北大低温研・研究集会 2025

「過去 2000 年間の北極海古環境に関する研究集会」

「Holocene Arctic Palaeoclimate and Palaeocean Investigation Meeting 2025」

日程:2025 年 10 月 9 日(木)9:00〜10 月 10 日(金)17:00
場所:北海道大学 低温科学研究所 3F 講堂およびオンライン開催


趣旨：近年，北極海環境の大きな変化が，北極域に生活する人々の生活を大きく変化させ，大気循環の変化を介して北半球中緯度域の人口稠密地域の気象にも影響している．しかし，これらの変化が20-21世紀温暖化に伴う特徴的なものであるのか，過去にも起きた自然変動と同様なものであるのか明らかではない．北極域研究加速プロジェクト（ArCS II）では，この疑問に答えるために，過去2000年間の西部北極海の環境変動を明らかにするべく，海洋地球研究船「みらい」による北極海航海MR22-06C（完新世北極海調査航海HAPPI，2022年8-9月）およびMR24-06C（2024年8-9月）に実施し，西部北極海の5地点で長尺海底コアを採取した．採取したコアは高知コアセンターと北海道大学で分取した後，国内外の研究機関に送付し，現在，分析が進められている．2023年11月の第一回会合（低温研集会），2024年7月の第二回会合（低温研集会），2024年11月の第三回会合（高知大学海洋コア国際研究所研究集会「西部北極海の古環境」）に続いて，国内外研究チームメンバーの成果報告を主体としながら，北極海に関心の高い研究者との議論を通じて，北極海古環境研究の進め方を検討するものである．

世話人：北海道大学大学院地球環境科学研究院　山本正伸

Purpose: Significant changes in the Arctic Ocean environment in recent years have profoundly altered the lives of people in the Arctic region. These changes have also influenced the weather in densely populated areas of the Northern Hemisphere's mid-latitudes through changes in atmospheric circulation. However, it remains unclear whether these changes are a result of 20th-21st century warming or if they are similar to natural fluctuations that have occurred in the past. To address this question, the ArCS II conducted two Arctic Ocean expeditions, MR22-06C (**H**olocene **A**rctic **P**aleoclimate and **P**aleocean **I**nvestigation, HAPPI, August–September 2022) and MR24-06C (August–September 2024), aboard the research vessel Mirai. These expeditions aimed to clarify environmental changes in the western Arctic Ocean over the past 2,000 years.

Long ssediment cores were collected at five sites in the western Arctic Ocean. After subsampling at the Kochi Core Center and Hokkaido University, the cores were distributed to domestic and international research groups for analysis. After the first meeting in November 2023 and the second meeting in July 2024, both at Hokkaido University, and the third meeting in November 2024 at Kochi University, this meeting will focus on result presentations by domestic and international research team members. Through discussions with researchers, the meeting aims to consider the direction of Arctic paleoenvironmental research.

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【9th October（Thursday）9:00 ~ 17:30】

Time		名前	Name		Presentation title
9:00	9:05	関　宰	Seki Osamu		Welcome speech and logistics
9:05	9:35	山本正伸	Masanobu Yamamoto	On-site	Project perspective
9:35	10:00	山本正伸	Masanobu Yamamoto	On-site	MR24-06C
10:00	10:30	ロウラ ゲメリー	Laura Gemery	Online	Ostracode shell density as a proxy for Arctic Ocean acidification?
10:30	10:45	Break			
10:45	11:15	山田桂	Katsura Yamada	On-site	Ostracod results in the GC07
11:15	12:45	神谷雅基	Masaki Kamiya	On-site	Reconstruction of the paleoceanographic changes in the eastern margin of Barrow canyon over the last 600 years based on ostracod assemblages from GC09 core
12:45	13:15	Lunch			
13:15	13:45	レナータ シャレック	Renata Szarek	On-site	Benthic foraminiferal abundances in the lower part of the MT1-GC03 core (sec. 6.5; 7; CC)
13:45	14:15	レナータ シャレック	Renata Szarek	On-site	Distribution of benthic foraminifera in surface sediments in the Chukchi Sea.
14:15	14:45	岩崎晋弥	Shinya Iwasaki	On-site	Calcification Intensity of Benthic Foraminifera in Relation to Habitat Characteristics in the Arctic Ocean
14:45	15:00	Break			
15:00	15:30	吉村駿斗	Hayato Yoshimura	On-site	Assessment of the Impact of Environmental Changes over the Past 300 Years on Foraminiferal Shell Formation in the Arctic Ocean
15:30	17:00	坪内和	Nodoka Tsubouchi	On-site	Assemblage Analysis of benthic foraminifera inhabiting the arctic ocean
17:00	17:30	永淵修・中澤暦	Koyomi Nakazawa	On-site	Millennial-Scale Mercury and Organic Carbon Fluxes in the Western Arctic: Evidence from High-Resolution Sediment Cores in Barrow Canyon and the Mackenzie Trough
19:00		Dinner			

【10th October (Friday) 9:00 ~ 17:00】

9:00	9:30	堀川恵司	Keiji Horikawa	On-site	Nd-Pb isotope based provenece analysis of the BC2 site sediments and relatinship to the atmosphere-ocean circulations
9:30	10:00	堀川恵司	Keiji Horikawa	On-site	The Mg/Ca ratio of benthic foramnifera in Box core sediments from the MT sites.
10:00	10:30	ジョ ヨンジン	Young Jin Joe	On-site	Down-core variations in grain size of the Barrow Canyon and Mackenzie Trough gravity cores
10:30	10:45	Break			
10:45	11:15	清家弘司	Koji Seike	On-site	Bioturbation structures of the sediment cores taken by the MR22-06C cruise: preliminary results
11:15	11:45	村山雅史	Masafumi Murayama	On-site	Changes in heavy metal concentrations in Anthropocene along the north American coast of the Arctic Ocean
11:45	13:15	Break			
13:15	13:45	新井正矩	Masanori Arai	On-site	SedaDNA records from MT and BC sites
13:45	14:15	高嶋陽光	Harumitsu Takashima	On-site	Biomakers, salinity reconstruction at the MT1 site
14:15	14:45	田中政成	Masanari Tanaka	On-site	Biomarkers in surface sediments in the Chukchi Sea
14:45	15:00	Break			
15:00	15:30	鈴木健太	Kenta Suzuki	On-site	OH-GDGTs in the Holocene sediments in ARA02-01A core
15:30	16:00	ナム ソンイル	Seung-Il Nam	On-site	Svalbard as a Climate Barometer: Glacier Dynamics and Environmental Changes in Arctic Fjord Systems since the Last Deglaciation.
16:00	16:30	堀川恵司	Keiji Horikawa	On-site	Introduction to KH25 Bering Sea cruise
16:30	17:00				Summary