsin-Madison), Linda Keller (University of Wisconsin-Madison)	PDF
14:25 - 14:40	Coffee Break		
Chair: Akinori Takahashi (NIPR), Gen Hashida (NIPR)			
14:40 - 15:00	The investigation into the Ice shelf-Ocean Interaction of East Antarctica with special focusing on the Ocean Circulation	*Kohei Mizobata (Tokyo University of Marine Science and Technology), Takeshi Tamura (National Institute of Polar Research), Daisuke Hirano (The Institute of Low Temperature Science, Hokkaido University), Ryosuke Makabe (National Institute of Polar Research)	PDF

15:00 - 15:20	Long-term and wide-range research on sea ice ecosystem changes in East Antarctica: Observations by top predators	*Nobuo Kokubun (NIPR, SOKENDAI), Yuuki Watanabe (NIPR, SOKENDAI), Kozue Shiomi (NIPR, SOKENDAI), Akinori Takahashi (NIPR, SOKENDAI)	
15:20 - 15:50	**[I]** Towards an Antarctic Near shore and Terrestrial Observing System (ANTOS)	*Sharon Robinson (University of Wollongong), Diana King (University of Wollongong)	
15:50 - 16:20	**[I]** Facilitation of Internationally Collaborative Antarctic Research	*Michelle Rogan-Finnemore (COMNAP Secretariat)	
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)

Date : Tue. 3 Dec.

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

Sp1	Atmospheric temperature effect on Cosmic Ray count rate observed at Syowa Station in Antarctic	Chihiro Kato (Shinshu University), Wataru Kihara (Shinshu University), Yukino Ko (Shinshu University), Akira Kadokura (NIPR), Ryuho Kataoka (NIPR), *Kazuoki Munakata (Shinshu University)	
Sp2	SuperDARN future plan for Phase X JARE project	*Akira Sessai Yukimatu (ROIS/NIPR, SOKENDAI), Tsutomu Nagatsuma (NICT), Nozomu Nishitani (ISEE, Nagoya Univ.), Tomoaki Hori (ISEE, Nagoya Univ.), Keisuke Hosokawa (UEC), Masakazu Watanabe (ICSWSE, Kyushu Univ.), Hideaki Kawano (ICSWSE, Kyusyu Univ.), Yuka Kadowaki (ROIS/PEDSC)	
Sp3	Aurora and Airglow Observations with an All-Sky Imager on Shirase to Fill the Observation Gap over the Southern Ocean	*Takeshi Sakanoi (Tohoku University), Naoshi Yagi (Tohoku University), Yuta Hozumi (University of Electro-Communications), Takuo Tsuda (University of Electro-Communications), Takeshi Aoki (University of Electro-Communications), Akinori Saito (Kyoto University), Mitsumu Ejiri (National Institute of Polar Research), Takanori Nishiyama (National Institute of Polar Research), Takahiro Naoi (National Institute of Information and Communications Technology)	
Sp4	Spectral riometer observation of atmospheric ionization due to energetic electron precipitation	*Yoshimasa Tanaka (National Institute of Polar Research), Antti Kero (Sodankyla Geophysical Observatory, Finland), Koji Nishimura (National Institute of Polar Research), Ryuho Kataoka (National Institute of Polar Research), Ogawa Yasunobu (National Institute of Polar Research), Takanori Nishiyama (National Institute of Polar Research), Akira Kadokura (National Institute of Polar Research), Akira Yukimatu (National Institute of Polar Research), Hisao Yamagishi (National Institute of Polar Research), Yoshizumi Miyoshi (Institute for Space-Earth Environmental Research, Nagoya University), Mitsunori Ozaki (Kanazawa University), Fuminori Tsuchiya (Tohoku University), Masaki Tsutsumi (National Institute of Polar Research)	
Sp5	Mult-wavelength, simultaneous observations of auroras at South Pole and McMurdo stations	*Yusuke Ebihara (RISH, Kyoto University), Akira Kadokura (ROIS-DS, Polar Environment Data Science Center, National Institute of Polar Research, The Graduate University for Advanced Studies, SOKENDAI), Yasunobu Ogawa (National Institute of Polar Research, The Graduate University for Advanced Studies, SOKENDAI), Tetsuo Motoba (Applied Physics Laboratory, The Johns Hopkins University), Hosokawa Keisuke (The University of Electro-Communications)	
Sp6	Development of an imager specialized in an observation of noctilucent clouds in high latitude regions	*Yuriko Nakamura (Meiji University), Hidehiko Suzuki (Meiji University)	
Sp7	Global Lightning Activity and Its Relation to the Atmospheric Variability Measured by ELF Observations at Syowa Station	Mitsuteru Sato (Faculty of Science, Hokkaido University), Akira Kadokura (Polar Environment Data Science Center (PEDSC), Joint Support-Center for Data Science Research (DS)), *Sessai Akira Yukimatu (Space and Upper Atmospheric Sciences Group, National Institute of Polar Research (NIPR))	
Sp8	Antarctic Study on Tropospheric Aerosol and Snow Chemistry (ASTASC) in JARE Phase X	*Keiichiro Hara (Fukuoka Univ.), Masanori Yabuki (RISH, Kyoto Univ.), Hiroshi Kobayashi (Yamanashi Univ.), Sumito Matoba (ITLS, Hokkaido Univ.), Yoshinori Iizuka (ITLS, Hokkaido Univ.), Norimichi Takenaka (Osaka Prefe. Univ.), Shohei Hattori (TITECH), Hisahiro Takashima (Fukuoka Univ.), Fumihisa Kobayashi (Hirosaki Univ.), Sakiko Ishino (NIPR), Naohiko Hirasawa (NIPR), Masahiko Hayashi (FUkuoka Univ.)	
Sp9	LODEWAVE: LOng-Duration balloon Experiment of gravity WAVE over Antarctica	*Yoshihiro Tomikawa (National Institute of Polar Research), Kaoru Sato (The University of Tokyo), Yoshitaka Saito (Japan Aerospace Exploration Agency), Isao Murata (Tohoku University), Naohiko Hirasawa (National Institute of Polar Research), Masashi Kohma (The University of Tokyo), Kyoichi Nakashino (Tokai University), Daisuke Akita (Tokyo Institute of Technology), Takuma Matsuo (Meiji University), Masatomo Fujiwara (Hokkaido University), Rihito Yoshida (The Graduate University for Advanced Studies, SOKENDAI)	
Sp10	Establishment of Unmanned aerial vehicle systems for Earth system sciences in the polar region	*Masahiko Hayashi (Fukuoka unversity), Shin-ichiro Higashino (Kyushu University), Naohiko Hirasawa (NIPR), Keiichi Ozuka (Fukuoka University/Nippon tungsten)	
Sp11	Future efforts to contribute to the International Height Reference System (IHRS)	*Koichiro Doi (Nationa Institute of Polar Research), Yoshifumi Nogi (Nationa Institute of Polar Research), Yuichi Aoyama (Nationa Institute of Polar Research), Akihisa Hattori (The Graduate University for Advanced Studies, SOKENDAI), Yoichi Fukuda (Kyoto University)	
Sp12	Basement geological research of East Antarctica	*Tomokazu Hokada (NIPR), Kenji Horie (NIPR), Yoichi Motoyoshi (NIPR), Yoshifumi Nogi (NIPR)	
Sp13	Research proposal for the Hadean-Eoarchean geological research in the Eoarchean high-grade orthogneiss, Mount Sones, Endarby Land, Antarctica	*Shinji Yamamoto (Yokohama National University)	
Sp14	Links between global magmatism and GIA -Future plan-	*Tatsuo Kanamaru (Nihon University), Kenichiro Tani (National Museum of Nature and Science, Japan), Masahiro Ishikawa (Yokohama National University), Kuniyuki Furukawa (Aichi University), Masakazu Fujii (National Institude of Polar Research), Osamu Ishizuka (Geological Survey of Japan/AIST), Jun'ichi Okuno (National Institude of Polar Research)	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

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 Takanori Nishiyama (NIPR)**
Note: [I] represents an invited talk.
[J] represents a talk in Japanese.

Oral presentations (9:45 – 12:00)

Date : Wed. 4 Dec.

Place : The Institute of Statistical Mathematics Seminar room 2 (D304) (3rd floor)

Chair: Mitsumu K. Ejiri (NIPR)			
9:45-10:00	Propagation direction analysis of medium-scale travelling ionospheric disturbances (MSTIDs) observed with 2D GPS-TEC map using M-transform	*Septi Perwitasari (NIPR), Takuji Nakamura (NIPR), Takuya Tsugawa (NICT), Yoshihiro Tomikawa (NIPR), Mitsumu K. Ejiri (NIPR), Masaru Kogure (NIPR)	
10:00-10:15	Statistical study on daytime sporadic sodium layers (SSLs) at Beijing, China (40.6°N, 116.2°E)	Yuan Xia (Institute for Space-Earth Environmental Research, Nagoya University), *Satonori Nozawa (Institute for Space-Earth Environmental Research, Nagoya University), Guotao Yang (National Space Science Center, Chinese Academy of Sciences), Jihong Wang (National Space Science Center, Chinese Academy of Sciences), Xuewu Cheng (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences), Faquan Li (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences)	
10:15-10:45	**[I]** Studies of Dust in the Polar Mesosphere	*Ingrid Mann (UiT Arctic University of Norway)	
10:45-11:00	Simultaneous Observations of Polar Mesosphere Winter Echoes and Cosmic Noise Absorptions in a Common Volume by the PANSY Radar (69.0°S, 39.6°E)	*Takanori Nishiyama (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Kaoru Sato (Department of Earth and Planetary Science, The University of Tokyo), Takuji Nakamura (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Masaki Tsutsumi (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Toru Sato (Department of Communications and Computer Engineering, Kyoto University), Yoshimasa Tanaka (National Institute of Polar Research, The Graduate University for Advanced Studies, SOKENDAI, and Polar Environment Data Science Center, Joint Support-Center for Data Science Research, Research Organization of Information and Systems), Koji Nishimura (National Institute of Polar Research, The Graduate University for Advanced Studies, SOKENDAI, and Polar Environment Data Science Center, Joint Support-Center for Data Science Research, Research Organization of Information and Systems), Yoshihiro Tomikawa (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Masashi Kohma (Department of Earth and Planetary Science, The University of Tokyo)	
11:00-11:15	Effects of solar proton events on ozone and temperature in the latest reanalysis data	*Yoshihiro Tomikawa (National Institute of Polar Research)	
11:15-11:30	A statistical analysis of the spectral width of the PMWE observed by the PANSY radar at Syowa Station in the Antarctic	*Masashi Kohma (Graduate School of Science, The University of Tokyo), Kaoru Sato (Graduate School of Science, The University of Tokyo), Koji Nishimura (NIPR, SOKENDAI), Masaki Tsutsumi (NIPR, SOKENDAI), Toru Sato (Institute for Liberal Arts and Sciences, Kyoto University)	
11:30-11:45	Reproducibility of gravity waves over the Antarctic in the ERA5 by comparison with PANSY	*Lihito Yoshida (SOKENDAI), Yoshihiro Tomikawa (NIPR, SOKENDAI), Mitumu K. Ejiri (NIPR, SOKENDAI), Masashi Kohma (Univ. of Tokyo), Kaoru Sato (Univ. of Tokyo)	
11:45-12:00	**[J]** Fine structure of the tropopause revealed by the PANSY radar at Syowa Station in the Antarctic	*Masatoshi Mizukoshi (Department of Earth and Planetary Science, The University of Tokyo), Masashi Kohma (Department of Earth and Planetary Science, The University of Tokyo), Kaoru Sato (Department of Earth and Planetary Science, The University of Tokyo), Masaki Tsutsumi (National Institute of Polar Research and The Graduate University for Advanced Studies, SOKENDAI)	
Lunch			
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)

Date : Wed. 4 Dec.

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

IWp1	Study of atmospheric stability in the polar lower thermosphere and upper mesosphere by using simultaneous 5-directional observations at Tromsø	*Sakiho Maeda (ISEE, Nagoya University), Satonori Nozawa (ISEE, Nagoya University), Takuya D. Kawahara (Shinshu University), Norihito Saito (RIKEN), Takuo T. Tsuda (UEC), Satoshi Wada (RIKEN), Toru Takahashi (University of Oslo), Tetsuya Kawabata (ISEE, Nagoya University), Chris Hall (UiT The Arctic University of Norway)	
IWp2	Spatiotemporal variation of surface atmospheric 7Be from Australia to Syowa Station, and S17	*Naohiko Hirasawa (NIPR), Taku Nakamura (Gifu University), Miyoko Miwa (Gifu University), Tetsuro Ojio (Nagoya City Science Museum), Kyohei Yamada (NIPR & Nagano Prefecture Environment Research Center), Shigeki Tasaka (Gifu University)	
IWp3	Temporal variation of HCl and HF observed at Tsukuba related to the change of the meridional circulation in the northern lower stratosphere	*Isao Murata (Graduate School of Environmental Studies, Tohoku University), Yoshihiro Tomikawa (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Isamu Morino (National Institute for Environmental Studies), Hideaki Nakajima (National Institute for Environmental Studies), Hideharu Akiyoshi (National Institute for Environmental Studies)	
IWp4	PMC detection method applying to Himawari-8 data	*Kento Kawaura (UEC), Takuo T. Tsuda (UEC), Yuta Hozumi (UEC), Yoshiaki Ando (UEC), Keisuke Hosokawa (UEC), Hedehiko Suzuki (Meiji University), Takuji Nakamura (National Institute of Polar Research), Takeshi Murata (National Institute of Information and Communications Technology)	
IWp5	Comparison Between Phase Velocity Spectra of Gravity Wave over Syowa and Davis, the Antarctic, using OH Airglow Imagers: Where Are Origins of Gravity Wave with High Phase Speed?	*Masaru Kogure (National Institute of Polar Research, Tachikawa, Japan), Takuji Nakamura (National Institute of Polar Research, Tachikawa, Japan), Yoshihiro Tomikawa (National Institute of Polar Research, Tachikawa, Japan), Mitsumu K. Ejiri (National Institute of Polar Research, Tachikawa, Japan), Takanori Nishiyama (National Institute of Polar Research, Tachikawa, Japan), Masaki Tsutsumi (National Institute of Polar Research, Tachikawa, Japan), Michael J. Taylor (Physics Department, Utah State University, Logan, Utah, USA), Yucheng Zhao (Physics Department, Utah State University, Logan, Utah, USA), P.-Dominique Pautet (Physics Department, Utah State University, Logan, Utah, USA), Damian J. Murphy (Australian Antarctic Division, Kingston, Tasmania, Australia)	
IWp6	Development of multi-frequency mm-wave spectrometer for atmospheric observation	*Akira Mizuno (ISEE, Nagoya U.), Tomoo Nagahama (ISEE, Nagoya U.), Taku Nakajima (ISEE, Nagoya U.), Takahiro Kosegaki (ISEE, Nagoya U.), Syoki Iriyama (ISEE, Nagoya U.), Genma Mizoguchi (ISEE, Nagoya U.), Kohei Haratani (ISEE, Nagoya U.), Hiroyuki Iwata (ISEE, Nagoya U.), Daichi Tsutsumi (Nagoya U.), Naoto Sekiya (U. of Yamanashi), Takuma Hayashi (U. of Yamanashi), Yoshihiro Tomikawa (NIPR), Mitsumu K. Ejiri (NIPR), Kaoru Sato (U. of Tokyo)	
IWp7	Development and experiment plan for future of the selective landing area carrier system for small sounding balloons	*Takamasa Hiratsuka (Kochi University of Technology graduate school of the engineering department of engineering), Masa-yuki Yamamoto (Kochi University of Technology engineering course)	
IWp8	Preliminary results of Ca+ observation at Syowa Station and Japan by a frequency-tunable resonance scattering lidar	*Mitsumu K. Ejiri (NIPR), Takanori Nishiyama (NIPR), Takuo T. Tsuda (The Univ. of Electro-Communications), Takuji Nakamura (NIPR), Makoto Abo (Tokyo Metropolitan Univ.), Katsuhiko Tsuno (RIKEN, RAP), Takuya D. Kawahara (Shinshu Univ.), Takayo Ogawa (RIKAN, RAP), Satoshi Wada (RIKAN, RAP)	
IWp9	Statistical study of Sporadic Sodium Layer (SSL) observed at the high latitude station at Tromsoe	*Satonori Nozawa (ISEE, Nagoya University), Takuo T. Tsuda (The University of Electro-Communications), Norihito Saito (RIKEN Center for Advanced Photonics), Toru Takahashi (University of Oslo), Takuya D. Kawahara (Shinshu University), Yasunobu Ogawa (NIPR), Hitoshi Fujiwara (Seikei University), Satoshi Wada (RIKEN Center for Advanced Photonics), Tetsuya Kawabata (ISEE, Nagoya University), Chris Hall (UiT The Arctic University of Norway), Asgeir Brekke (UiT The Arctic University of Norway)	
IWp10	Formation Mechanism for a Front-like Temperature Structure during a stratospheric sudden warming event in 2016	*Yukari Sumi (The University of Tokyo), Kaoru Sato (The University of Tokyo)	
IWp11	Vertical Structure of Terdiurnal Tides in the Antarctic MLT Region: 15-Year Observation Over Syowa	*Huixin Liu (Kyushu University, Japan), Masaki Tsutsumi (NIPR, Japan), Hanli Llu (NCAR, US)	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

[OA] Antarctic meteorites

Scopes

This session is held 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)**

Note: [I] represents an invited talk.

Oral presentations (10:00 – 12:00, 13:30 – 15:45)

Date : Thu. 5 Dec.

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

Chair: Takaaki Noguchi (Kyushu University), Mutsumi Komatsu (SOKENDAI)			
10:00 - 10:15	Size distribution of Antarctic micrometeorites stored in surface snow near Dome Fuji Station	*Takaaki Noguchi (Kyushu University), Minako Takase (Kyushu University), Takahito Tominaga (Kyushu University), Akira Yamaguchi (NIPR), Naoya Imae (NIPR)	PDF
10:15 - 10:30	Y-791498 and A-881828: The least-altered CR chondrites in NIPR Antarctic meteorite collection.	*Mutsumi Komatsu (SOKENDAI), Timothy J. Fagan (Waseda University), Akira Yamaguchi (NIPR), Makoto Kimura (NIPR), Masahiro Yasutake (Ritsumeikan University), Takashi Mikouchi (University of Tokyo), Mike Zolensky (NASA/JSC)	PDF
10:30 - 10:45	Organosulfur compounds in carbonaceous chondrites: Implications for organic reaction pathways in the meteorite parent bodies	*Hiroshi Naraoka (Kyushu University)	PDF
10:45 - 11:00	The investigation of back-transformation mechanisms of ringwoodite and majorite in the Yamato 75267 H6	Kanta Fukimoto (Hiroshima University), *Masaaki Miyahara (Hiroshima University), Takeshi Sakai (GRC, Ehime University), Hiroaki Ohfuji (GRC, Ehime University), Tomioka Naotaka (JAMSTEC), Yu Kodama (Marine Works Japan), Eiji Ohtani (Tohoku University), Akira Yamaguchi (NIPR)	PDF
Chair: Mitsuru Ebihara (Waseda University)			
11:00 - 12:00	**[I]** Terrestrial Ages of Antarctic and Hot Desert Meteorites Using Carbon-14 and Other Cosmogenic Radionuclides	*A J Timothy Jull (Department of Geosciences, University of Arizona)	PDF
Lunch			
Chair: Toru Yada (ISAS/JAXA), Atsushi Takenouchi (NIPR)			
13:30 - 13:45	Elucidation of aqueous alteration of Yamato 000749 based on multi-probe microscopy	*Naoki Shiraishi (Hiroshima University)	PDF
13:45 - 14:00	Petrological study of Asuka 12325: the least shock-metamorphosed shergottite	*Atsushi Takenouchi (NIPR), Akira Yamaguchi (NIPR), Takashi Mikouchi (The University of Tokyo)	PDF
14:00 - 14:15	Asuka 12325: A new depleted shergottite	*Vinciane Debaille (Laboratoire G-Time, Université Libre de Bruxelles), Geneviève Hublet (Laboratoire G-Time, Université Libre de Bruxelles), Jérôme Roland (Laboratoire G-Time, Université Libre de Bruxelles), Hamed Pourkhorsandi (Laboratoire G-Time, Université Libre de Bruxelles), Steven Goderis (AMGC, Vrije Universiteit Brussel)	PDF
14:15 - 14:30	Cathodoluminescence imaging and X-ray diffraction analysis of shocked eucrites	*Rei Kanemaru (SOKENDAI), Naoya Imae (NIPR), Akira Yamaguchi (NIPR), Hirotsugu Nishido (Okayama Univ. of Sci.)	PDF
14:30 - 14:45	Coffee Break		
Chair: Toru Yada (ISAS/JAXA), Atsushi Takenouchi (NIPR)			
14:45 - 15:00	Petrogenesis of Yamato-75032 type diogenites	*Akira Yamaguchi (National Institute of Polar Research), Jean-Alix Barrat (UBO-IUEM), Naoki Shirai (Tokyo Metropolitan University)	PDF
15:00 - 15:15	On the relationship between textures and cooling rates of quenched angrites	*Hideyuki Hayashi (Dept. of Earth and Planet. Sci., The University of Tokyo), Takashi Mikouchi (The University Museum, The University of Tokyo)	PDF
15:15 - 15:30	Preparation for curation of Hayabusa2-returned samples in JAXA	*Toru Yada (ISAS/JAXA), M. Abe (ISAS/JAXA), A. Kakato (ISAS/JAXA), K. Yogata (ISAS/JAXA), M. Nishimura (ISAS/JAXA), T. Okada (ISAS/JAXA), A. Miyazaki (ISAS/JAXA), M. Yoshitake (ISAS/JAXA), S. Furuya (ISAS/JAXA), T. Hayashi (ISAS/JAXA), D. Yamamoto (ISAS/JAXA), K. Kumagai (Marine Works Japan), A. Iwamae (ISAS/JAXA), K. Sakamoto (Univ. of Tokyo), S. Tachibana (Univ. of Tokyo), H. Yurimoto (Hokkaido Univ.)	PDF
15:30 - 15:45	In-depth analysis of the single grain from the C-type asteroid Ryugu utilizing linkage microanalytical instruments planed by Phase 2 curation “Team Kochi”	*Motoo Ito (JAMSTEC), Naotaka Tomioka (JAMSTEC), Masayuki Uesugi (JASRI/SPring-8), Kentaro Uesugi (JASRI/SPring-8), Takuji Ohigashi (UVSOR), Akira Yamaguchi (NIPR), Naoya Imae (NIPR), Naoki Shirai (Tokyo Met. Univ), Yuzuru Karouji (JAXA/ISAS), Yu Kodama (MWJ), Hayato Yuzawa (UVSOR), Toru Yada (JAXA/ISAS), Masanao Abe (JAXA/ISAS)	PDF

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[OA] Antarctic meteorites

Scopes

This session is held 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)**

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

Date : Wed. 4 Dec.

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

OAp1	Bulk composition of the Kaba meteorite by ICP OES and ICP MS	Arpad Csamer (University of Debrecen, Debrecen, Hungary), David Nagy (University of Debrecen, Debrecen, Hungary), Jozsef Posta (University of Debrecen, Debrecen, Hungary), Aron Soos (University of Debrecen, Debrecen, Hungary), Erika Nyeste (University of Debrecen, Debrecen, Hungary), Bela Kovacs (University of Debrecen, Debrecen, Hungary), Jozsef Vanyo (Eszterhazy Karoly University, Eger, Hungary), *Gabor Zelei (University of Debrecen, Debrecen, Hungary), Arnold Gucsik (Eszterhazy Karoly University, Eger, Hungary)	
OAp2	Forsterite from Kaba Meteorite and its Implication for Astromineralogy	*Arnold Gucsik (Eszterhazy Karoly University, Eger, Hungary), Mihaly Nagy (Reformed College. Debrecen, Hungary), Arpad Csamer (University of Debrecen, Debrecen, Hungary), Jozsef Vanyo (Eszterhazy Karoly University, Eger, Hungary), Gabor Zelei (University of Debrecen, Debrecen, Hungary), Peter Rozsa (University of Debrecen, Debrecen, Hungary)	
OAp3	Analysis of Kaba using Computed Tomography and 3D Laser Imaging Techniques	Peter Rozsa (University of Debrecen, Debrecen, Hungary), Jozsef Kollar (University of Debrecen, Debrecen, Hungary), Mihaly Endes (University of Debrecen, Debrecen, Hungary), Mihaly Nagy (Reformed College, Debrecen, Hungary), Arpad Csamer (University of Debrecen, Debrecen, Hungary), *Jozsef Vanyo (Eszterhazy Karoly University, Eger, Hungary), Gabor Zelei (University of Debrecen, Debrecen, Hungary), Arnold Gucsik (Eszterhazy Karoly University, Eger, Hungary)	
OAp4	A review of a carbonaceous chondrite: what can we learn from the Kaba meteorite?	*Arpad Csamer (University of Debrecen, Debrecen, Hungary), Arnold Gucsik (Eszterhazy Karoly University, Eger, Hungary), Jozsef Vanyo (Eszterhazy Karoly University, Eger, Hungary), Diana Skita (University of Debrecen, Debrecen, Hungary), Peter Rozsa (University of Debrecen, Debrecen, Hungary), Gabor Zelei (University of Debrecen, Debrecen, Hungary), Mihaly Nagy (Reformed College, Debrecen, Hungary)	
OAp5	Detection of Soluble Organic Matter in Antarctic Micrometeorites	*Yui Ishikawa (Graduate School of Science, The University of Tokyo), Kota Yamamoto (Graduate School of Science, The University of Tokyo), Minako Hashiguchi (Graduate School of Science, Kyushu University), Hiroshi Naraoka (Graduate School of Science, Kyushu University), Toru Yada (Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency), Tatsuaki Okada (Graduate School of Science, The University of Tokyo, and Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency)	
OAp6	Lattice strain analyses for the L6 ordinary chondrites by the X-ray diffraction method	*Naoya Imae (NIPR)	
OAp7	An attempt to reproduce petrographic features of mesosiderites	*Naoji Sugiura (Chiba Institute of Tachnology), Naoya Imae (National Institute of Polar research), Tomoko Arai (Chiba Institute of Technology), Takafumi Matsui (Chiba Institute of Technology)	
OAp8	Petrologic subtypes of CM chondrites: Reinvestigation and proposal of subtypes 3.0 to 2.8	*Makoto Kimura (National Institute of Polar Research), Naoya Imae (National Institute of Polar Research), Mutsumi Komatsu (SOKENDAI), Akira Yamaguchi (National Institute of Polar Research), Takaaki Noguchi (Kyusyu University)	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

[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

Conveners : **Kunio Takahashi (NIPR)**
Note: [I] represents an invited talk.

Oral presentations (9:55 - 11:45, 12:50 - 16:20)

Date : Wed. 4 Dec.

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

Chair: Kunio Takahashi (NIPR)			
9:55 - 10:00	OPENING		
Chair: Satoshi Imura (NIPR)			
10:00 - 10:30	**[I]** Drying of East Antarctic terrestrial ecosystems provokes rapid community change	*Sharon Robinson (University of Wollongong), Diana King (University of Wollongong), Melinda Waterman (University of Wollongong), Michael Ashcroft (University of Wollongong), Johanna Turnbull (University of Wollongong), Jane Wasley (Australian Antarctic Division), Quan Hua (Australian Nuclear Science and Technology Organisation)	PDF
10:30 - 10:55	Global distribution and dispersal pattern of snow algae	*Takahiro Segawa (University of Yamanashi), Ryo Matsuzaki (National Institute for Environmental Studies), Ayumi Akiyoshi (NIPR), Takahiro Yonezawa (Tokyo Universtiy of Agriculture), Francisco Navarro (Universidad Politécnica de Madrid), Hiroshi Mori (National Institute of Genetics), Nozomu Takeuchi (Chiba University)	PDF
10:55 - 11:20	Analysis of the Antimicrobial Activities of Antarctic Bacteria from Antarctic Lake Sediments with Special Focus on Those from Pedobacter sp. BG5	*Clemente Michael Vui Ling Wong (Universiti Malaysia Sabah), Sylvbryanie Salister (Universiti Malaysia Sabah), Dorathy Anak Jampi (Universiti Malaysia Sabah)	PDF
11:20 - 11:45	Tardigrades living on a sub-arctic glacier in Alaska	*Masato Ono (Chiba University), Nozomu Takeuchi (Chiba University), Zawierucha Krzysztof (Adam Mickiewicz University, Poland), Buda Jakub (Adam Mickiewicz University, Poland)	PDF
Lunch			
Chair: Nobuo Kokubun (NIPR)			
12:50 - 13:15	Is the loss of sea ice good or bad for Antarctic penguins?	*Yuuki Watanabe (NIPR), Kentaro Ito (SOKENDAI), Nobuo Kokubun (NIPR), Akinori Takahashi (NIPR)	PDF
13:15 - 13:40	Homing ability of Adélie penguins investigated by combination of displacement experiments and bio-logging	*Kozue Shiomi (NIPR), Nobuo Kokubun (NIPR), Ui Shimabukuro (SOKENDAI), Akinori Takahashi (NIPR)	PDF
13:40 - 14:05	Foraging ecology of short-tailed shearwater in the Southern Ocean	*Sarara Azumi (Hokkaido University), Yutaka Watanuki (Hokkaido University), Akinori Takahashi (NIPR), Nobuo Kokubun (NIPR), Yasuhiro Ando (Hokkaido University), Fernando Arce (University of Tasmania), Mary-Anne Lea (University of Tasmania), Mark Hindell (University of Tasmania)	PDF
14:05 - 14:30	Breeding together, wintering oceans apart: divergent migratory movements of thick-billed and common murres from St Lawrence Island, Northern Bering Sea	*Akinori Takahashi (NIPR), Jean-Baptiste Thiebot (NIPR), Alexis Will (NIPR & University of Alaska Fairbanks), Shota Tsukamoto (Hokkaido University), Alexander Kitaysky (University of Alaska Fairbanks)	PDF
14:30 - 14:40	Coffee Break		
Chair: Satoru Taguchi (NIPR)			
14:40 - 15:05	How to process sea ice for chlorophyll-based photosynthesis measurement of the ice algae?	*Kazuhiro Yoshida (Hokkaido University), Daiki Nomura (Hokkaido University), Dong Yan (Hokkaido University), Ondřej Prášil (Centre Algatech), Andrew McMinn (University of Tasmania), Koji Suzuki (Hokkaido University)	PDF
15:05 - 15:30	Sea ice melt affects algal photosynthesis and growth: A laboratory study on an ice algal community from the Sea of Okhotsk	*Dong Yan (Hokkaido University), Kazuhiro Yoshida (Hokkaido University), Jun Nishioka (Hokkaido University), Masato Ito (Hokkaido University), Koji Suzuki (Hokkaido University)	PDF
15:30 - 15:55	Changes in subsurface chlorophyll-a maximum in the Canada Basin, 2003-2019	*Sayaka Kumakawa (Tokyo University of Marine Science and Technology), Michiyo Yamamoto-Kawai (Tokyo University of Marine Science and Technology)	PDF
15:55 - 16:20	Zooplankton community structure and dominant copepod population structure on the southern Kerguelen Plateau during summer 2016	*Kohei Matsuno (Hokkaido University), Jake Wallis (University of Tasmania), So Kawaguchi (Australian Antarctic Division), Sophie Bestley (CSIRO Oceans and Atmosphere), Kerrie Swadling (University of Tasmania)	PDF
16:20 - 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)

Date : Wed. 4 Dec.

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

OBp1	Heterocyclic compounds degradation and characterization of Antarctic psychrophilic bacteria strain BS1	*Tatsuya Niwano (Shibaura Institute of Technology), Azham Zulkharnain (Shibaura Institute of Technology)	
OBp2	Optimisation for Enhancement of Phenol Degradation by ***Arthrobacter*** sp. Strain AQ5-15 from Antarctic Soil Using Conventional and Statistical Approach	*Kavilasni Subramaniam (Universiti Putra Malaysia), Noor Azmi Shaharuddin (Universiti Putra Malaysia), Azham Zulkharnain (Shibaura Institute Technology), Khalilah Abdul Khalil (Universiti Teknology MARA), Siti Aqlima Ahmad (Universiti Putra Malaysia)	
OBp3	Isolation and heterocyclic compounds degradation of Antarctic psychrophilic bacteria strain BS19	*Seiryu Take (Shibaura Institute of Technology), Azham Zulkharnain (Shibaura Institute of Technology)	
OBp4	Detection and isolation of genes involved in heterocyclic compounds degradation from Antarctic psychrophilic bacteria	*Azham Zulkharnain (Shibaura Institute of Technology), Seiryu Take (Shibaura Institute of Technology), Tatsuya Niwano (Shibaura Institute of Technology), Siti Aqlima Ahmad (Universiti Putra Malaysia)	
OBp5	Physiological characterization of a glacier living cyanobacterium, ***Phormidesmis priestleyi*** culture strain	*Yuri Tabuchi (Chuo University), Makiko Kosugi (Chuo University), Ayumi Kizawa (Chuo University), Hiroyuki Koike (Chuo University)	
OBp6	The new record of ***Philodina gregaria*** from Sôya Coast and life history of the species	*Tomotake Wada (SOKENDAI), Sakae Kudoh (NIPR)	
OBp7	Walking behaviour of Tardigrada	*Kurumi Yoshimura (Keio University), Megumu Tsujimoto (Keio University)	
OBp8	A laboratory rearing of the Antarctic midge, ***Belgica antarctica***: effect of the temperature and diet and possible seasonal adaptation.	*Mizuki Yoshida (Osaka City University), Shin G Goto (Osaka City University)	
OBp9	The lichens around the South Pole Syowa Station	*Akinori Kawamata (Ehime Prefectural Science Museum), Norio Kurosawa (Soka University), Makiko Kosugi (Chuo University), Satoshi Imura (NIPR), Sakae Kudoh (NIPR)	
OBp10	Relationship between reproduction of the Antarctic flowering plants and Climate Change	*Makito Yagyu (Keio University), Kyohei Ikawa (Keio University), Peter Convey (British Antarctic Survey), Marco A. Molina-Montenegro (Universidad de Talca), Megumu Tsujimoto (Keio University)	
OBp11	The annual heat balance of Lake Untersee in Dronning Maud Land	*Hiroshi Koyama (SOKENDAI), Sakae Kudo (NIPR), Yukiko Tanabe (NIPR)	
OBp12	A Raman imaging study of the ecocorona surrounding microplastics in aquatic environments	*Tatsuyuki Yamamoto (Shimane University, Raman Project Center of Medical and Biological Apllications), Edward Gou Nagato (Shimane University), Hidetoshi Sato (Kansei Gakuin University), Hemanth Noothalapati (Shimane University ,Raman Project Center of Medical and Biological Apllications)	
OBp13	Taxonomic, functional, and phylogenetic diversity of fungi in a forest-tundra ecotone in Quebec	*Takashi Osono (Doshisha University), Shunsuke Matsuoka (University of Hyogo), Hideyuki Doi (University of Hyogo), Shota Masumoto (Yokohama National University), Ryo Kitagawa (Yokohama National University), Keita Nishizawa (Yokohama National University), Kaho Tanaka (Doshisha University), Motohiro Hasegawa (Doshisha University), Satoru Hobara (Rakuno Gakuen University), Akira Mori (Yokohama National University), Masaki Uchida (NIPR)	
OBp14	Soil respiration rates of seasonally frozen soils in Ny-Ålesund	*Seiichiro Yonemura (NIAES), Ayaka W. Kishimoto-Mo (NIAES), Noriko Oura (NIAES), Masaki Uchida (NIPR)	
OBp15	A preliminary study of microbial function in the soil at Canadian low Arctic	*Masaki Uchida (NIPR, SOKENDAI), Ryo Kaneko (Tentamus Japan)	
OBp16	Methane emission from pan-Arctic natural wetlands estimated using a process-based model, 1901-2016	*Akihiko Ito (NIES, JAMSTEC)	
OBp17	Keep the course: travelling penguins consistently orient toward the destination	*Kozue Shiomi (NIPR), Katsufumi Sato (University of Tokyo), Yves Handrich (CNRS, Université de Strasbourg), Charles A. Bost (Centre d'Etudes Biologiques de Chizé)	
OBp18	A clear separation of foraging areas between two neighboring colonies of Adelie Penguins observed in a year of extensive sea ice cover	*Kentaro Ito (SOKENDAI), Akinori Takahashi (NIPR), Hina Watanabe (SOKENDAI), Junichi Takagi (Kyoto University), Nobuo Kokubun (NIPR), Yuuki Y. Watanabe (NIPR)	
OBp19	Adélie penguins' extensive seasonal migration supports dynamic Marine Protected Area planning in Antarctica	*Jean-Baptiste Thiebot (NIPR), Yan Ropert-Coudert (La Rochelle Université), Thierry Raclot (Université de Strasbourg), Timothée Poupart (Deakin University), Akiko Kato (La Rochelle Université), Akinori Takahashi (NIPR)	
OBp20	Crepuscular foraging by king penguins : behavioral adjustment to the diel vertical migration of prey	*Hina Watanabe (SOKENDAI), Kozue Shiomi (SOKENDAI, NIPR), Katsufumi Sato (University of Tokyo), Akinori Takahashi (SOKENDAI, NIPR), Yves Handrich (Université de Strasbourg, CNRS), Charles-André Bost (Centre d'Etudes Biologiques de Chizé)	
OBp21	Temporal dynamics of nutritional stress and diet of rhinoceros auklets breeding on two distant colonies in Japan	*Ui Shimabukuro (SOKENDAI), Akinori Takahashi (SOKENDAI, NIPR), Jumpei Okado (Hokkaido University), Kokubun Nobuo (SOKENDAI, NIPR), Jean-Baptiste Thiebot (NIPR), Alexis Will (NIPR, University of Alaska Fairbanks), Yutaka Watanuki (Hokkaido University), Alexander Kitaysky (University of Alaska Fairbanks)	
OBp22	Associations between seabirds and their prey in the northern Bering Sea during summer of 2017 and 2018	*Bungo Nishizawa (NIPR), Haruka Hayashi 'Hokkaido University), Nodoka Yamada (Hokkaido Univesity), Charlie Wright (US Fish and Wildlife Service), Kathy J. Kuletz (US Fish and Wildlife Service), Hiromichi Ueno (Hokkaido University), Tohru Mukai (Hokkaido University), Atsushi Yamaguchi (Hokkaido University, Toru Hirawake (Hokkaido University), Yutaka Watanuki (Hokkaido University)	
OBp23	Fine-scale behavioral analysis of the Greenland shark using 3-axis accelerometers	*Midori Hirata (SOKENDAI), Eric Ste Marie (University of Windsor), Hussey Nigel (University of Windsor), Yuuki Y. Watanabe (NIPR)	
OBp24	Eukaryotic community structure in sinking particles in the seasonal sea ice zone of the Southern Ocean	*Shinya Okano (Soka University), Ayuko Kagesawa (SOKENDAI), Shintaro Takao (National Institute for Environmental Studies), Ryosuke Makabe (SOKENDAI, NIPR, Tokyo University of Marine Science and Technology), Masato Moteki (Tokyo University of Marine Science and Technology, NIPR), Tsuneo Odate (SOKENDAI, NIPR), Norio Kurosawa (Soka University)	
OBp25	Temporal changes in export flux and physicochemical factors during sea ice melting season	*Ayuko Kagesawa (SOKENDAI), Shintaro Takao (National Institute for Environmental Studies), Ryosuke Makabe (SOKENDAI, NIPR, Tokyo University of Marine Science and Technology), Norio Kurosawa (Soka University), Masato Moteki (Tokyo University of Marine Science and Technology, NIPR), Tsuneo Odate (SOKENDAI, NIPR)	

OBp26	Composition analysis of sinking particles by using gel sediment traps in the Indian sector of the Southern Ocean during austral summer	*Masayoshi Sano (NIPR), Ayu Yamamoto (Tokyo University of Marine Science and Technology), Ayuko Kagesawa (NIPR), Ryusuke Makabe (NIPR), Masato Moteki (Tokyo University of Marine Science and Technology), Tsuneo Odate (NIPR)	
OBp27	A comparison of population structure of planktonic Foraminifera near the sea ice edge in January 2017 and 2018	*Aki Nosaka (Tokyo University of Marine Science and Technology), Kunio T. Takahashi (NIPR, SOKENDAI), Masato Moteki (Tokyo University of Marine Science and Technology, NIPR)	
OBp28	Meridional changes of zooplankton community and copepods population along 110°E transect in the Indian sector of the Southern Ocean during austral summer	*Rikuto Sugioka (Hokkaido University), Kohei Matsuno (Hokkaido University), Ryosuke Makabe (NIPR), Kunio Takahashi (NIPR), Masato Moteki (Tokyo University of Marine Science and Technology), Tsuneo Odate (NIPR, SOKENDAI), Atsuishi Yamaguchi (Hokkaido University)	
OBp29	Zooplankton community structure influences the distribution of flying seabirds off Vincennes Bay, East Antarctica	*Haruka Hamamoto (Tokyo University of Marine Science and Technology), Aiko Tachibana (Tokyo University of Marine Science and Technology), Masato Moteki (Tokyo University of Marine Science and Technology)	
OBp30	A new tool for monitoring the Antarctic marine ecosystem using environmental DNA	*Aiko Tachibana (TUMSAT), Ryosuke Makabe (NIPR), Masato Moteki (TUMSAT)	
OBp31	The annual variability in abundance and shell size of pteropods Limacina spp. in the seasonal ice zone of the Southern Ocean	*Kunio T. Takahashi (NIPR, SOKENDAI), Haruko Umeda (Kaizansenri Incorporated), Tsuneo Odate (NIPR, SOKENDAI)	
OBp32	Application of menthol as an anesthetizer for body size measurements and morphological obserbation of the genus ***Clione*** (Pteropoda: Gymnosomata)	*Tomoyasu Yamazaki (Shellfish Museum of Rankoshi), Takashi Kuwahara (Okhotsk Sea Ice Museum of Hokkaido), Kunio T. Takahashi (NiPR, SOKENDAI)	
OBp33	Overview of polar exhibit tanks and List of the creatures in house	Takashi Kifune (Tokyo Sea Life Park), Ryosuke Komi (Tokyo Sea Life Park), Mayuko Muramatsu (Tokyo Sea Life Park), Syota Haba (Tokyo Sea Life Park), *Keisuke Ichikawa (Tokyo Sea Life Park), Mayuka Ishigami (Tokyo Sea Life Park), Kokoro Sato (Tokyo Sea Life Park), Keita Seki (Tokyo Sea Life Park)	
OBp34	Possibilities of pulsation measurements in the Ecuadorian ocean/fishery ecosystem affecting by the Humboldt Current derived from the Antarctic Ocean	*Mikio Naganobu (Natural Philosopher), Kiyoshi Ito (Environment Simulation Laboratory), Toyoki Sasakura(AquaFusion, TUMSAT)	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

[OG] Polar Geosciences

Scopes

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

Conveners : **Masakazu Fujii (NIPR)**

Note:[I] represents an invited talk.

Oral presentations (10:30 – 12:00, 13:20 – 16:20)

Date : Wed. 4 Dec.

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

Chair: Masaki Kanao, Moto Kawamata (NIPR)			
10:30 - 10:50	Seismic harmonic tremors and interpretation of their origins in relation to cryosphere dynamics in April 2015 around the Lutzow-Holm Bay, East Antarctica	*Masaki Kanao (National Institute of Polar Research), Yoshihiro Hiramatsu (Kanazawa University)	PDF
10:50 - 11:10	P-wave tomography beneath Greenland	*Genti Toyokuni (Department of Geophysics, Tohoku University, Japan), Takaya Matsuno (Department of Geophysics, Tohoku University, Japan), Dapeng Zhao (Department of Geophysics, Tohoku University, Japan)	PDF
11:10 - 11:30	Elastic deformation due to present-day mass change at GNSS measurements sites in East Antarctica	*Akihisa Hattori (The Graduate University for Advanced Studies, SOKENDAI), Yuichi Aoyama (National Institute of Polar Research), Jun'ichi Okuno (National Institute of Polar Research), Koichiro Doi (National Institute of Polar Research)	PDF
11:30 - 12:00	**[I]** Localised, ephemeral grounding of the Fimbul Ice Shelf, East Antarctica, as revealed from tidally modulated cryoseismicity	*Myrto Pirli (Independent Researcher), Sebastian Hainzl (GFZ German Research Centre for Geosciences), Johannes Schweitzer (NORSAR), Andreas Koehler (NORSAR), Torsten Dahm (GFZ German Research Centre for Geosciences)	PDF
Lunch			
Chair: Xiangyu Zhao, Akihisa Hattori (NIPR)			
13:20 - 13:40	Ice sheet history in the southern part of the Soya Coast, East Antarctica revealed by glacial landforms and surface exposure dating	*Moto Kawamata (The Graduate University for Advanced Studies (SOKENDAI)), Yusuke Suganuma (NIPR), Koichiro Doi (NIPR), Keiji Misawa (NIPR), Motohiro Hirabayashi (NIPR), Akihisa Hattori (The Graduate University for Advanced Studies (SOKENDAI)), Takanobu Sawagaki (Hosei University)	PDF
13:40 - 14:00	Glacial fjord environment and ecosystem reconstructed from sediments deposited in Bowdoin Fjord, northwestern Greenland.	*Takuto Ando (Arctic Research Center, Hokkaido University, Sapporo, Japan), Naoya Kanna (Arctic Research Center, Hokkaido University, Sapporo, Japan), Izumi Asaji (Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan), Tomohisa Irino (Faculty of Environmental Earth Science, Hokkaido University, Sapporo, Japan), Osamu Seki (Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan), Kazumi Matsuoka (Institute for East China Sea Research, Nagasaki University, Nagasaki, Japan), Yoshinori Iizuka (Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan), Shin Sugiyama (Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan)	PDF
14:00 - 14:20	Magnetostratigraphy and Rock Magnetism Study of Hole U1524A from IODP Expedition 374	*Xiangyu Zhao (National Institute of Polar Research, Japan), Saiko Sugisaki (National Institute of Advanced Industrial Science and Technology, Japan), Tim van Peer (National Oceanography Centre Southampton, University of Southampton, UK), Yusuke Suganuma (National Institute of Polar Research, Japan; Department of Polar Science, SOKENDAI (The Graduate University for Advanced Studies), Japan)	PDF
14:20 - 14:40	Stable Sr isotopes of the Middle Permian carbonate: its implication of ocean Sr budget change	Tomomi Kani (Kumamoto University), *Keiji Misawa (National Institute of Polar Research)	PDF
14:40 - 15:00	Coffee Break		
Chair: Mami Takehara, Kenji Horie (NIPR)			
15:00 - 15:20	Geological field survey in the regions of L*tzow-Holm Bay, Prince Olav Coast and Enderby Land, 2018-2019 (JARE-60)	*Tsuyoshi Toyoshima (Niigata University), Masahiro Ishikawa (Yokohama National University), Ippei Kitano (Kyushu University), Takuma Katori (Niigata University), Tomokazu Hokada (National Institute of Polar Research)	PDF
15:20 - 15:40	Detailed observation of subgrained/aggregated sillimanite enclosed in garnet by cathodoluminescence imaging and Raman spectroscopy	*Kota Suzuki (Department of Geology and Mineralogy, Graduate School of Science, Kyoto University), Tetsuo Kawakami (Department of Geology and Mineralogy, Graduate School of Science, Kyoto University)	PDF
15:40 - 16:00	Linking Tarim between South China and North India in the periphery of Supercontinent Rodinia	*Qian Liu (Graduate School of Life and Environmental Sciences, The University of Tsukuba), Toshiaki Tsunogae (Graduate School of Life and Environmental Sciences, The University of Tsukuba)	PDF
16:00 - 16:20	The Magondi Belt in southern Africa: Implication for Paleoproterozoic crustal evolution in the northwestern Zimbabwe Craton	*Toshiaki Tsunogae (University of Tsukuba), Prince Mandingaisa (University of Zimbabwe), Maideyi Lydia Meck (University of Zimbabwe), Md. Sazzadur Rahman (University of Tsukuba), Sam Uthup (University of Tsukuba), Kazuki Takahashi (University of Tsukuba)	PDF
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)

Date : Wed. 4 Dec.

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

OGp1	Towards evaluation and simulation of geomagnetically induced currents (GICs) in high-latitude regions	*Tatiana Kalinina (Moscow Institute of Physics and Technology), Ksenia Muravieva (Moscow Institute of Physics and Technology), Dmitry Alekseev (Moscow Institute of Physics and Technology, Schmidt Institute of Physics of the Earth RAS, Shirshov Institute of Oceanology RAS, Aaerocosmos RAS), Aleksey Kuvshinov (ETH Zurich)	
OGp2	Evidence and estimates of significant warming-associated methane release on the East Siberian Arctic shelf	*Aleksey Goncharov (Moscow Institute of Physics and Technology), Aleksandra Pliss (Moscow Institute of Physics and Technology), Natalia Shakhova (National Tomsk Research Polytechnic University), Igor Semiletov (Moscow Institute of Physics and Technology, Ilyichev Pacific Oceanological Institute), Leopold Lobkovsky (Moscow Institute of Physics and Technology, Shirshov Institute of Oceanology), Denis Chernykh (National Tomsk Research Polytechnic University, Ilyichev Pacific Oceanological Institute), Natalia Patrakeeva (Moscow Institute of Physics and Technology)	
OGp3	Traversing the Himalayan Orogen 2019 - Report of the 8th Student Himalayan exercise Tour	*Masaru Yoshida (Gondwana Institute for Geology and Environment)	
OGp4	Cordierite gneiss from the Wanni Complex, Sri Lanka: Petrology, phase equilibria modeling and U-Pb zircon geochronology	*Eri Hirayama (Graduate School of Life and Environmental Sciences, University of Tsukuba, Ibaraki 305-8572, Japan), Toshiaki Tsunogae (Graduate School of Life and Environmental Sciences, University of Tsukuba, Ibaraki 305-8572, Japan, Department of Geology, University of Johannesburg, Auckland Park 2006, South Africa), Sanjeewa P.K. Malaviarachchi (Department of Geology, Faculty of Science, University of Peradeniya, Peradeniya 20400, Sri Lanka), Yusuke Takamura (Graduate School of Life and Environmental Sciences, University of Tsukuba, Ibaraki 305-8572, Japan), P.L. Dharmapriya (Department of Geology, Faculty of Science, University of Peradeniya, Peradeniya 20400, Sri Lanka), Yukiyasu Tsutsumi (Department of Geology and Paleontology, National Museum of Nature and Science, Ibaraki 305-0005, Japan)	
OGp5	Metamorphic conditions of garnet-bearing gneisses from Niban Rock in the Lutzow-Holm Complex, East Antarctica	*Yuki Mori (Kyushu University), Takeshi Ikeda (Kyushu University), Tomoharu Miyamoto (Kyushu University)	
OGp6	Geologic connection between Dronning Maud Land and Enderby Land	*Tomokazu Hokada (NIPR), Kenji Horie (NIPR), Sotaro Baba (University of the Ryukyus), Atsushi Kamei (Shimaen University), Ippei Kitano (Kyushu university), Yoichi Motoyoshi (NIPR), Yoshikuni Hiroi (NIPR), Mami Takehara (NIPR), Kazuyuki Shiraishi (NIPR)	
OGp7	Geology of the eastern Dronning Maud Land, East Antarctica: Missing link to Sri Lanka	*Kazuyuki Shiraishi (NIPR), Tomokazu Hokada (NIPR), Yoshikuni Hiroi (Chiba University), Yosihumi Nogi (NIPR), Yoichi Motoyoshi (NIPR)	
OGp8	Attempt to estimate initial composition of the nucleus of homogenized garnet in pelitic gneisses from the Lützow-Holm Complex	*Takeshi Ikeda (Kyushu University), Hayato Yodoya (Kyushu University)	
OGp9	Pseudotachylytes from Langhovde and Skarvsnes in the Lützow-Holm Complex, East Antarctica, and their conditions of formation	*Tsuyoshi Toyoshima (Niigata University), Masahiro Ishikawa (Yokohama National University), Ippei Kitano (Kyushu University), Takuma Katori (Niigata University), Tomokazu Hokada (National Institute of Polar Research)	
OGp10	Growth history of garnet inferred from microstructures in pelitic gneisses from Akarui Point of the Lützow-Holm Complex	*Hayato Yodoya (Department of Earth and Planetary Sciences, Graduate School of Sciences, Kyushu University), Takeshi Ikeda (Department of Earth and Planetary Sciences, Faculty of Sciences, Kyushu University)	
OGp11	High-K adakitic intrusion in the Sør Rondane Mountains, East Antarctica	*Atsushi Kamei (Shimane University)	
OGp12	Locating earthquakes around Antarctica by using neural networks based on deep learning	*Seiji Tsuboi (JAMSTEC), Daisuke Sugiyama (JAMSTEC), Masaki Kanao (NIPR), Yoshiaki Ishihara (NIES), Takahiko Murayama (JWA)	
OGp13	Provenance of Garnet in the Neoarchean Verbaard granitoid gneiss: A case study from Beit Bridge Complex, Cetral Zone, Southern Africa	*Thembiso .O. Basupi (University of Tsukuba, Botswana International University of Science and Technology), Toshiaki Tsunogae (University of Tsukuba, University of Johannesburg)	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

[OM] Polar Meteorology and Glaciology

Scopes

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

Conveners : **Yutaka Tobo and Yuji Kodama (NIPR)**
Note: This session will be continued to Thursday.
[I] represents an invited talk.

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

Date : Wed. 4 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Kenji Kawamura (NIPR), Tomoko Koyama (NIPR)			
10:00 - 10:20	International studies of ice sheet and bedrock at Dome Fuji, East Antarctica	Shuji Fujita, Kenji Kawamura, Prasad Gogineni, Ayako Abe-Ouchi, David Braaten, Jean-Charle Gallet, Elisabeth Isaksson, Brice van Liefferinge, Kenichi Matsuoka, Charles O'Neil, John Paden, Fernando Rodriguez-Morales, Ryan A. Taylor, *Shun Tsutaki (NIPR), Yan Jie-Bang, Kumiko Goto-Azuma, Greve Ralf, Stephen Hudson, Kohler Jack, Shriniwas Kolpuke, Linfeng Li	PDF
10:20 - 10:40	Metamorphism of layered firn at Dome Fuji, Antarctica: Evolution of relations between Near-infrared reflectivity and the other textural/chemical properties	*Shuji Fujita (NIPR), Kumiko Goto-Azuma, Motohiro Hirabayashi, Akira Hori, Yoshinori Iizuka, Yuko Motizuki, Hideaki Motoyama, Kazuya Takahashi, Hiroyuki Enomoto, Kotaro Fukui, Yu Hoshina, Fumio Nakazawa, Shin Sugiyama, Sylviane Surdylk	PDF
10:40 - 11:00	Reduced marine biogenic sulphate flux in East Antarctica during glacial periods - Based on ion chemistry records from Dome Fuji ice core -	*Kumiko Goto-Azuma (NIPR), Motohiro Hirabayashi, Hideaki Motoyama, Takayuki Miyake, Takayuki Kuramoto, Ryu Uemura, Makoto Igarashi, Yoshinori Iizuka, Toshimitsu Sakurai, Shinichiro Horikawa, Keisuke Suzuki, Toshitaka Suzuki, Koji Fujita, Yutaka Kondo, Hattori Shohei, Yoshiyuki Fujii	PDF
11:00 - 11:20	Hot spot of millennial scale climate oscillatory mode in glacial climate	*Ayako Abe-Ouchi (AORI, Univ. Tokyo), Wing-Le Chan, Takashi Obase, Sam Sherriff-Tadano, Takahito Mitsui, Kenji Kawamura, Masakazu Yoshimori, Akira Oka, Rumi Ohgaito, Christo Buizert, Steve Obrochta	PDF
11:20 - 11:40	Snow accumulation by entering low-pressures from the coast to Dome Fuji, East Antarctica	*Takao Kameda (Kitami Institute of Technology), Toshiki Ebira, Matthhew, A. Lazaara	PDF
11:40 - 12:00	North-south contrast in radiative forcing due to warm-moist air intrusion into the polar regions	*Takashi Yamanouchi (NIPR)	PDF
Lunch			
Chair: Jun Inoue (NIPR)			
13:30 - 14:00	**[I]** The Challenge of Cloud Mass Transport in Antarctica	*Matthew Lazzara (Madison Area Technical College & Univ. Wisconsin-Madison), Linda Keller, Iman Nasif, Taylor Norton, Sophie Orendorf, Lee Welhouse	PDF
14:00 - 14:20	The snowfall-cloud at Syowa Station identified by convolutional neural network	*Kazue Suzuki (Hosei Univ.), Masaki Shimomura, Kazuyuki Nakamura, Naohiko Hirasawa, Hironori Yabuki, Takashi Yamanouchi, Terumasa Tokunaga	PDF
14:20 - 14:40	Characteristic feature in large-scale lower tropospheric structure over the traverse route on the East Antarctic ice sheet in the winter based upon a series of radiosonde observation in 2018	*Naohiko Hirasawa (NIPR), Kyohei Yamada	PDF
14:40 - 14:50	Coffee Break		
Chair: Yuji Kodama (NIPR)			
14:50 - 15:10	Deriving the response of glaciers from an ice-dynamic model	*Harry Zekollari (Delft Univ. of Technology), Matthias Huss, Daniel Farinotti	PDF
15:10 - 15:30	ISMIP6 future projections for Greenland and Antarctica with the ice sheet model SICOPOLIS	*Ralf Greve (ILTS, Hokkaido Univ.), Christopher Chambers, Reinhard Calov, Takashi Obase, Fuyuki Saito, Shun Tsutaki, Ayako Abe-Ouchi	PDF
15:30 - 15:50	On the possibility of a long subglacial river under the north Greenland ice sheet	*Christopher Chambers (Hokkaido Univ.), Ralf Greve, Bas Altena, Pierre-Marie Lefeuvre	PDF
15:50 - 16:10	Satellite-derived snow grain size over the Greenland Ice Sheet and its relationships with climate indices	*Teruo Aoki (NIPR), Rigen Shimada, Masahiro Hori, Masashi Niwano, Tomonori Tanikawa, Hiroshi Ishimoto, Sumito Matoba, Iizuka Yoshinori, Koji Fujita	PDF
16:10-16:30	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)

Date : Wed. 4 Dec.

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

OMp1	Increase of cloud cover due to reduced sea ice in the Arctic Ocean in MIROC6 historical simulations	*Manabu Abe (JAMSTEC), Hiroaki Tatebe	
OMp2	Development of a continuous measurement system for atmospheric N_2O and CO concentrations and its application to in-situ observation at Syowa Station, Antarctica	*Shogo Akai (Graduate School of Science, Tohoku Univ.), Shinji Morimoto, Wei Li, Daisuke Goto, Shuji Aoki	
OMp3	Optimized Northern Sea Route and Navigation Simulation	*Yang Chu (Univ. Tokyo)	
OMp4	Detection of melting and Rain-On-Snow of ice sheets by Microwave observation	*Nuerasimuguli Alimasi (NIPR), Hiroyuki Enomoto, Naohiko Hirasawa	
OMp5	Improvement of drill system for the third deep ice coring project around Dome Fuji, Antarctica - Focusing on selection of drilling fluids -	*Atsushi Furusaki (National Institute of Technology, Asahikawa College), Hideaki Motoyama, Fumio Nakazawa, Kenji Kawamura, Sumito Matoba, Shoichi Mori, Yosuke Sato, Kunio Shinbori, Morihiro Miyahara, Akio Kobayashi, Yasushi Yoshise, Masateru Otani, Akiyoshi Takahashi, Tanaka Yoichi	
OMp6	Experimental cruise for sea spray generation in MR18-05C	*Ryo Kusakawa (Graduate School of Frontier Sciences, Univ. Tokyo), Shuichi Fushimi, Toshihiro Ozeki, Hajime Yamaguchi, Jun Inoue	
OMp7	Modeling the evolution of Antarctic ice sheet driven by basal melting at different sea level using 3-dimensional ice sheet model SICOPOLIS	*Kaho Harada (AORI, Univ. Tokyo), Ayako Abe-Ouchi, Takashi Obase, Fuyuki Saito, Ralf Greve	
OMp8	Background and enhanced condensation nucleus observed by UAV around the edge of East Antarctica in summer	*Ryohei Haraguchi (Fukuoka Univ.), Masahiko Hayashi, Keiichiro Hara, Naohiko Hirasawa, Koki Nakata, Kiichi Ozuka	
OMp9	Simultaneous multi-elemental analysis by continuous flow analysis system equipped with ICP-MS	*Motohiro Hirabayashi (NIPR), Jun Ogata, Kumiko Goto-Azuma	
OMp10	Dislocation density measurement in artificial polycrystalline ice by X-ray diffraction	*Kazuteru Hirai (Department of Mechanical Engineering, Nagaoka Univ. of Technology), Morimasa Takata, Nobuhiko Azuma, Kumiko Goto-Azuma, Tomoyuki Homma	
OMp11	Characteristics of cloud fraction from whole-sky camera and ceilometer observations onboard R/V Shirase during JARE 60	Makoto Kuji, *Sara Hirose (Nara Women's Univ.), Naho Nakatsuji, Naoyuki Kurita, Fumihisa Kobayashi, Masahiro Hori	
OMp12	Two-year results of the Arctic river surface temperature monitoring from space with GCOM-C/SGLI thermal infrared images	*Masahiro Hori (JAXA)	
OMp13	Near tropopause discrepancy in air temperature during the YOPP special observing period	*Masatake Hori (NIPR), Jun Inoue, Alexander Makshtas, Vasilii Kustov	
OMp14	Estimation of meteorological conditions at Dome Fuji from 1995 to 2017	*Takao Kameda (Kitami Institute of Technology), Hiroki Mae	
OMp15	Cold water upwelling and entrainment near the Anadyr Strait: Implications to the North Pacific-Arctic interaction	*Yusuke Kawaguchi (AORI, Univ. Tokyo), Jun Nishioka, Shigeto Nishino, Shinzou Fujio, Amane Fujiwara, Daigo Yanagimoto, Ichiro Yasuda	
OMp16	Structure of Meridional Circulation in Southern Ocean captured by long term Mooring	*Yujiro Kitade (Tokyo Univ. of Marine Science and Technology), Kohei Mizobata, Kazuho Watanabe, Lingqiao Cheng, Guoping Gao, Shigeru Aoki, Keishi Shimad, Kai I. Ohshima	
OMp17	Changes of Antarctic Bottom Water in the central region (near 115°E) of the Australia-Antarctic Basin	*Taiyo Kobayashi (JAMSTEC)	
OMp18	Bioaerosol observations at S17 and Syowa station, Antarctica, with the 60th Japanese Antarctic Research Expedition (JARE)	*Fumihisa Kobayashi (Graduate School of Science and Technology, Hirosaki Univ.), Yusei Kon, Taisei Harada	
OMp19	Spatial variation of surface mass balance and seasonal variation of dust deposition at EGRIP, Greenland	*Yuki Komuro (NIPR), Fumio Nakazawa, Naoko Nagatsuka, Motohiro Hirabayashi, Wataru Shigeyama, Tomoyuki Homma, Kumiko Goto-Azuma	
OMp20	Note on air temperature measurement by automatic weather stations in Antarctica	*Hideaki Motoyama (NIPR), Takao Kameda, Naohiko Hirasawa	
OMp21	Characteristics of cloud fractions from satellite observations along the ship track of R/V Shirase	*Naho Nakatsuji (Nara Women's Univ.), Sara Hirose, Makoto Kuji, Masahiro Hori	
OMp22	Antarctic ice sheet modeling of the Last Glacial Maximum and the last deglaciation using the three-dimensional ice sheet model SICOPOLIS	*Takashi Obase (AORI, Univ. Tokyo), Ayako Abe-Ouchi, Ralf Greve, Fuyuki Saito, Kaho Harada	
OMp23	Estimation of Greenland surface mass balance using positive degree-days method and energy balance model	*Ryouta Oishi (AORI, Univ. Tokyo), Fuyuki Saito, Takashi Obase, Ayako Abe-Ouchi	
OMp24	Timing of climatic events for Termination II from O_2/N_2, $d^{18}O_{atm}$ and CH_4 records of the Dome Fuji ice core, Antarctica	*Ikumi Oyabu (NIPR), Kenji Kawamura, Kitamura Kyotaro	
OMp25	Annually-resolved water isotope measurements in a shallow ice core (DFS10) for 60 meters depth	*Yu Vin Sahoo (RIKEN), Kazuya Takahashi, Yoichi Nakai, Yuko Motizuki, Hideaki Motoyama	
OMp26	Sensitivity studies of the position and elevation of Dome Fuji, Antarctica using a high-resolution numerical ice-sheet model with revising the bedrock topography data by JARE-59	*Fuyuki Saito (JAMSTEC), Shun Tsutaki, Ayako Abe-Ouchi, Takashi Obase, Shuji Fujita, Kenji Kawamura	

OMp27	IoT measurements of the winter environment around Lake Izunuma, Miyagi	*Tatsuru Sato (National Institute of Technology, Ichinoseki Collage), Ken-ichi Kobayashi, Katsuya Ohseki	
OMp28	Annual variation in the extent of bare ice and dark ice on the Greenland Ice Sheet derived from AVHRR and MODIS data set	*Rigen Shimada (JAXA), Masahiro Hori, Nozomu Takeuchi, Teruo Aoki	
OMp29	Fixed point observation for daily snow surface monitoring along a latitudinal transect from the coast to the inland of Antarctica using camera images	*Konosuke Sugiura (Univ. Toyama), Naohiko Hirasawa, Naoyuki Kurita, Kenji Kawamura, Fumio Nakazawa, Hiroshi Ohno, Shuji Fujita, Ikumi Oyabu, Takashi Yamanouchi, Hideaki Motoyama	
OMp30	Change of people's consciousness for sea ice through the Symposium at Mombetsu as a lecture in the service education course by UArctic at Nuuk, Greenland	*Shuhei Takahashi (Okhotsk Sea Ice Museum of Hokkaido)	
OMp31	Spatiotemporal variability of surface mass balance along the JARE traverse route for 1992-2018	*Shun Tsutaki (NIPR), Hideaki Motoyama, Shuji Fujita, Kenji Kawamura, Ayako Abe-Ouchi	
OMp32	Assessment of sub-seasonal forecast skill over the Northern Hemisphere in operational ensemble forecasts	*Akio Yamagami (Univ. Tsukuba), Mio Matsueda	

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
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[OM] Polar Meteorology and Glaciology

Scopes

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

Conveners : **Yutaka Tobo and Yuji Kodama (NIPR)**

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

Date : Thu. 5 Dec.

Place : 2F Auditorium, National Institute of Polar Research

Chair: Shun Tsutaki (NIPR), Yutaka Tobo (NIPR)			
10:00 - 10:20	Location, morphology and size distribution of solid particles in an ice core retrieved from NEEM, Greenland	*Wataru Shigeyama (SOKENDAI, NIPR), Kumiko Goto-Azuma, Morimasa Takata, Fumio Nakazawa, Naoko Nagatsuka, Tomoyuki Homma, Nobuhiko Azum, Kaori Fukuda, Dorthe Dahl-Jensen	PDF
10:20 - 10:40	Variations in mineralogical composition of dust present in the Greenland SIGMA-D ice core and EGRIP snow pit over the past 100 years	*Naoko Nagatsuka (NIPR), Kumiko Goto-Azuma, Akane Tsushima, Hideaki Motoyama, Sumito Matoba, Koji Fujita,Tetsuhide Yamasaki, Yukihiko Onuma, Yuki Komuro, Masahiro Minowa, Teruo Aoki, Motohiro Hirabayashi, Fumio Nakazawa, Dorthe Dahl-Jensen	PDF
10:40 - 11:00	Seasonal variations of snow chemistry at EGRIP, Greenland	*Fumio Nakazawa (NIPR), Naoko Nagatsuka, Motohiro Hirabayashi, Kumiko Goto-Azuma	PDF
11:00 - 11:20	Concentrations and size distributions of black carbon in the surface snow of Eastern Antarctica in 2011	*Takeshi Kinase (MRI), Kouji Adachi, Naga Oshima, Kumiko Azuma, Yoshimi Tsukagawa, Yutaka Kondo, Nobuhiro Moteki, Sho Ohata, Tatsuhiro Mori, Masahiko Hayashi, Keiichiro Hara, Hiroto Kawashima, Kazuyuki Kita	PDF
11:20 - 11:40	Recent spatial distribution of Tritium concentration in surface snow over East Antarctica	*Naoyuki Kurita (ISEE, Nagoya Univ.), Naohiko Hirasawa, Hideaki Motoyama, Fumio Nakazawa, Naomi Akata, Stepan Poluianov	PDF
11:40 - 12:00	Atmospheric sea-salt and halogen chemistry in the Antarctic region	*Keiichiro Hara (Fukuoka Univ.), Kazuo Osada, Masanori Yabuki, Sumito Matoba, Fumio Nakazawa, Shuji Fujita, Motohiro Hirabayashi, Takashi Yamanouchi	PDF
Lunch			
Chair: Gen Hashida (NIPR), Masatake Hori (NIPR)			
13:30 - 13:50	Offshore-origin warm water inflows toward Totten Ice Shelf, East Antarctica	*Daisuke Hirano (ILTS, Hokkaido Univ.), Kohei Mizobata, Takeshi Tamura, Masato Ito, Kaihe Yamazaki, Koh Yoichiro, Masaaki Kiuchi, Hiroto Murase, Hiroko Sasaki, Shigeru Aoki	PDF
13:50 - 14:10	Evaluation of water flushing effect on icebreaking operation of "Shirase" by analysis of Japanese Antarctic Research Expedition voyage data	Seigo Yoshino, *Hajime Yamaguchi (Univ. Tokyo), Shuki Ushio, Yutaka Yamauchi, Shigeya Mizuno	PDF
14:10 - 14:30	A cyclonic eddy train and poleward heat transport in the Australian-Antarctic Basin	*Kohei Mizobata (Tokyo Univ. of Marine Science and Technology), Keishi Shimada, Shigeru Aoki, Yujiro Kitade	PDF
14:30 - 14:50	Sea ice changes during the early 20th century Arctic warming in an Earth System Model	*Takuro Aizawa (AORI, Univ. Tokyo), Masayoshi Ishii, Seiji Yukimoto, Hiroyasu Hasumi	PDF
14:50 - 15:10	Year-round observations of sea-ice drift and near-inertial internal waves in the Northwind Abyssal Plain, Arctic Ocean	*Yusuke Kawaguchi (AORI, Univ Tokyo), Motoyo Itoh, Fukamachi Yasushi, Erika Motoya, Jonaotaro Onodera, Takashi Kikuchi, Naomi Harada	PDF
15:10 - 15:30	Internal wave generating turbulent mixing in the Canada Basin	*Eun Yae Son (AORI, Univ. Tokyo), Yusuke Kawaguchi	PDF

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Inter-university Research Institute Corporation Research Organization of Information and Systems National Institute of Polar Research
10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan

[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 : **Masaki Okada (NIPR)**

Note: [I] represents an invited talk.

Oral presentations (13:00 – 16:00)

Date : Wed. 4 Dec.

Place : The Institute of Statistical Mathematics Seminar room 2 (D304) (3rd floor)

Chair: Yoshimasa Tanaka (NIPR)			
13:00-13:15	Mesospheric ionization during a substorm: A case study of PANSY and Arase satellite observations	*Kiyoka Murase (The Graduate University for Advanced Studies, SOKENDAI), Ryuho Kataoka (National Institute of Polar Research), Takanori Nishiyama (National Institute of Polar Research), Koji Nishimura (National Institute of Polar Research), Taishi Hashimoto (National Institute of Polar Research), Yoshimasa Tanaka (National Institute of Polar Research), Akira Kadokura (National Institute of Polar Research), Yoshihiro Tomikawa (National Institute of Polar Research), Masaki Tsutsumi (National Institute of Polar Research), Kaoru Sato (4Department of Earth and Planetary Science, University of Tokyo), Yoshizumi Miyoshi (5Institute for Space*Earth Environmental Research, Nagoya University), Yoshiya Kasahara (Graduate School of Natural Science and Technology, Kanazawa University), Tatsuhiko Sato (Japan Atomic Energy Agency)	PDF
13:15-13:30	Variations of cosmic noise absorption (CNA) by energetic electron precipitation (EEP) and changes of the auroral morphology	*Taishiro Miyamoto (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Shin-ichiro Oyama (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Yasunobu Ogawa (National Institute of Polar Research, Japan), Keisuke Hosokawa (Center for Space Science and Radio Engineering, University of Electro-Communications, Japan), Satoshi Kurita (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Yoshizumi Miyoshi (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Hiroshi Miyaoka (National Institute of Polar Research, Japan), Ryuho Kataoka (National Institute of Polar Research, Japan), Tero Raita (Sodankyla Geophysical Observatory, University of Oulu, Finland)	PDF
13:30-13:45	Yearly variations in Be-7 concentrations in surface air at Iceland and Japan for 15 years from 2003: Solar modulation of cosmogenic nuclide	*Hirohisa Sakurai (Yamagata University), Youmei Kawamura (Dept. of Physics, Yamagata University), Soichiro Suzuki (Yamagata University), Fuyuki Tokanai (Dept. of Physics, Yamagata University), Fusa Miyake (ISEE, Nagoya University), Kimiaki Masuda (ISEE, Nagoya University), Emiko Inui (Yamagata University), Akira Kadokura (NIPR), Natsuo Sato (NIPR), Bjornsson Gunnlaugur (Science Institute, University of Iceland)	PDF
13:45-14:00	Flankside plasma sheet isolation in the ionosphere for northward interplanetary magnetic field	*Masakazu Watanabe (Kyushu University), Takashi Tanaka (Kyushu University), Shigeru Fujita (Meteorological College)	PDF
14:00-14:15	Coffee Break		
Chair: Yasunobu Ogawa (NIPR)			
14:15-14:45	**[I]** Effect of space weather disturbances on the high-latitude ionosphere	*Anita Aikio (University of Oulu, Finland)	PDF
14:45-15:00	Spatial distribution of the polar thermospheric wind acceleration and importance of the 2D measurement with SDIs	*Shin-ichiro Oyama (ISEE, Nagoya U./U. Oulu/NIPR), Anita Aikio (U. Oulu), Mark Conde (GI UAF), Heikki Vanhamaki (U. Oulu), Ilkka Virtanen (U. Oulu), Thomas Ulich (SGO U. Oulu), Urban Brondstrom (IRF), Pekka Verronen (FMI/U. Oulu), Monika Szelag (FMI), Niilo Kalakoski (FMI), Lassi Roininen (Lappeenranta-Lahti University of Technology), Sari Lasanen (Lappeenranta-Lahti University of Technology), Abiyot Workayehu (U. Oulu), Kazuo Shiokawa (ISEE Nagoya U.), Xu Heqiucen (ISEE Nagoya U.), Mamoru Ishii (NICT), Hirahara Masafumi (Monika), Takeshi Sakanoi (Tohoku U.), Kagitani Masato (Tohoku U.), Juha Sorri (SGO U. Oulu), Tomi Teppo (SGO U. Oulu)	PDF
15:00-15:15	Current status of Iceland-Syowa conjugate observation in 2019	*Akira Kadokura (ROIS-DS, NIPR), Yoshimasa Tanaka (ROIS-DS, NIPR), Ryuho Kataoka (NIPR), Herbert Akihito Uchida (SOKENDAI), Kiyoka Murase (SOKENDAI), Masaki Okada (NIPR), Yasunobu Ogawa (NIPR), Makoto Taguchi (Rikkyo Univ.), Mitsunori Ozaki (Kanazawa Univ.), Kazuo Shiokawa (Nagoya Univ.), Yuka Sato (NIT), Masashi Kamogawa (Univ. of Shizuoka), Yasuhiro Minamoto (Asutamuse company, Ltd.), Tetsuo Motoba (APL, JHU), Yukimatu Akira Sessai (NIPR), Hisao Yamagishi (NIPR), Sato Natsuo (Mitsunori)	PDF
15:15-15:30	Generation of the Arc Aurora	*Takashi Tanaka (Kyushu University)	PDF
15:30-15:45	Pc5 enhancement of auroral arc and modulation of diffuse/pulsating aurora	*Natsuo Sato (NIPR), Akira Yukimatu (NIPR, SOKENDAI), Yoshimasa Tanaka (NIPR, ROIS-DS, SOKENDAI), Tomoaki Hori (ISEE), Akira Kadokura (NIPR, ROIS-DS, SOKENDAI), Tohru Sakurai (Tokai Univ)	PDF
15:45-16:00	Asymmetrically traveling auroral surges in the northern and southern hemisphere	*Herbert Akihito Uchida (SOKENDAI), Ryuho Kataoka (National Institute of Polar Research), Kiyoka Murase (SOKENDAI), Akira Kadokura (National Institute of Polar Research), Sessai Akira Yukimatu (National Institute of Polar Research), Shigeru Fujita (Meteorological College), Ayako Matsuoka (ISAS/JAXA), Shoya Matsuda (ISAS/JAXA), Yoshiya Kasahara (Kanazawa University), Masafumi Shoji (Institute for Space*Earth Environmental Research), Yoshizumi Miyoshi (Institute for Space*Earth Environmental Research), Iku Shinohara (ISAS/JAXA), Kazuo Shiokawa (Institute for Space*Earth Environmental Research), Yusuke Ebihara (Research Institute for Sustainable Humanosphere), Kurita Satoshi (Institute for Space*Earth Environmental Research), Keisuke Hosokawa (The University of Electro-Communications)	PDF
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)

Date : Wed. 4 Dec.

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

OSp1	The Variations of the Fair-weather Atmospheric Electric Field at Syowa station	*Yasuhiro Minamotoo (NPO Mount Fuji Research Station), Masahi Kamogawa (University of Shizuoka), Akira Kadokura (National Institute of Polar Research, Research Organization of Information and Systems,)	
OSp2	Automatic FLR identification and density estimation from SuperDARN VLOS data to identify magnetospheric regions	*Hideaki Kawano (International Center for Space Weather Science and Education, Kyushu University, Japan), Akira Sessai Yukimatu (National Institute of Polar Research, and Department of Polar Science, SOKENDAI, Japan), Nozomu Nishitani (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Yoshimasa Tanaka (National Institute of Polar Research, and Department of Polar Science, SOKENDAI, Japan), Satoko Saita (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Tomoaki Hori (Institute for Space-Earth Environmental Research, Nagoya University, Japan), Mark Lester (Department of Physics and Astronomy, University of Leicester, UK)	
OSp3	Ion temperature and velocity variations in the D- and E-region polar ionosphere during stratospheric sudden warming	*Yasunobu Ogawa (NIPR), Satonori Nozawa (ISEE, Nagoya University), Masaki Tsutsumi (NIPR), Yoshihiro Tomikawa (NIPR), Chris Hall (UiT The Arctic University of Norway), Ingemar Haggstrom (EISCAT Scientific Association)	
OSp4	Inversion of Advective Volumetric Scatter with Atmospheric Radar and Cross-Radial Velocity Measurement	*Koji Nishimura (1Polar Environment Data Science Center, Joint Support-Center for Data Science Research, Research Organization of Information and Systems)	
OSp5	Temporal and spatial variations of the total electron content from the high-latitde to equatorial ionosphere during a geomagnetic storm on 27 and 28 September 2017	*Atsuki Shinbori (Nagoya University), Yuichi Otsuka (Nagoya University), Takuya Sori (Nagoya University), Takuya Tsugawa (NICT), Michi Nishioka (NICT)	
OSp6	Study of laser frequency stability from the observed vertical wind velocity by the Na lidar at Troms*	*Yoshitaka Kobayashi (Graduate School of Shinshu University), Takuya Kawahara (Shinshu University), Nozawa Satonori (ISEE, Nagoya University), Takuo Tsuda (The University of Electro-Communications), Tetsuya Kawabata (ISEE, Nagoya University), Norihito Saito (RIKEN Center for Advanced Photonics), Satoshi Wada (RIKEN Center for Advanced Photonics)	
OSp7	3D structure of discrete arcs obtained by auroral computed tomography analysis	*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), Akimasa Yoshikawa (Kyushu University), Bjorn Gustavsson (University of Troms* - The Arctic University of Norway), Kirsti Kauristie (Finnish Meteorological Institute), Carl-fredrik Enell (EISCAT Scientific Association), Urban Brandstrom (Swedish Institute of Space Physics), Tima Sergienko (Swedish Institute of Space Physics), Alexander Kozlovsky (Sodankyla Geophysical Observatory, Finland), Tero Raita (Sodankyla Geophysical Observatory, Finland), Heikki Vanhamaki (University of Oulu, Finland)	
OSp8	Spectra of pulsating aurora emissions observed by an optical spectrograph at Tromso, Norway	*Chengyu Li (The University of Electro-Communicaitons), Takuo Tsuda (The University of Electro-Communicaitons), Keisuke Hosokawa (The University of Electro-Communicaitons), Satonori Nozawa (Nagoya University), Tetsuya Kawabata (Nagoya University), Akira Mizuno (Nagoya University), Shin-ichiro Oyama (Nagoya University), Junichi Kurihara (Hokkaido University)	
OSp9	Current status of ground-based optical observations for short-wavelength infrared aurora and airglow emissions in Northern Europe	*Takanori Nishiyama (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Masato Kagitani (Department of Geophysics, Tohoku University), Yasunobu Ogawa (National Institute of Polar Research, and The Graduate University for Advanced Studies, SOKENDAI), Dalin Peter (Swedish Institute of Space Physics, Kiruna), Urban Br*ndstr*m (Swedish Institute of Space Physics, Kiruna), Makoto Taguchi (Faculty of Physics, Rikkyo University), Sakanoi Takeshi (Department of Geophysics, Tohoku University)	
OSp10	Investigation of the relationship with infrasonic wave and auroral activity in the polar region	*Haruka Ohata (Kochi University of KUT)	
OSp11	MeV protons in the inner belt and slot region observed by HEP onboard the Arase satellite	*Honoka Toda (Tokai Univ.), Wataru Miyake (Tokai Univ.), Takefumi Mitani (ISAS/JAXA), Takeshi Takashima (ISAS/JAXA), Yoshizumi Miyoshi (ISEE/Nagoya Univ.), Inchun Park (ISEE/Nagoya Univ.), Tomoaki Hori (ISEE/Nagoya Univ.)	
OSp12	The behavior of the cusp in various solar wind conditions	*Shigeru Fujita (Meteorological College/NIPR), Takashi Tanaka (Kyushu University), Masakazu Watanabe (Kyushu University), Ryuho Kataoka (NIPR)	
OSp13	Development of Web Based Visualization System for a Simulated Earth's Magnetosphere	*Satoko Saita (National Institute of Technology, Kitakyushu College, Japan), Takashi Tanaka (International Center for Space Weather Science and Education, Kyushu University), Shigeru Fujita (Meteorological College), Yoshimasa Tanaka (National Institute of Polar Research), Akira Kadokura (National Institute of Polar Research)	
OSp14	Next Polar Science Computer System	*Masaki Okada (NIPR)	

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