

**第 39 回北方圏国際シンポジウム  
オホーツク海と流氷**

**The 39th International Symposium  
on the Okhotsk Sea & Polar Oceans**



**と き 2025年2月16日（日）～19日（水）**

**ところ 紋別市民会館 紋別市文化会館 紋別市立博物館 まちなか芸術館**

**16-19 February 2025**

**Mombetsu Arts & Culture Center, Mombetsu Municipal Museum**

**Mombetsu Machinaka Art Museum, Mombetsu Citizens' Public Hall**

**Okhotsk Sea Ice Museum of Hokkaido**



# 北方圏国際シンポジウム

## 開催趣旨

世界の海の10%を覆う流氷は、地球の熱的バランスの大きな要素として大気・海洋大循環の駆動力を生み出しています。オホーツク海は、世界で最も低緯度の凍る海であり、流氷の南限です。毎冬、オホーツク海の60~70%は流氷野となり、私たちの生活にも功罪両面の働きをしています。さらに最近の地球温暖化の影響により北極海の水氷面積は急激に減少し、環境問題としては由々しき事態です。一方で太平洋と欧州を結ぶ「北極海航路」が重要になりましたが、その国際情勢は微妙な状況にあります。

このように流氷は地球環境のみならず、水産業、農業、工業などの生産活動にも深く関わっています。シンポジウムでは、最新の海氷研究から地球温暖化、環境問題、海洋生物、北極海航路、極地、オホーツク地域の諸問題まで様々な話題を取り上げています。

北方圏国際シンポジウム「オホーツク海と流氷」は、1986年に第1回が開催されて以来、毎年紋別市で開かれていましたが、2021年は新型コロナウイルス感染症拡大防止のため中止となりました。2022年は学術分科会がオンラインで2023年は、ハイブリッド形式で開催しました。そして2024年、学術分科会は対面形式で開催し市民公開講座、子ども流氷シンポジウム、記念レセプションが再開しました。

本年2025年第39回北方圏国際シンポジウムは、様々なテーマで多くの研究発表が行われます。参加者全員が実りある議論を行い交流を深める場になる事を願っています。ぜひシンポジウムをお楽しみください。

- **主 催** 紋別市
- **共 催** 北海道大学北極域研究センター
- **主 管** 北方圏国際シンポジウム実行委員会
- **後 援** 国立極地研究所, (国研)海洋研究開発機構, 北海道大学低温科学研究所, 北見工業大学東海大学札幌キャンパス, 東京農業大学オホーツクキャンパス, 東京海洋大学北海道大学大学院水産科学研究院, 北海道大学北方生物圏フィールド科学センター  
東京大学大気海洋研究所, (国研)水産研究・教育機構水産資源研究所  
(国研)宇宙航空研究開発機構, 北極環境研究コンソーシアム  
(一財)リモート・センシング技術センター, (公社)日本雪氷学会, (一社)日本海洋学会  
(公社)日本気象学会, (公社)日本水産学会北海道支部, 国土交通省, 文部科学省, 水産庁  
北海道, 北見市, 網走市, オホーツク町村会, (公社)北海道国際交流・協力総合センター  
(公財)北海道環境財団, 国際交流基金, (公財)オホーツク生活文化振興財団  
(公財)札幌国際プラザ, 北海道新聞社, (株)北海民友新聞社

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- **協 賛** **道外・道内関係企業** 五洋建設(株), 北日本港湾コンサルタント(株), (株)石本建築事務所, (株)ズコーシャ, 日東建設(株), 電通設備(株), 大槻理化学(株), 日本データサービス(株), 日本工営(株), (株)建設技術研究所, 住友金属鉱山(株), (株)藤共工業、ジオテック(株) (順不同)

**市内関係団体** 紋別市議会, 紋別医師会, 北見歯科医師会紋別歯科医師団, 紋別商工会議所, 紋別漁業協同組合, 紋別漁業協同組合定置部会・毛ガニ部会, オホーツクはまなす農業協同組合, オホーツク中央森林組合, 紋別港ロータリークラブ, 紋別ロータリークラブ, 紋別オホーツクライオンズクラブ, 北海道税理士会北見支部, 流氷倶楽部, 北海道大学同窓会紋別支部 (順不同)

**市内関係企業** (株)マルカイチ水産, 丸銀漁業(株), (有)丸富渡辺水産, (株)吉岡水産, (株)ヤマイチ水産, 北方建設産業(株), 鈴木建設(株), (株)西村組紋別支店, 渋田海運(株), 旭ダンケ(株)紋別工場, 佐藤木材工業(株), (株)渡辺組紋別支店, 川村建設(株), (株)中央製作所, 関電気(株), 山本電工(株), 紋別バイオマス発電(株), 佐藤電気(株), (株)成田設備工業, 北見信用金庫紋別支店, 北洋銀行紋別支店, 北海道労働金庫紋別出張所, 北海道銀行紋別支店, 遠軽信用金庫紋別支店, イオン北海道(株)イオン紋別店, シティもんべつ店, 日東水産(株)紋別営業所, みゆき観光開発(株), (株)紋別セントラルホテル, 紋別プリンスホテル(株), オホーツク・ガリンコタワー(株), (有)ゆやフラワー, (株)しめまる, よつ葉乳業(株), オホーツクソーテック(株), (株)民友商事, (株)北海民友新聞社, (株)ソーゴー, 横田印刷(株), 白野商店(株), (株)伊藤建材店, カラーセンター, 北東開発工業(株), (株)リテック, 手塚興産(株), (株)紋別観光振興公社, 北紋バス(株), 紋別市役所役長会・部長会・課長会 (順不同)

## 日程と内容

2月16日(日)

紋別市市民会館 大ホール

14:30~16:20 開会式

- 主催者挨拶 紋別市長 宮川 良一
- 実行委員長挨拶 北方圏国際シンポジウム実行委員会委員長 大塚 夏彦
- 来賓祝辞 北海道オホーツク総合振興局長 野村 博明

■ 海外講師紹介

《オーストラリア》

Mr. Andreas Cziferszky British Antarctic Survey

《カナダ》

Dr. Aileen Aseron Espiritu UiT, The Arctic University of Norway

Mr. Félix St-Denis McGill University

《フィンランド》

Prof. Johanna Ikävalko University of Lapland

《フランス》

Dr. Gaëlle Veyssière British Antarctic Survey

《アイスランド》

Prof. Lindsay Arthur University of Akureyri

《ノルウェー》

Prof. Stein Sandven Nansen Environmental and Remote Sensing Center

Prof. Kjell Stokvik Nord University

《台湾》

Prof. Hwa Chien National Central University

Mr. Ya-Fan Chung National Taiwan University

Dr. Slawomir Jacek Giletycz National Central University

Prof. Hung-Chu Hsu National Sun Yat-sen University

Mr. Wei-Tzu Liu National Central University

Prof. Chuen-Fa Ni National Central University

Dr. Whyjay Zheng National Central University

《イギリス》

Mr. Michael Thorne British Antarctic Survey

Dr. Jeremy Wilkinson British Antarctic Survey

《アメリカ》

Prof. Hajo Eicken University of Alaska Fairbanks

■ 海外研究者のご挨拶

ヨハンナ イケワルコ フィンランド ラップランド大学

■ アトラクション

紋別大谷認定こども園

一輪車キッズ

紋別小学校金管バンド

■ 特別講演

「極地への冒険」 荻田 泰永 北極冒険家

18:00~19:30 記念レセプション

【3階小ホール】

2月17日(月)

紋別市文化会館 1階ホール

9:00~9:10 学術分科会開会式

開会のことば 大塚 夏彦 (北方圏国際シンポジウム実行委員会)  
青田昌秋賞の説明

9:10~11:50 基調講演 A

9:10 **A-1** Overview of the Arctic research vessel “MIRAI II”  
赤根 英介 (海洋研究開発機構)

9:40 **A-2** 日本と北極:過去・現在・未来 -笹川平和財団の取り組み-  
角南 篤 (笹川平和財団)

10:20 **A-3** Ecological interactions between viruses and copepods: A study using continuous ocean monitoring in the Okhotsk Sea off Mombetsu  
平井 惇也 (東京大学大気海洋研究所)

10:50 **A-4** Grand challenges and opportunities in a rapidly changing Arctic: Perspectives from Alaska  
ハヨ アイケン (アラスカ大学フェアバンクス校, アメリカ)

11:20 **A-5** Prospects of polar research: Initiatives of the National Institute of Polar Research  
野木 義史 (国立極地研究所)

13:30~16:40 ワークショップ B: アジアや北極における研究機関の北極研究活動と今後の計画

紋別市文化会館 3階サークル室

13:30~14:30 学術分科会 C: 氷海工学

14:40~15:40 学術分科会 D: 生物地球化学

紋別市文化会館 3階特別会議室

13:30~15:30 市民公開講座:オホーツク~ふるさとの海

I オホーツク海におけるホタテガイ漁業の現状と課題  
秦 安史 (北海道立総合研究機構網走水産試験場)

II さけ・ます資源を守る取り組み  
宮腰 靖之 (北見管内さけ・ます増殖事業協会)

15:50~17:40 学術分科会 E: 雪氷と暮らし

紋別市立博物館

13:00~17:50 ワークショップ F: 極域における結合気候システムの新たな変化

【エントランスホール】

18:00~19:30 市民公開講座:地球環境と自然を考えるフォーラム  
~先住民から学び、自然の神秘を知るタベ~

OEPN (オホーツク環境ネット)  
司会:石井 友也 (OEPN)

I サハリンの自然環境と先住民の植物利用  
水島 未記 (北海道博物館研究部自然研究グループ)

II 紋別市周辺における低緯度オーロラの事例紹介  
石原 宙 (北海道立オホーツク流氷科学センター)

2月18日(火)

紋別市文化会館 1階ホール

9:00～11:35 ワークショップ G：南極氷床とグローバルな気候システムとの相互作用

13:00～15:30 学術分科会 H：気象・気候・海洋物理

16:00～18:00 市民公開講座：オホーツク地域の冬災害を考える

オホーツク地域の災害対応力の向上を考える ～能登半島地震から学ぶ～

I 大規模災害に備え 大場 久義 (北海道開発局網走開発建設部)

II 健康を保持する避難生活を実現するために 根本 昌宏 (日本赤十字北海道看護大学)

パネルディスカッション：災害対応力の向上に向けた地域の思い

コーディネータ：根本 昌宏 (日本赤十字北海道看護大学)

紋別市文化会館 3階特別会議室

9:00～17:50 ワークショップ I：氷海の変動把握と新たな利用

紋別市文化会館 3階サークル室

9:00～11:55 ワークショップ J：東アジアから見た北極のガバナンス

15:30～17:45 ワークショップ K：オホーツク海：地球のクールスポットが生み出す特異な気象・気候

紋別市立博物館

9:00～10:45 ワークショップ L：冷水域におけるプランクトンの動態と役割

10:55～15:10 ワークショップ M：北海道の水産業の現状と将来展望

15:20～18:35 ワークショップ N：環境・社会の変動と海棲哺乳類・海鳥

《オンライン》

まちなか芸術館

15:00～16:40 オンラインセッション O：

16:50～18:20 ワークショップ P：正しく行動するために：北極域の先住民族の権利の実装における日本の役割とその先

ホテルオホーツクパレス

19:00～20:30 交歓の夕べ

2月19日(水)

紋別市文化会館 1階ホール

9:00～10:50 ワークショップ K：オホーツク海：地球のクールスポットが生み出す特異な気象・気候

11:00～11:30 学術分科会閉会式

講評

青田昌秋賞表彰式

閉会のことば 大塚 夏彦 (北方圏国際シンポジウム実行委員会)



2月19日(水)

紋別市文化会館 1階ホール

14:00～16:00 市民公開講座: 森から海の連環を考えるシンポジウム「最先端林業の現状」

紋別の森から宇宙へ ～世界初の木造人工衛星の開発と新たな木の可能性について～  
荻谷 健司 (住友林業株式会社 筑波研究所)

紋別市立博物館

13:30～17:20 市民公開講座: オホーツク・テロワールシンポジウム 2025 in 紋別

オホーツク文化が残したメッセージ

～オホーツク文化の原点とオホーツク・ツーリズムの未来と可能性を探る 第2弾

第1部 オホーツクの地で、土地にあるものを生かして循環する暮らしを実践している方々からの発表

I 江面 暁人 (農家民宿えづらファーム)

II 都丸 雅子 (ゲストハウス nanmo-nanmo)

III 大黒 朱梨 (ノ三ざる舎)

IV 遠藤 貴裕 (ウツツの森)

第2部 外から見たオホーツクの可能性

I オホーツク遺跡街道観光の可能性

有山 忠男 ((株) ライヴ環境計画)

II オホーツクの自然と文化が持つ観光のチャンス

西野 寛明 ((株) ロジカル)

第3部 フリーディスカッション -自然と文化を交流に活かす- 進行: 西野 寛明((株) ロジカル)

紋別市民会館 大ホール

13:10～14:30 子ども流氷シンポジウム

司会進行: 富宅 一昭 (紋別市教育委員会)

I オホーツク海の流氷と地球環境

大塚 夏彦 (オホーツク流氷科学センター)

II 海の中の音を調べる

ポドリスキ エブゲニ (北海道大学)

流氷クイズ大会

2月17日(月)～18日(火)

紋別文化会館 3階ロビー

デモンストレーション:

北極観測を視野に入れた予測システムを体験 -短期及び中期予報技術の紹介-

出展: 国立極地研究所・北極海氷情報室

地球温暖化が進行する中、特に北極地域での気温の上昇が著しくなっています。その結果、北極の夏期の海氷面積が減少し、北極航路の利用が注目されています。北極海氷情報室では、北極航路の活用や北極海観測に役立つ海水中期予報や短期予報を、北極を航行する船舶や海洋地球研究船「みらい」に提供し、その有効性を検証してきました。展示では、実際に行っている予測の最新情報や海洋・海氷の変化とその影響を紹介し、海氷予報や温暖化の現状を一緒に考えてみましょう。

2月15日(土)～3月23日(日)

オホーツク流氷科学センター

協賛行事 写真展「オホーツク物語6」西紋写真部によるオホーツクの写真展

## 日程表

| 2月                | 会 場         |              | 午 前  | 午 後   |
|-------------------|-------------|--------------|--|---|
| 16日<br>(日)        | 市民<br>会館    | 大ホール         |  | 14:30-16:20 開会式<br>特別講演 「極地への冒険」 荻田 泰永  |
| 17日<br>(月)        | 文化<br>会館    | 1階<br>ホール    | 9:00- 9:10 学術分科会開会式  | 13:30-16:40 ワークショップ B<br>アジアや北極における研究機関の北極<br>研究活動と今後の計画  |
|                   |             |              | 9:10-11:50 基調講演 A  |   |
|                   |             | 3階 特別<br>会議室 |  | 13:30-15:30 市民公開講座<br>オホーツク～ふるさとの海<br>15:50-17:40 学術分科会 E: 雪氷と暮らし                               |
|                   | 3階<br>サークル室 |              | 13:30-14:30 学術分科会 C: 氷海工学<br>14:40-15:40 学術分科会 D: 生物地球化学                           |   |
|                   | 博物<br>館     | 郷土<br>学習室    |  | 13:00-17:50 ワークショップ F<br>極域における結合気候システムの新たな変化   |
| エント<br>ランス<br>ホール |             |              | 18:00-19:30 市民公開講座<br>地球環境と自然を考えるフォーラム   |   |
| 18日<br>(火)        | 文化<br>会館    | 1階<br>ホール    | 9:00-11:35 ワークショップ G<br>南極氷床とグローバルな気候システムと<br>の相互作用                                | 13:00-15:30 学術分科会 H<br>気象・気候・海洋物理<br>16:00-18:00 市民公開講座<br>オホーツク地域の冬災害を考える                      |
|                   |             |              | 3階 特別<br>会議室   | 9:00-12:15 ワークショップ I<br>氷海の変動把握と新たな利用   |
|                   |             | 3階<br>サークル室  | 9:00-11:55 ワークショップ J<br>東アジアから見た北極のガバナンス   | 15:30-17:45 ワークショップ K<br>オホーツク海：地球のクールスポットが<br>生み出す特異な気象・気候                                     |
|                   | 博物<br>館     | 郷土<br>学習室    | 9:00-10:45 ワークショップ L<br>冷水域におけるプランクトンの動態と役割  | 13:30-15:10 ワークショップ M<br>北海道の水産業の現状と将来展望  |
|                   |             |              | 10:55-12:20 ワークショップ M<br>北海道の水産業の現状と将来展望   | 15:20-18:35 ワークショップ N<br>環境・社会の変動と海棲哺乳類・海鳥  |
|                   | まちなか<br>芸術館 |              |  | 15:00-16:40 オンラインセッション O<br>16:50-18:20 ワークショップ P<br>正しく行動するために：北極域の先住民族の<br>権利の実装における日本の役割とその先 |
| 19日<br>(水)        | 文化<br>会館    | 1階<br>ホール    | 9:00-10:50 ワークショップ K<br>オホーツク海：地球のクールスポット<br>が生み出す特異な気象・気候<br>11:00-11:30 学術分科会閉会式 | 14:00-16:00 市民公開講座<br>森から海の連環を考えるシンポジウム   |
|                   | 博物<br>館     |              | 郷土<br>学習室  |   |
|                   |             | 市民会館<br>大ホール |  |   |

□市民公開講座は、無料です。

□期間中、紋別文化会館1階ロビーで「技術展示-観測機器の紹介」と3階ロビーでは「デモンストレーション-北極観測を視野に入れた予測システムを体験 -短期及び中期予報技術の紹介-、国立極地研究所・北極海氷情報室」を行っています。

□19日(水) 青田昌秋賞表彰式終了後、文化会館から、空港までバスがでます



# 技術展示

場 所: 紋別市文化会館 1階ロビー

日 時: 2月17日(月曜日)~2月21日(水曜日) 9:30~16:30 (21日は12:00迄)

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- ◆ 山口 一 国立極地研究所 (アルファベット順)

|       |   |                     |
|-------|---|---------------------|
| 9:00  | <b>【学術分科会開会式】</b><br>開会のことば: 大塚夏彦 (北方圏国際シンポジウム実行委員会)<br>青田昌秋賞の説明:   | 司会: 片倉靖次 (紋別市)      |
| 9:10  | <b>【A: 基調講演】</b><br><b>A-1</b> Overview of the Arctic research vessel “MIRAI II”<br>○赤根英介 (JAMSTEC)   | 座長: 大塚夏彦 (流水科学センター) |
| 9:40  | <b>A-2</b> 日本と北極: 過去・現在・未来 - 笹川平和財団の取り組み-<br>○角南篤 (笹川平和財団)  |                     |
| 10:10 | 休憩  |                     |
| 10:20 | <b>A-3</b> Ecological interactions between viruses and copepods: A study using continuous ocean monitoring in the Okhotsk Sea off Mombetsu<br>○平井惇也 (東大大気海洋研)   |                     |
| 10:50 | <b>A-4</b> Grand challenges and opportunities in a rapidly changing Arctic: Perspectives from Alaska<br>○アイケン ハヨ, Nancy Fresco (アラスカ大, USA), 岩花剛 (アラスカ大, USA/北大北極セ), Igor Polyakov, Scott Rupp, Erik Schoen (アラスカ大, USA), 和賀久朋 (アラスカ大, USA/極地研), Harmony Wayner (アラスカ大, USA)  |                     |
| 11:20 | <b>A-5</b> Prospects of polar research: Initiatives of the National Institute of Polar Research<br>○野木義史 (極地研)  |                     |
| 11:50 | 昼食  |                     |
|       | <b>【B: ワークショップ、アジアや北極における研究機関の北極研究活動と今後の計画】</b>   |                     |
| 13:30 | 趣旨説明, 座長: 兒玉裕二 (北大北極セ)  |                     |
| 13:35 | <b>B-1</b> From HAI-FES to AANRE -Building a research and education network linking Asia and the Arctic-<br>○宇都正太郎, 兒玉裕二 (北大北極セ)  |                     |
| 13:55 | <b>B-2</b> Rapid Arctic change: International Arctic Research Center collaborations<br>○アイケン ハヨ, Nancy Fresco (アラスカ大, USA), 岩花剛 (アラスカ大, USA /北大北極セ), Igor Polyakov, Scott Rupp, Erik Schoen (アラスカ大, USA), 和賀久朋 (アラスカ大, USA /極地研) and Harmony Wayner (アラスカ大, USA)  |                     |
| 14:15 | <b>B-3</b> TaiPI: A research and education platform to bridge scientific knowledge and global warming actions<br>○Chuen-Fa Ni, Hwa Chien, Slawomir Jack Giletycz, Whyjay Zheng, Ping-Yu Chang, Kao-Shen Chung, Pei-Chuan Chuang and Wei-Tzu Liu (Natl. Ctrl. Univ., Taiwan)   |                     |
| 14:35 | <b>B-4</b> Integrating and sustaining Arctic Ocean Observation Systems<br>Hanne Sagen, ○Stein Sandven, Espen Storheim (Nansen Environmental Remote Sensing Ctr. Norway), Matthew Dzieciuch (Univ. California San Diego, USA), Arild Sundfjord, (Norwegian Polar Inst., Norway), Mathilde B. Sørensen (Univ. Bergen, Norway), Jens Abrahamsen, Peter Skagen, (NAXYS TECH, Norway), Bjarte Langeland, Truls Munch-Ellingsen (Stinger AS, Norway), Normen Lochthofen, Thomas Soltwedel (Alfred Wegner Inst. Mar. Polar Res., Germany) and Agnieszka Beszczynska-Möller (Inst. Oceanology Acad. Sci., Poland) |                     |
| 14:55 | 休憩  |                     |
| 15:05 | <b>B-5</b> We know the Arctic -Arctic Centre, University of Lapland, Finland<br>○イケワルコ ヨハンナ (ラップランド大, フィンランド)   |                     |
| 15:25 | <b>B-6</b> TaiPI data repository: a Taiwan-based polar data infrastructure built for open science<br>○Whyjay Zheng, and Ilham Adi Panuntun (Natl. Ctrl. Univ., Taiwan)  |                     |
| 15:45 | <b>B-7</b> Arctic research at Nord University<br>○ストヴィク キエレル (ノード大, ノルウェー)  |                     |
| 16:05 | <b>B-8</b> Advancing Arctic Research: UAV mapping and geological insights in Svalbard and the role of Taiwan's Arctic station in earth sciences<br>○Slawomir Jacek, Chuean-Fa Ni, Fang-Yi Tsai, Yue-Qi Chung, Ireneusz Sobota, Kamil Czarniecki, and Chian-Hwa (Natl. Ctrl. Univ., Taiwan)  |                     |
| 16:25 | 総合討論  |                     |

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|       | <b>【C:氷海工学】</b>  | 座長:金野祥久(工学院大)  |
| 13:30 | <b>C-1</b> Consideration of measurement methods for the characteristics of brash ice pieces in ice tank tests<br>○安齋圭祐, 水野滋也, 山内豊 (ジャパンマリコンナイツ)  |                |
| 13:50 | <b>C-2</b> Examination of ship beset incident by sea ice volume convergence<br>○大塚夏彦 (北大北極セ/笹川平和財団)  |                |
| 14:10 | <b>C-3</b> A Framework and trial calculations of navigability assessment of ships in ice waters<br>○宇都正太郎 (北大北極セ), 大塚夏彦 (流水科学センター)   |                |
| 14:30 | 休憩   |                |
|       | <b>【D:生物地球化学】</b>  | 座長:平田貴文(北大北極セ) |
| 14:40 | <b>D-1</b> Geochemical characteristics of particulate iron in the atmosphere and the sea ice in the southern Sea of Okhotsk<br>○★A 岩元勇太 (北大院環境/北大低温研), 村山愛子, 西岡純 (北大低温研)   |                |
| 15:00 | <b>D-2</b> In situ observation of hyper spectral radiation at the Okhotsk Tower for validation of satellite measurements of ocean color<br>○平田貴文 (北大北極セ), 大塚夏彦 (流水科学センター), 岩本勉之, 片倉靖次 (紋別市)                          |                |
| 15:20 | <b>D-3</b> Seasonal variations of atmospheric organic aerosols by the continuous year-round measurements at the Okhotsk Tower in Mombetsu<br>○宮崎雄三, 立花英里 (北大低温研), 吉田瞳 (ガリンコタワー), 方正陽 (北大低温研/北大院環境), 岩本勉之, 片倉靖次 (紋別市) |                |
| 15:40 | 休憩   |                |

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|       | <b>【E:雪氷と暮らし】</b>  | 座長:高橋修平(北見工大) |
| 15:50 | <b>E-1</b> How do you feel about the Arctic?<br>Changing emotional representations of the Arctic in English literature from 1500 to the present<br>○アルチョーム ススロフ (北大)   |               |
| 16:10 | <b>E-2</b> Improving winter life in Sapporo: Proposals by Nitobe College graduate students and collaboration with the City of Sapporo<br>○マリーナ ロマーエヴァ (北大新渡戸カレッジ), Eman H.E. Touliabah (北大院工), 五十嵐千夏 (北大院人文), 井上敦子 (北大院生命), Emmilce A. Morillas (北大院環境), 孫泰俊 (北大院工), Seralathan Dilushi (北大院生命)          |               |
| 16:30 | <b>E-3</b> A comparative study of Arctic and northern indigenous tourism across three sites<br>○サウナワラ ユハ (北大北極セ), 福山貴史 (北大観光高等研セ)  |               |
| 16:50 | 休憩   |               |
| 17:00 | <b>E-4</b> Digital forestry solutions and data-based decision-making: Lessons from Hokkaido and Finland<br>○サウナワラ ユハ (北大北極セ), Tuomo Puumalainen, 清水嘉人 (Oy Arbonaut Ltd, Finland), Ram Avtar (北大院環境)  |               |
| 17:20 | <b>E-5</b> Fluid simulation analysis of “temperature-adjustable bench” in cold regions -Nikko City zero carbon promotion project-<br>○★A 外山皓輝, 山口蓮央, Muhammad Najib Roslan, 梅崎七美絵, 渡邊千愛 (宇都宮大), Abdulgaphur Abdulkhadar Athani (マラッカ科学技術大学, マレーシア), Mohd Ridha Muhamad (マラヤ大学, マレーシア), 横尾昇剛, 堀尾佳以 (宇都宮大) |               |

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|       | <b>【F:ワークショップ、極域における結合気候システムの新たな変化】</b>   |
| 13:00 | 趣旨説明, 座長: 猪上淳 (極地研)   |
| 13:05 | <b>F-1</b> Analysis of extreme warming events for annual observation at Dome Fuji, inland station of the East Antarctica<br>○山田恭平 (極地研), 猪上淳, 平沢尚彦 (極地研/総研大)  |
| 13:25 | <b>F-2</b> Modeling the supercooled liquid water clouds in the mid-troposphere over the Southern Ocean<br>○猪上淳, 佐藤和敏 (極地研/総研大), 山田恭平 (極地研), 庭野匡思 (気象研), 松井仁志 (名古屋大院環境), Jan Landwehrs, Annette Rinke (アルフレッドウェーゲナー極地海洋研究所, ドイツ)       |
| 13:45 | <b>F-3</b> Causes of the abrupt and sustained 2016-2023 Antarctic sea-ice decline: A sea ice-ocean model study<br>○草原和弥, 建部洋晶 (JAMSTEC)   |
| 14:05 | 休憩  |
|       | 座長: 山田恭平 (極地研)  |
| 14:15 | <b>F-4</b> Predictability of sensor icing caused by supercooled fog in polar ocean operations<br>○末吉惣一郎 (日本海洋事業)  |
| 14:35 | <b>F-5</b> Verification of temperature forecasts by observations during an Arctic cruise of R/V Mirai in November 2018 and analysis of positive error cases around the marginal ice zone<br>○山上晃央 (埼玉県環境科学国際セ), 豊田隆寛 (気象研), 猪上淳 (極地研) |
| 14:55 | <b>F-6</b> Impact of anthropogenic aerosols on Arctic amplification in a long-term future climate using a climate model<br>○小野純 (極地研), 阿部学, 建部洋晶, 小室芳樹 (JAMSTEC)  |
| 15:15 | 休憩  |
|       | 座長: 豊田隆寛 (気象研)  |
| 15:25 | <b>F-7</b> Variations of current velocities in the Bering Strait in winter: Influences of local Ekman transport and inter ocean sea level difference detected by surface wind and sea ice velocities<br>○★A 早川晃平, 島田浩二 (海洋大)          |
| 15:45 | <b>F-8</b> Decadal variation in sea ice meltwater amount in the Beaufort Gyre and its relationship with Arctic multi-year ice loss<br>○★A 陳妍榛 (北大院環境), メンサ ビガン, 大島慶一郎 (北大低温研)   |
| 16:05 | <b>F-9</b> Mechanisms of winter SST variations in the subpolar North Atlantic Ocean: Influences of Arctic sea ice discharge and Gulfstream<br>○★A 高橋宏知, 島田浩二 (海洋大)  |
| 16:25 | 休憩  |
|       | 座長: 草原和弥 (JAMSTEC)  |
| 16:35 | <b>F-10</b> Variation mechanism and predictability of early winter sea ice in the Barents and Kara Seas in new Arctic climate regime after 2008<br>○★A 大石奏溪, 島田浩二 (海洋大)   |
| 16:55 | <b>F-11</b> A variation in the sea ice area in the East Siberian Sea in summer<br>○★A 原田倫, 島田浩二 (海洋大)   |
| 17:15 | <b>F-12</b> Sensitivity of the Arctic sea ice representation to the ice thickness category resolution in an OGCM<br>○豊田隆寛, 浦川昇吾, 坂本圭, 川上雄真, 青木邦弘, 中野英之, 高谷祐平, 遠山勝也, 小杉如央, 北村佳照, 石井雅男 (気象研)  |
| 17:35 | 総合討論  |

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|       | <b>【G:ワークショップ、南極氷床とグローバルな気候システムとの相互作用】</b>   |
| 9:00  | 趣旨説明, 座長: 瓢子俊太郎 (北大院環境)  |
| 9:05  | <b>G-1</b> Subglacial lake activities in the Shirase drainage basin, east Antarctica, during 2010-2023<br>○近藤研 (名大院環境), 箕輪昌紘 (北大低温研)   |
| 9:25  | <b>G-2</b> High-resolution estimation of sea-ice melt amount in the Southern Ocean, comparing with the climatology of the ice melt amount<br>○★A 小松瑞紀 (北大院環境), 大島慶一郎 (北大低温研/北大北極研セ), 木村詞明 (東大大気海洋研), 二橋創平 (北大低温研/苫小牧高専), 藤井昌和 (極地研/総研大), 町田証志 (北大院環境), 田村岳史 (極地研/総研大)                                |
| 9:45  | <b>G-3</b> Development of Weddell Sea regional model<br>○★A 森吉紘己 (北大院環境), 中山佳洋 (ダートマス大, USA), Mathias van Caspel, Markus Janout (Alfred Wegener Inst., Germany), Alena Malyarenko (Univ. Canterbury, New Zealand)  |
| 10:05 | <b>G-4</b> Development of the ocean model with improved reproducibility of thermocline and halocline off Totten Glacier, Antarctica<br>○★A 瓢子俊太郎 (北大院環境), 中山佳洋 (ダートマス大, USA), 藤井昌和, 田村岳史 (極地研/総研大), 阿部彩子 (東大大気海洋研), 青木茂 (北大低温研)  |
| 10:25 | 休憩   |
|       | 座長: 竹原景子 (北大低温研)   |
| 10:35 | <b>G-5</b> Impact of wind stress changes on the Antarctic Circumpolar Current -A comparison between 50 km and 5 km resolution models-<br>○★A 吉田慎之助, 松田拓朗 (北大院環境)   |
| 10:55 | <b>G-6</b> Impact of ocean physical conditions on atmospheric CO2 concentration at the last glacial maximum<br>○西田雅音, 岡頭 (東大大気海洋研), 小林英貴 (富山大理)  |
| 11:15 | <b>G-7</b> Precipitation isotope variations in inland Antarctica influenced by daily-scale precipitation<br>○★A 木野佳音 (東大院工), Alexandre Cauquoin (東大生産技研), 岡崎淳史 (千葉大), 沖大幹 (東大院工), 芳村圭 (東大生産技研)   |
| 11:35 | 昼食   |
|       | 座長: 山上晃央 (埼玉県環境科学国際セ)  |
| 13:00 | <b>H-1</b> Detection of extremely weak precipitation in Rikubetsu, inland Hokkaido, Japan<br>○平沢尚彦 (極地研/総研大), 小西啓之 (大阪教育大)   |
| 13:20 | <b>H-2</b> Estimation of visibility from mass flux of snow at weather stations in Hokkaido<br>○三木雄詩, 川村容明 (稚内地方気象台)  |
| 13:40 | <b>H-3</b> Ice floe movements around bridge piers during the event of winter-season tsunami run-up into rivers<br>○阿部孝章 (寒地土研), 吉川泰弘 (北見工大)  |
| 14:00 | 休憩   |
|       | 座長: 小野純 (極地研)  |
| 14:10 | <b>H-4</b> Decadal changes of water mass properties in the Bering Sea from 2007 to 2022<br>○シユウ ホンウエイ (JAMSTEC/水産機構資源研), 中野渡拓也, 東屋知範, 本多健太郎, 佐藤智希, 佐藤俊平 (水産機構資源研), 建部洋晶, 額瀨慎也 (JAMSTEC), 三寺史夫 (北大低温研), 川崎高雄 (東大大気海洋研), 中山佳洋 (ダートマス大, USA), 木田新一郎 (九大応力研), 中村知裕 (北大低温研), 田中潔 (東大大気海洋研), 黒田寛 (水産機構資源研) |
| 14:30 | <b>H-5</b> Unprecedented oceanographic conditions in October 2024 around the Oyashio and Coastal Oyashio off the southeastern coast of Hokkaido, Japan<br>○黒田寛, 谷内由貴子, 中野渡拓也 (水産機構資源研)   |
| 14:50 | <b>H-6</b> Preliminary drifting buoy observations of the ice-free zone phenomenon in the Gulf of Patience in 2023<br>○Hwa Chien, Li-Ching Lin, An-Shi Wang and Huang-Meng Chang (Natl. Ctrl. Univ., Taiwan)  |
| 15:10 | <b>H-7</b> Nonlinear flexural-gravity wave in Arctic Sea<br>○Hung-Chu Hsu and Hung-Yu Huang (Natl. Sun Yat-Sen Univ., Taiwan)  |
| 19:00 | 交歓の夕べ  |



| 【I:ワークショップ、氷海の変動把握と新たな利用】 |   |
|---------------------------|---|
| 9:00                      | 趣旨説明, 座長: 早稲田卓爾 (東大院新領域)  |
| 9:05                      | <b>I-1</b> New technology for the simultaneous monitoring of sea ice thickness and overlying snow depth<br>○Jeremy Wilkinson (British Antarctic Survey, UK), Danny Hills, Rauan Khangerey, Becan Lawless and Liam Marsh (Univ. Manchester, UK)  |
| 9:25                      | <b>I-2</b> Understanding the impact of predicted changes in sea ice on the under-ice lightscape within the Sea of Okhotsk<br>○★A Gaëlle Veyssièrè (British Antarctic Survey/Univ. College London, UK), 野村大樹 (北大北方セ), 谷川朋範 (気象研), 豊田威信 (北大低温研), 豊田隆寛 (気象研), 榎本浩之 (極地研), Jeremy Wilkinson (British Antarctic Survey, UK)  |
| 9:45                      | <b>I-3</b> Investigation of a method for extracting deformed ice using machine learning on high-resolution SAR images<br>○小野健太郎 (工学院大院), 金野祥久 (工学院大)  |
| 10:05                     | <b>I-4</b> A new method for deriving sea ice thickness based on sea ice history using satellite data<br>○木村詞明, 羽角博康 (東大大気海洋研)   |
| 10:25                     | 休憩  |
|                           | 座長: 金野祥久 (工学院大)   |
| 10:35                     | <b>I-5</b> A Polar Oceans Shipping Information System<br>○Michael A.S. Thorne (British Antarctic Survey, UK), Franz von Bock und Polach (Hamburg Univ. Tech., Germany), Andreas Cziferszky, Andrew Fleming, Dougal Goodman (British Antarctic Survey, UK), 菊地隆 (JAMSTEC), 小平翼, 三上航平, 村山英晶 (東大院新領域), 澤村淳司 (阪大), Mikko Suominen (Aalto Univ., Finland), Alex J. Tate (British Antarctic Survey, UK), Jukka Tuhkuri (阪大), Peter Wadhams (Univ. Cambridge, UK), 早稲田卓爾 (東大院新領域), Jeremy Wilkinson (British Antarctic Survey, UK) |
| 10:55                     | <b>I-6</b> Fundamental calculation of ship hull deformation during continuous icebreaking<br>-Structural response in different ice pressure area-<br>○★A 源田蒼 (阪大院工), 澤村淳司 (阪大)  |
| 11:15                     | <b>I-7</b> Experimental investigation of ship longitudinal response in small ice floes and wave interaction<br>○澤村淳司 (阪大), 金野祥久, 徳留大樹 (工学院大)  |
| 11:35                     | <b>I-8</b> Relationship between sea ice thickness and ramming frequency in drift ice and fast ice of Lützow-Holm Bay, East Antarctica<br>○★A 村岡翔太郎 (北見工大院), 舘山一孝 (北見工大)   |
| 11:55                     | <b>I-9</b> Simulation for icebreaking navigation of icebreaker “Shirase”<br>○★A 石山幸秀, 小平翼, 野瀬毅彦, 三上航平 (東大院新領域), 舘山一孝 (北見工大), 早稲田卓爾 (東大院新領域)   |
| 12:15                     | 昼食  |
|                           | 座長: 澤村淳司 (阪大)   |
| 13:30                     | <b>I-10</b> A preliminary calculation of design ice load for offshore wind power generation facility using ice, meteorological and satellite data<br>○★A 小濱悠介 (北見工大院), 舘山一孝 (北見工大), 宇都正太郎 (北大北研セ)   |
| 13:50                     | <b>I-11</b> Numerical method for quantitative evaluation of ice accretion on ship superstructures<br>○水津健太郎 (工学院大院), 金野祥久 (工学院大), 尾関俊浩 (札教大)  |
| 14:10                     | <b>I-12</b> Review of the latest ship activity along the Northern Sea Route -Cargo and voyages-<br>○大塚夏彦 (北大北極セ/笹川平和財団), ストヴィク キェル (ノード大, ノルウェー)  |
| 14:30                     | <b>I-13</b> Operational sea ice information services and Polar View -a UK perspective<br>○Andreas Cziferszky and Andrew Fleming (British Antarctic Survey, UK)  |
| 14:50                     | <b>I-14</b> Arctic shipping and global greenhouse gas pricing:<br>A simulation with computational general equilibrium and simple climate model-<br>○チャン チャン (東大院工), 柴崎隆一 (東大)   |
| 15:10                     | <b>I-15</b> Production of navigation support information in the ice-covered sea using satellite data based on in-situ sea ice observations<br>○舘山一孝 (北見工大), 金野祥久 (工学院大), 泉山耕 (北大北研セ), 佐川玄輝 (ウェザーニューズ), 大山元夢 (極地研)   |
| 15:30                     | 休憩  |



| 【I:ワークショップ、氷海の変動把握と新たな利用】 |  | 座長: 館山一孝 (北見工大) |
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| 15:40                     | <b>I-16</b> Granular approach for continuum modeling of sea ice<br>○Félix St-Denis, L. Bruno Tremblay (McGill Univ., Canada), Damien Ringeisen, Jean-François Lemieux and Mathieu Plante (Environment and Climate Change Canada, Canada) |                 |
| 16:00                     | <b>I-17</b> Material point method for modelling sea ice movement and breakup -MPM modelling of sea ice dynamics-<br>○グリバノフ イーゴリ, 早稲田卓爾 (東大院新領域)  |                 |
| 16:20                     | <b>I-18</b> Wind wave and swell evolution in the ice-covered southern Sea of Okhotsk under explosive cyclogenesis<br>○野瀬毅彦, 早稲田卓爾, 小平翼 (東大院新領域), 藤原泰 (神戸大), 豊田威信 (北大低温研)   |                 |
| 16:40                     | <b>I-19</b> 2024 mid-term Arctic Sea ice forecast: comparison with observations<br>○大山元夢 (極地研), 木村詞明 (東大大気海洋研), 矢吹裕伯 (極地研)   |                 |
| 17:00                     | <b>I-20</b> Wave dissipation and spectral downshifting in ice: Experimental and numerical study with the Nonlinear Schrödinger Equation<br>○★A 佐藤公哉 (東大院新領域), 早稲田卓爾 (東大院新領域/JAMSTEC), 小平翼 (東大院新領域)                                       |                 |
| 17:20                     | <b>I-21</b> Short-term sea ice forecast for the whole Arctic Ocean using ice-ocean coupling model<br>○丹羽淑博, 大山元夢, 杉村剛, 矢吹裕伯 (極地研)  |                 |
| 17:40                     | 総合討論   |                 |
| 19:00                     | 交歓の夕べ  |                 |

| 【J:ワークショップ、東アジアから見た北極のガバナンス】               |   |
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| 9:00                                       | 趣旨説明, 座長: 高翔 (笹川平和財団)   |
| 9:05                                       | <b>J-1</b> Review of Japan's ocean policy: Toward the 5th basic plan on ocean policy<br>○小森雄太 (笹川平和財団/明治大)  |
| 9:25                                       | <b>J-2</b> Japan's Arctic policy: Current status and challenges<br>○幡谷咲子 (笹川平和財団)   |
| 9:45                                       | <b>J-3</b> From the JCAR long-term plan to ICARP IV and IPY5, Japan's potential for future polar research<br>○榎本浩之 (極地研)  |
| 10:05                                      | <b>J-4</b> Review of Russia's Northern Sea Route Regulation<br>○大塚夏彦 (北大北極セ/笹川平和財団)   |
| 10:25                                      | <b>J-5</b> The role of epistemic community on Arctic governance<br>○高翔 (笹川平和財団)   |
| 10:45                                      | 休憩  |
| 10:55                                      | <b>J-6</b> Seventy years of Arctic discourses in Japan's national diet: From reactive to proactive engagement<br>大西富士夫 (北大北極研セ), ○アルチョーム ススロフ (北大)                        |
| 11:15                                      | <b>J-7</b> Science meets policy: The precautionary principle in the Central Arctic Ocean Fisheries Agreement<br>○Aileen Aseron Espiritu (UiT Arctic Univ. Norway, Norway) |
| 11:35                                      | <b>J-8</b> Russia's international Arctic policy after the invasion of Ukraine: Experts' voices in the domestic media<br>○ロマーエヴァ マリーナ (北大新渡戸カレッジ), Natalya Shmakova (北大院工) |
| 11:55                                      | 昼食  |
| 【K:ワークショップ、オホーツク海:地球のクールスポットが生み出す特異な気象・気候】 |   |
| 15:30                                      | 趣旨説明, 座長: 本田明治 (新潟大)  |
| 15:35                                      | <b>K-1</b> Drift ice along the Sea of Okhotsk coast of Hokkaido during the IGY (1957-58)<br>○高橋修平 (流氷科学センター), 大村纂 (チューリッヒ工科大, スイス), 大塚夏彦 (流氷科学センター)                       |
| 15:55                                      | <b>K-2</b> Large-scale dynamics shaping the Aleutian Low<br>○★A 森本啓介 (筑波大生命環境), 倉持将也 (気象庁), 植田宏昭 (筑波大生命環境)  |
| 16:15                                      | <b>K-3</b> Influence of cut-off lows on quasi-stationary convective bands occurred in the Tohoku region<br>○★A 津守智也 (新潟大院自科), 本田明治, 高橋直也 (新潟大理)                           |
| 16:35                                      | 休憩  |

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|       | <p><b>【K:ワークショップ、オホーツク海:地球のクールスポットが生み出す特異な気象・気候】</b></p> <p style="text-align: right;">座長: 本田明治 (新潟大)</p>   |
| 16:45 | <p><b>K-4</b> Long-term variations of temperature, salinity and volume transport in the Soya Warm Current and their relationships with the Japan Sea</p> <p>○★A 本田茉莉子 (北大院環境), 大島慶一郎, メンサ ビガン (北大低温研)</p>   |
| 17:05 | <p><b>K-5</b> Weather records and climatic changes in northern Japan in the 1840s-50s</p> <p>○田上善夫 (富山大), ガストン デマーレ (ベルギー王立気象研究所, ベルギー)</p>   |
| 17:25 | <p><b>K-6</b> Sea ice records over more than a century at an observatory facing the Okhotsk coast of Hokkaido, Japan</p> <p>○豊田隆寛 (気象研), 塚川絢斗 (網走地方気象台), 木村祐輔, 阿部穂花 (新潟大院自科研), 本田明治 (新潟大理), 山田裕貴, 天野未空, 立花義裕 (三重大), 澤悠夏, 森本啓介, 植田宏昭 (筑波大院生命環境), 岩本勉之 (紋別市), 伊藤公浩 (札幌管区気象台), 志藤文武 (稚内地方気象台), 多田仁 (網走地方気象台), 金子秀毅 (福井地方気象台), 遠山勝也, 小杉如央, 牛島悠介, 石井雅男 (気象研)</p> |
| 19:00 | 交歓の夕べ   |

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|       | <p><b>【L:ワークショップ、冷水域におけるプランクトンの動態と役割】</b></p>   |
| 9:00  | 趣旨説明, 座長: 平井惇也 (東京大大気海洋研)   |
| 9:05  | <p><b>L-1</b> Seasonal variation of diel vertical migration of zooplankton in the Soya Warm Current region observed by ADCP backscatter</p> <p>○久賀みづき (北大低温研), 山口篤, 松野孝平 (北大院水産), 大島慶一郎 (北大低温研)</p>                                 |
| 9:25  | <p><b>L-2</b> Seasonal and interannual changes in zooplankton communities and size spectra at Mombetsu Port, Hokkaido in 2014 and 2021</p> <p>○★A 王 碩, 菅大空 (北大院水産), 藤谷秀明, 岩渕雅輝 (エコニクス), 葛西広海 (水産機構資源研), 片倉靖次 (紋別市), 山口篤 (北大院水産)</p> |
| 9:45  | <p><b>L-3</b> Annual variability of size and bulk density of planktic foraminiferal tests in the western North Pacific</p> <p>○木元克典, 堀内里香 (JAMSTEC)</p>   |
| 10:05 | <p><b>L-4</b> Comparative analysis of eDNA-based taxonomic assignment in micro eukaryotes from Mombetsu using different databases</p> <p>○長井敏 (水産研究教育機構), 西典子 (アクシオヘリックス), 平井惇也 (東大大気海洋研), 片倉靖次 (紋別市)</p>                           |
| 10:25 | <p><b>L-5</b> Revealing hidden diversity of zooplankton under sea ice in the Okhotsk Sea</p> <p>○平井惇也 (東京大大気海洋研), 山口篤 (北大院水産), 片倉靖次 (紋別市)</p>   |
| 10:45 | 休憩  |
|       | <p><b>【M:ワークショップ、北海道の水産業の現状と将来展望】</b></p>   |
| 10:55 | 趣旨説明, 座長: 畑山誠 (道網走水試)   |
| 11:00 | <p><b>M-1</b> Current status of salmon fishery</p> <p>○實吉隼人 (道さけます内水試)</p>  |
| 11:20 | <p><b>M-2</b> Economic seaweed in Hokkaido: Focusing on seaweed from Mombetsu</p> <p>○★A 新井嵩博 (道稚内水試)</p>   |
| 11:40 | <p><b>M-3</b> Tracking Japanese neon flying squid vessels in the central North Pacific using Automatic Identification System (AIS) data</p> <p>○★A 大納進太郎 (道網走水試/北大院水産), 阿部泰人 (北大院水産), 五十嵐弘道 (JAMSTEC), 齊藤誠一 (北大北極セ)</p>             |
| 12:00 | <p><b>M-4</b> Time-lapse videos reveal the unique behavioral patterns of starfish-</p> <p>○★A 山崎千登勢 (道網走水試)</p>   |
| 12:20 | 昼食  |

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|       | <b>【M:ワークショップ、北海道の水産業の現状と将来展望】</b>   | 座長: 畑山誠 (道網走水試) |
| 13:30 | <b>M-5</b> The role of Hokkaido and its fisheries associations in Japan-Russia fisheries relations<br>○ロマーエヴァ マリーナ (北大新渡戸カレッジ), 中島竜雄 (北海道庁)  |                 |
| 13:50 | <b>M-6</b> The relationship between Stock of Hokkai shrimp ( <i>padalus latirostris</i> ) in Lake Saroma and prohibition on fishing since 2017 to 2023<br>○奥村裕弥 (道網走水試), 田中伸幸 (道稚内水試), 大橋崇史 (湧別漁業協同組合)   |                 |
| 14:10 | <b>M-7</b> Sea cucumber aquaculture: current situation and new perspectives -New insights from sea cucumber aquaculture research in Hokkaido-<br>○佐藤敦一 (道稚内水試)   |                 |
| 14:30 | <b>M-8</b> Bio-optical properties of salmon driftnet fishing sites inferred from field observation and satellite-derived ocean color data<br>○★A 飯野佑樹, 佐藤智希, 小役丸隼人, 佐藤俊平 (水産機構資源研)   |                 |
| 14:50 | <b>M-9</b> Bioeconomic trade-offs of future redistribution of fisheries resources in the Eastern Bering and Chukchi Seas<br>○アラビア アイリーン, Jorge García Molinos, 平田貴文 (北大北極セ), 成田大樹 (東大), 平澤享 (極地研/総研大)  |                 |
| 15:10 | 休憩   |                 |
|       | <b>【N:ワークショップ、環境・社会の変動と海棲哺乳類・海鳥】</b>   |                 |
| 15:20 | 趣旨説明, 座長: 三谷曜子 (京大野生動物研セ)  |                 |
| 15:25 | <b>N-1</b> Evolution of marine mammal conservation and management, and the role of substate and non-state actors : The case of the North Pacific and Japan<br>○ロマーエヴァ マリーナ (北大新渡戸カレッジ), 三谷曜子 (京大野生動物研セ)  |                 |
| 15:45 | <b>N-2</b> Collaborative study with Inuit on the foraging ecology of marine mammals in the Arctic<br>○★A 小川萌日香 (北大院環境), Aqqalu Rosing-Asvid, Sascha Schiøtt (Greenland Inst. Natl. Resources, Greenland), Caroline Bouchard (Univ. Laval, Canada/Greenland Inst. Natl. Resources, Greenland), 櫻木雄太 (北大北極セ), ポドリスキ エヴゲニ (北大北極セ), 杉山慎 (北大北極セ/北大低温研), 三谷曜子 (京大野生動物研セ)                       |                 |
| 16:05 | <b>N-3</b> Underwater sounds of Arctic animals<br>○ポドリスキ エヴゲニ (北大北極セ), 大槻真友子 (北大院水産), 小川萌日香 (北大院環境), 長谷川浩平 (北大水産), 杉山慎 (北大低温研)   |                 |
| 16:25 | <b>N-4</b> Post-release behaviors and movements of juvenile spotted seals ( <i>Phoca largha</i> ) rehabilitated at the Okhotsk Tokkari Center: Insights from satellite tracking-<br>○★A Heping Li (京大), 大島慶一郎 (北大低温研), 岡崎雅子 (とっかりセンター), 三谷曜子 (京大野生動物研セ)  |                 |
| 16:45 | <b>N-5</b> First track of Baird's beaked whales in the southern Sea of Okhotsk from autumn to winter<br>○佐々木裕子, 金治佑, 前田ひかり (水産機構資源研), 小林万里 (東農大/北の海の動物センター), 生田駿 (北の海の動物センター), 小西健志 (鯨研)   |                 |
| 17:05 | <b>N-6</b> Was offshore Hokkaido used as one of the refugia for killer whales ( <i>Orcinus orca</i> ) during the last glacial maximum?<br>○★A 鈴木百夏 (京大野生動物研セ), 河合真美 (北大), 早川卓志 (北大院地球環境), 北夕紀 (東海大), 吉岡基 (三重大生物資源), 大泉宏 (東海大海洋), 中原史生 (常磐大), 斎野重夫 (神戸動物植物環境専門学校), 山田格, 田島木綿子, 塩崎彬 (科学博物館), 蛭田眞平 (昭和大), 西田伸 (宮崎大), 天野雅男 (長崎大), 宇仁義和 (東農大生物産業), 松田純佳, 松石隆 (北大), 村山美穂, 佐藤悠, 三谷曜子 (京大野生動物研セ) |                 |
| 17:25 | 休憩   |                 |
| 17:35 | <b>N-7</b> Ingestion of plastics by little auks in northwestern Greenland across sea-ice conditions<br>○★A 川森日向 (北大水産), 大槻真友子 (北大院水産), 日下稜 (北大低温研), 杉山慎 (北大低温研/北大北極セ), Jean-Baptiste Thiebot (北大水産)  |                 |
| 17:55 | <b>N-8</b> Winter bird monitoring using a camera at the Okhotsk Tower in Mombetsu<br>○竹内亨, 中根幸則, 坂井伸一 (電中研), 占部雄太 (オホーツク・ガリソコタワー), 岩本勉之, 片倉靖次 (紋別市)  |                 |
| 18:15 | <b>N-9</b> Movement of juvenile black-eared kites after fledgling<br>○松本経 (北見工大)   |                 |
| 19:00 | 交歓の夕べ  |                 |

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|       | <b>【O:オンラインセッション】</b>   | 座長: 児玉裕二 (北大北極セ), アルチョーム ススロフ (北大) |
| 15:00 | <b>O-1</b> About remote monitoring opportunities for natural disaster forecasting<br>○ムクルトチャン フェルトナント (Kotelnikov IRE, RAS Fryazino Branch, Russia)   |                                    |
| 15:20 | <b>O-2</b> Impact of wind on tides in the Kuril Straits<br>○イリイン フセヴォロード (Lomonosov Moscow State Univ./Shirshov Inst. Oceanology, Russia) and Victor Arkhipkin (Lomonosov Moscow State Univ., Russia)   |                                    |
| 15:40 | <b>O-3</b> Investigation of co-oscillating and independent tides in the Sea of Japan<br>○イリイン フセヴォロード (Lomonosov Moscow State Univ./Shirshov Inst. Oceanology, Russia), Victor Arkhipkin (Lomonosov Moscow State Univ., Russia), Igor Medvedev (Shirshov Inst. Oceanology, Russia)            |                                    |
| 16:00 | <b>O-4</b> Environmental safety and development of environmentally sustainable shipping along the Northern Sea Route<br>Olga Konovalova, Alexander Shestakov, Vladislav Kalenichenko, Alexey Skorina, Sergey Kirillov,<br>○ドハール アニータ, Nikolay Shabalin (Lomonosov Moscow State Univ., Russia) |                                    |
| 16:20 | <b>O-5</b> Numerical modeling of iceberg-generated tsunami<br>○ファン イ シュアン, Tso-Ren Wu, Pi-Chun Huang and Shu-Kun Hsu (Natl. Ctrl. Univ., Taiwan)  |                                    |
| 16:40 | 休憩  |                                    |
|       | <b>【P:ワークショップ、正しく行動するために:北極域の先住民族の権利の実装における日本の役割とその先】</b>   |                                    |
| 16:50 | 趣旨説明, 座長:Lindsay Arthur (Univ. Akureyri, Iceland)   |                                    |
| 17:00 | <b>P-1</b> Attempts of strengthening indigenous engagement in Japanese Arctic Research Projects<br>○榎本浩之 (極地研)  |                                    |
| 17:20 | <b>P-2</b> 気候変動枠組条約・生物多様性条約における先住民族の知識とアイヌの貢献の可能性<br>○木村ひとみ (大妻女子大)   |                                    |
| 17:40 | <b>P-3</b> 中央北極海漁業協定の実施と北極先住民族<br>○稲垣治 (神戸大)  |                                    |
| 18:00 | <b>P-4</b> The Arctic normative order? Roles and responsibilities of non-Arctic states in promoting indigenous rights globally<br>○Romain Chuffart (Univ. Akureyri, Iceland)  |                                    |
| 19:00 | 交歓の夕べ   |                                    |

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|       | <b>【K:ワークショップ、オホーツク海:地球のクールスポットが生み出す特異な気象・気候】</b>   | 座長: 豊田隆寛 (気象研) |
| 9:00  | <b>K-7</b> Sea ice conditions in the Sea of Okhotsk in the 2023/2024 winter season<br>○小室美紗, 福田義和, 浜田啓次, 赤坂有史 (気象庁)                   |                |
| 9:20  | <b>K-8</b> Relationship between snowfall in Niigata City and sea ice in the Okhotsk Sea<br>○阿部穂花 (新潟大院自科), 本田明治, 高橋直也 (新潟大理)          |                |
| 9:40  | <b>K-9</b> Atmospheric characteristics associated with plain-type snowfall in Niigata Prefecture<br>○木村祐輔 (新潟大院自科), 本田明治, 高橋直也 (新潟大理) |                |
| 10:00 | <b>K-10</b> The influence of the Okhotsk high on widespread and long-lasting heavy rainfall<br>○山田裕貴, 立花義裕, 春日悟 (三重大)                 |                |
| 10:20 | <b>K-11</b> Influence of the Okhotsk Sea on weather and climate in Japan<br>○本田明治 (新潟大理), 立花義裕 (三重大), 豊田隆寛 (気象研), 植田宏昭 (筑波大)          |                |
| 10:40 | 総合討論  |                |
| 10:50 | 休憩  |                |
| 11:00 | <b>【学術分科会閉会式】</b><br>講評<br>青田昌秋賞表彰式<br>閉会のことば 大塚夏彦 (北方圏国際シンポジウム実行委員会)   | 司会: 片倉靖次 (紋別市) |
| 12:00 | 昼食  |                |

【Extra】

**Ex-1** Johann August Miertsching and his circum-continental travel as Inuit language interpreter on board H.M.S. *Investigator*

ガストン デマーレ (ベルギー王立気象研究所, ベルギー), 田上善夫 (富山大),  
Astrid E. J. Ogilvie (Univ. Colorado, USA)

**Ex-2** Symphony of the ENSO -Correlations between sea level pressure and sea surface temperature-  
中陣隆夫 (東海大)

**Ex-3** ホタテ貝の漁獲統計、漁業・加工業と経済  
山田雅也 (北海道産業考古学会/北海道文化財保護協会)

2月17日(月)～18日(火)

9:00 【デモンストレーション】

17:00 北極観測を視野に入れた予測システムを体験 -短期及び中期予報技術の紹介-

出展：国立極地研究所・北極海氷情報室

地球温暖化が進行する中、特に北極地域での気温の上昇が著しくなっています。その結果、北極の夏期の海氷面積が減少し、北極航路の利用が注目されています。北極海氷情報室では、北極航路の活用や北極海観測に役立つ海氷中期予報や短期予報を、北極を航行する船舶や海洋地球研究船「みらい」に提供し、その有効性を検証してきました。展示では、実際に行っている予測の最新情報や海洋・海氷の変化とその影響を紹介します。海氷予測や温暖化の現状を一緒に考えてみましょう。

市民公開講座

2025年 2月17日(月)

13:30 【市民公開講座:オホーツク～ふるさとの海】

15:30 I オホーツク海におけるホタテガイ漁業の現状と課題  
秦 安史 (北海道立総合研究機構網走水産試験場)

II さけ・ます資源を守る取り組み  
宮腰 靖之 (北見管内さけ・ます増殖事業協会)

2月17日(月)

18:00 【市民公開講座:地球環境と自然を考えるフォーラム】

19:30 ～先住民から学び、自然の神秘を知るタベ～ 司会:石井 友也 (OEPN)

I サハリンの自然環境と先住民の植物利用  
水島 未記 (北海道博物館研究部自然研究グループ)

II 紋別市周辺における低緯度オーロラの事例紹介  
石原 宙 (北海道立オホーツク流氷科学センター)

総括: 大館 和広 (オホーツク環境ネット(OEPN))



2月18(火)

文化会館 1階ホール

|       |   |                            |
|-------|---|----------------------------|
|       | <b>【市民公開講座:オホーツク地域の冬災害を考える】</b><br>オホーツク地域の災害対応力の向上を考える ～能登半島地震から学ぶ～  | 司会:森 修二(網走開発建設部)           |
| 16:00 | 挨拶:大塚 夏彦(北方圏国際シンポジウム実行委員会/北海道立オホーツク流氷科学センター)  |                            |
| 16:05 | I 大規模災害に備えて   | 大場 久義(北海道開発局網走開発建設部)       |
| 16:15 | II 健康を保持する避難生活を実現するために  | 根本 昌宏(日本赤十字北海道看護大学)        |
| 16:55 | <b>休憩</b>   |                            |
| 17:05 | パネルディスカッション<br>『災害対応力の向上に向けた地域の思い』<br>[パネリスト] 葛西 堅造(気象庁 網走地方気象台) 久保 大輔(紋別市立渚滑中学校)<br>木下 優子(紋別市社会福祉協議会) 濱田 亮(北海道オホーツク総合振興局)<br>石川 眞(紋別市) | コーディネータ:根本昌宏(日本赤十字北海道看護大学) |
| 18:00 | 挨拶:鈴木 武彦(北海道開発局網走開発建設部)   |                            |

2月19日(水)

文化会館 1階ホール

|       |   |                 |
|-------|---|-----------------|
| 14:00 | <b>【市民公開講座:森から海の連環を考えるシンポジウム】</b><br>=最先端林業の現状=   | 開会挨拶:中村 雅俊(紋別市) |
| 14:05 | 講演:紋別の森から宇宙へ ～世界初の木造人工衛星の開発と新たな木の可能性について～<br>荻谷 健司(住友林業 筑波研究所)  |                 |
|       | 住友林業と京都大学が2020年4月より取り組んできた宇宙木材プロジェクト(LignoStella Project)、約4年の歳月をかけて開発した木造人工衛星(LignoSat)が完成した。様々な検証の結果を踏まえて、木造筐体には紋別で伐採されたホオノキ材を採用し、NASA・JAXAの厳しい安全審査をクリアして2024年11月に宇宙へ打ち上げられた。宇宙での木材利用に向けた課題や対策、プロジェクトを進める中で生まれた木材の新たな可能性や今後の展望などについて紹介する。 |                 |
| 15:20 | <b>休憩</b>   |                 |
| 15:30 | <b>質疑応答</b>   |                 |

2月19日(水)

紋別市立博物館

|       |  |                              |
|-------|--|------------------------------|
| 13:30 | <b>【市民公開講座:オホーツク・テロワール 2025 in 紋別】</b>                 |                              |
| 17:20 | オホーツク文化が残したメッセージ ～オホーツク文化の原点とオホーツク・ツーリズムの未来と可能性を探る 第2弾 |                              |
|       | 第1部 オホーツクの地で、土地にあるものを生かして循環する暮らしを実践している方々からの発表         |                              |
|       | I 江面 暁人(農家民宿えづらファーム)                                   | II 都丸 雅子(ゲストハウス nanmo-nanmo) |
|       | III 大黒 朱梨(三さるる舎)                                       | IV 遠藤 貴裕(ウツツの森)              |
|       | 第2部 外から見たオホーツクの可能性                                     |                              |
|       | I オホーツク遺跡街道観光の可能性                                      | 有山 忠男((株)ライブ環境計画)            |
|       | II オホーツクの自然と文化が持つ観光のチャンス                               | 西野 寛明((株)ロジカル)               |
|       | 第3部 フリーディスカッション -自然と文化を交流に活かす-                         | 進行:西野 寛明((株)ロジカル)            |

2月19日(水)

紋別市民会館 大ホール

|       |  |                      |
|-------|--|----------------------|
| 13:10 | <b>【子ども流氷シンポジウム】</b>                     | 司会進行:富宅 一昭(紋別市教育委員会) |
| 14:30 | I オホーツク海の流氷と地球環境<br>大塚 夏彦(オホーツク流氷科学センター) |                      |
|       | II 海の中の音を調べる<br>ポドリスキ エブゲニ(北海道大学)        |                      |
|       | 流氷クイズ大会                                  |                      |

2月15日(土)～3月23日(日)

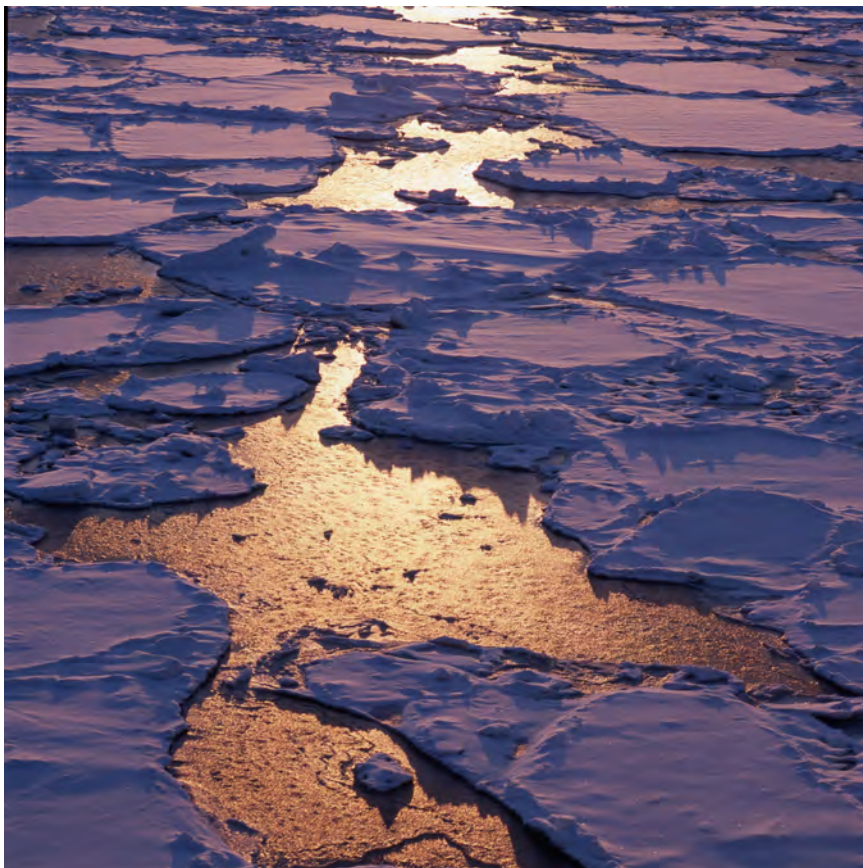
オホーツク流氷科学センター

|  |                                |
|--|--------------------------------|
|  | <b>【協賛行事】西紋写真部によるオホーツクの写真展</b> |
|--|--------------------------------|



# **The 39th International Symposium on the Okhotsk Sea & Polar Oceans**

**English**



**16-19 February 2025**

**Mombetsu Arts & Culture Center, Mombetsu Municipal Museum  
Mombetsu Machinaka Art Museum, Mombetsu Citizens' Public Hall  
Okhotsk Sea Ice Museum of Hokkaido**

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## PURPOSE OF SYMPOSIUM

*Sea ice covers 10% of the earth's oceans, which produces dynamic cycles in the atmosphere and in the oceans as a major factor in the global heat balance.*

*The Sea of Okhotsk is the lowest latitude freezing sea in the earth, and the coast of Hokkaido is the southern limit of sea ice in the Northern Hemisphere. Every winter, 60-70% of the Sea of Okhotsk is covered with sea ice, which has both merits and demerits in human lives.*

*Furthermore, the sea ice extent in the Arctic Ocean has decreased rapidly due to the recent global warming, which is a serious environmental problem. On the other hand, the "Arctic Sea Routes" between the Pacific Ocean and Europe has become important, and the international situation has become a sensitive issue.*

*For these reasons, sea ice deeply relates to the global environment and also to human activities such as fisheries, agriculture, and industry. Thus, The International Symposium on Okhotsk Sea & Polar Oceans covers varieties of topics of sea ice, global warming, environmental change, ecosystems and fisheries, and many subjects in the Okhotsk region.*

*This Symposium had been held every year in Mombetsu since 1986 until 2020, but was canceled in 2021 due to the COVID-19 pandemic. However, the academic sessions were held online in 2022, and by a hybrid style in 2023. And at last, in 2024, the Symposium was held in person style again. In addition, Public Programs, Symposium for Children, and Reception were also restarted. We hope that all participants will have fruitful discussions and warm up exchanges. Please enjoy the Symposium!!*

### Organized by

City of Mombetsu  
Symposium Committee

### Organized and Sponsored by

Okhotsk Sea and Polar Oceans Research Association (OSPORA)  
Arctic Research Center, Hokkaido University (ARC)  
National Institute of Polar Research (NIPR)  
Japan Agency for Marine-Earth Science and Technology (JAMSTEC)  
Institute of Low Temperature Science, Hokkaido University (ILTS)  
Kitami Institute of Technology (KIT)  
Tokai University, Sapporo Campus  
Tokyo University of Agriculture, Faculty of Bioindustry  
Tokyo University of Marine Science and Technology  
Graduate School of Fisheries Sciences, Hokkaido University  
Field Science Center for Northern Biosphere, Hokkaido University  
Atmosphere and Ocean Research Institute, The University of Tokyo (AORI)  
Hokkaido National Fisheries Research Institute  
Japan Consortium for Arctic Environmental Research (JCAR)

### International Advisory Committee

- Hajo Eicken, University of Alaska, Fairbanks, USA
- Hiroyuki Enomoto, National Institute of Polar Research, Japan
- Yasushi Fukamachi, Hokkaido University, Japan
- Katsushi Iwamoto, City of Mombetsu, Japan
- Koh Izumiyama, Hokkaido University, Japan
- Seiji Katakura, City of Mombetsu, Japan
- Hiromitsu Kitagawa, Ocean Policy Research Foundation, Japan
- Yutaka Michida, The University of Tokyo, Japan
- Humio Mitsudera, Hokkaido University, Japan
- Ferdenant A. Mkrtychyan, Institute of Radioengineering & Electronics, Russia
- Satoshi Nagai, Japan Fisheries Research and Education Agency, Yokohama Branch, Japan
- Tsuneo Nishiyama, Prof. Emer., Tokai University, Japan
- Natsuhiko Otsuka, Okhotsk Sea Ice Museum of Hokkaido, Japan
- Toshihiro Ozeki, Hokkaido University of Education, Sapporo Campus, Japan
- Satoru Taguchi, National Institute of Polar Research, Japan
- Shuhei Takahashi, Prof. Emer., Kitami Institute of Technology, Japan
- Kazutaka Tateyama, Kitami Institute of Technology, Japan
- Hajime Yamaguchi, National Institute of Polar Research, Japan

(Alphabetical order)

13:30-14:30 ◇ **Registration** [2F Lobby]

14:30-16:20 ◇ **Opening Ceremony** [Main Hall]

■ **Welcome Address**

|                    |   |
|--------------------|---|
| Yoshikazu Miyakawa | Mayor, City of Mombetsu                         |
| Natsuhiko Otsuka   | Chair, The Symposium Committee                  |
| Hiroaki Nomura     | Director, Okhotsk General Subprefectural Bureau |

■ **Introduction of Overseas Participants**

**Austria**

|                        |                          |
|------------------------|--------------------------|
| Mr. Andreas Cziferszky | British Antarctic Survey |
|------------------------|--------------------------|

**Canada**

|                            |                                     |
|----------------------------|-------------------------------------|
| Dr. Aileen Aseron Espiritu | UiT The Arctic University of Norway |
| Mr. Félix St-Denis         | McGill University                   |

**Finland**

|                        |                       |
|------------------------|-----------------------|
| Prof. Johanna Ikävalko | University of Lapland |
|------------------------|-----------------------|

**France**

|                      |                          |
|----------------------|--------------------------|
| Dr. Gaëlle Veyssière | British Antarctic Survey |
|----------------------|--------------------------|

**Iceland**

|                      |                        |
|----------------------|------------------------|
| Prof. Lindsay Arthur | University of Akureyri |
|----------------------|------------------------|

**Norway**

|                     |  |
|---------------------|--|
| Prof. Stein Sandven | Nansen Environmental and Remote Sensing Center |
| Prof. Kjell Stokvik | Nord University                                |

**Taiwan**

|                             |                                 |
|-----------------------------|---------------------------------|
| Prof. Hwa Chien             | National Central University     |
| Mr. Ya-Fan Chung            | National Taiwan University      |
| Dr. Slawomir Jacek Giletycz | National Central University     |
| Prof. Hung-Chu Hsu          | National Sun Yat-sen University |
| Mr. Wei-Tzu Liu             | National Central University     |
| Prof. Chuen-Fa Ni           | National Central University     |
| Dr. Whyjay Zheng            | National Central University     |

**United Kingdom**

|                      |                          |
|----------------------|--------------------------|
| Mr. Michael Thorne   | British Antarctic Survey |
| Dr. Jeremy Wilkinson | British Antarctic Survey |

**United States of America**

|                   |                                |
|-------------------|--------------------------------|
| Prof. Hajo Eicken | University of Alaska Fairbanks |
|-------------------|--------------------------------|

■ **Greetings**

|                        |                       |
|------------------------|-----------------------|
| Prof. Johanna Ikävalko | University of Lapland |
|------------------------|-----------------------|

- **Attraction:** Dance by Mombetsu Otani Kindergarten
- Unicycle Kids performance
- Mombetsu Elementary School Brass Band

■ **Special Lecture**

*(in Japanese language only)*

「Adventuring Polar Region」 Yasunaga Ogita, Arctic Adventurer

18:00-19:30 ◇ **Memorial Reception (Banquet)** [3F]

**Monday 17 February**

**Mombetsu Arts & Culture Center**

**[1F Main Hall]**

9:00-9:10 **Opening Address** Natsuhiko Otsuka (Chair of the Symposium Committee)  
Explanation of the Aota Masaaki Award

9:10-11:50 **Keynote Address, Session A**

9:10 **A-1** Overview of the Arctic research vessel “MIRAI II”  
Eisuke Akane (Japan Agency for Marine-Earth Science and Technology, JAMSTEC)

9:40 **A-2** The Arctic: past, present, and future -Initiatives of the Sasakawa Peace Foundation-  
Atsushi Sunami (Sasakawa Peace Foundation)

10:20 **A-3** Ecological interactions between viruses and copepods: A study using continuous ocean  
monitoring in the Okhotsk Sea off Mombetsu  
Junya Hirai (Atmosphere and Ocean Research Institute, The University of Tokyo)

10:50 **A-4** Grand challenges and opportunities in a rapidly changing Arctic: Perspectives from Alaska  
Hajo Eicken, Nancy Fresco (International Arctic Research Center, University of Alaska  
Fairbanks, Fairbanks, USA)

11:20 **A-5** Prospects of polar research: Initiatives of the National Institute of Polar Research  
Yoshifumi Nogi (National Institute of Polar Research)

13:30-16:40 **Workshop B : Arctic Research Activities and Future Plan by Asian and  
Arctic Institutions**

**Monday 17 February**

**Mombetsu Arts & Culture Center**

**[3F Meeting Room]**

13:30-14:30 **Scientific Session C : Sea Ice Region Engineering**

14:40-15:40 **Scientific Session D : Biogeochemistry**

**[3F Special Conference Room]**

13:30-15:30 **Public Program : Our Home Okhotsk Sea** *(in Japanese language only)*

I. Current conditions and issues of scallop fishery in the Okhotsk Sea  
Yasufumi Hada (Abashiri Fish. Res. Inst.)

II. Current programs to conserve salmon populations  
Yasuyuki Miyakoshi (Kitami Salmon Enhancement Program Assoc.)

15:50-17:40 **Scientific Session E : Snow, Ice and Human Life**

**Monday 17 February**

**Mombetsu Municipal Museum**

13:00-17:50 **Workshop F : Emerging Changes in the Coupled Polar Climate Systems**

**Monday 17 February**

**Mombetsu Municipal Museum**

**【Entrance Hall】**

**18:00-19:30 Public Program : Forum for Considering the Global Environment and Nature**

An Evening of Learning from Indigenous People and Discovering the Mysteries of Nature

by **OEPN** (Okhotsk Environment Protection Net)

*(in Japanese language only)*

- I Natural environment of Sakhalin and traditional plant use by indigenous peoples  
Mik i Mizushima (Senior Curator Natural History Gr., Res. Div., Hokkaido Museum)
- II Case studies of low-latitude aurora around Mombetsu City  
Hiromu Ishihara (Okhotsk Sea Ice Museum of Hokkaido)

Review, Hirokazu Odate (OEPN)

**Tuesday 18 February**

**Mombetsu Arts & Culture Center**

**【1F Hall】**

**9:00-11:35 Workshop G : Interactions between the Antarctic Ice Sheet and the Global Climate System**

**13:00-15:30 Scientific Session H : Meteorology, Climate, and Physical Oceanography**

**16:00-18:00 Public Program : Consideration of Winter Weather Disasters in the Okhotsk Region**  
*(in Japanese language only)*

Considering the Improvement of Disaster Response Capability in the Okhotsk Region  
-Learning from the Noto Peninsula Earthquake-

- I Preparing for a major disaster  
Hisayoshi Oba (Abashiri Develop. Constr. Dept., Hokkaido Develop. Bu.)
- II How to achieve a health-preserving evacuation  
Masahiro Nemoto (Japanese Red Cross Hokkaido College of Nursing)

Panel Discussion "Local Thoughts for Improving Disaster Response Capabilities"

**【3F Special Conference Room】**

**9:00-17:50 Workshop I : The Changing Ice-Covered Ocean and New Utilization**

**【3F Meeting Room】**

**9:00-11:55 Workshop J : Review of the Arctic Governance by East-Asian Perspective**

**15:30-17:45 Workshop K : The Okhotsk Sea: Unique Weather and Climate Generated by the Earth's Cool Spot**

**Mombetsu Municipal Museum**

**9:00-10:45 Workshop L : The Dynamics and Roles of Plankton in Boreal Waters**

**10:55-15:10 Workshop M : Current Status and Future Prospects of Fisheries Industry in Hokkaido, Japan**

**15:20-18:35 Workshop N : Environmental-Social Changes and Seabirds and Marine Mammals**

**Tuesday 18 February**

《Online Session》

**Machinaka Art Museum**

15:00-16:40 **Scientific Session O : Online Session**

16:50-18:20 **Workshop P : Doing Things the Right Way: What Role for Japan to Implement the Rights of Indigenous Peoples in the Arctic and Beyond?**

**Hotel Okhotsk Palace**

19:00~20:30 **Dinner Party for Friendship between Scientists & Volunteers**



**Wednesday 19 February**

**Arts & Culture Center**

**[1F Hall]**

9:00-10:50 **Workshop K : The Okhotsk Sea: Unique Weather and Climate Generated by the Earth's Cool Spot**

11:00-11:30 **Closing Session**

- A Review of the Symposium,
- Prize-awarding Ceremony of the Aota Masaaki Award
- Closing Remarks, Natsuhiko Otsuka (Chair of the Symposium Committee)

*(in Japanese language only)*

14:00-16:00 **Public Program : Symposium on the Forest-Ocean Linkage**  
=Cutting Edge of Forestry=

From the forest in Mombetsu toward the universe  
~ development of world's first wooden satellite and new possibilities of wood  
Kenji Kariya (Tsukuba, Res. Inst., Sumitomo Forestry Co., Ltd.)

**Mombetsu Municipal Museum**

*(in Japanese language only)*

13:30-17:20 **Public Program : The Okhotsk Terroir Symposium 2025 in Mombetsu**

Left message from the Okhotsk People and Culture

~ Examining the Origin of the Okhotsk Culture and Future Potential of Okhotsk Tourism-II ~

Part 1 Reports on the Actual Recirculating Life in the Okhotsk region

Part 2 Possibility of the Okhotsk Region, Perspective from the Outside

Part 3 Free Discussion, -How We Can Utilize Okhotsk Nature and Culture for Further Interaction-

**Mombetsu Citizens' Public Hall**

13:10-14:30 **Symposium on Sea Ice for Children**

*(in Japanese language only)*

Chair, Kazuaki Tomiyasu (Board of Education, Mombetsu City Office)

I. Sea ice, the Sea of Okhotsk, and earth's environment"

Natsuhiko Otsuka (Director, Okhotsk Sea Ice Museum of Hokkaido)

II. Listen to the underwater sound of the Arctic"

Evgeniy Podolskiy (Associate Professor, Arctic Research Center, Hokkaido University)

III. Drift Ice Quiz



Monday 17 - Tuesday 19 February

Mombetsu Arts & Culture Center

**Observation Equipment Technology Exhibition**

**[ 1 F Lobby]**



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Monday 17 - Tuesday 18 February

Mombetsu Arts & Culture Center

**[ 3 F Lobby]**

**Demonstration : Experience of Forecasting Systems with a View to Arctic Observation**  
**- Introduction of Short- and Mid-term Forecasting Techniques -**  
*by Arctic Sea Ice Information Center, National Institute of Polar Research, **NIPR***

As global warming progresses, temperatures are rising significantly, especially in the Arctic region. Consequently, the summer sea ice extent in the Arctic is decreasing, drawing attention to the use of the Arctic Passage. The Arctic Sea Ice Information Center has been providing mid-term and short-term sea ice forecasts, which are useful for navigating the Arctic Passage and observing the Arctic Ocean, to vessels operating in the Arctic and to the oceanographic research vessel "Mirai" to verify their effectiveness.

The exhibit will present the latest information on these forecasts and the changes in oceans and sea ice, as well as their impacts. Let's think together about the current state of sea ice forecasting and global warming.

Saturday 15 February ~ Sunday 23 March

Okhotsk Sea Ice Museum

**Sponsorship Event Okhotsk Photo Exhibition by "Nishi-Mom Photo Club"**

|       |   |  |
|-------|---|--|
| 9:00  | <b>【Opening Session】</b><br>Opening Address: Natsuhiko Otsuka (Chair of the Symposium Committee)<br>Explanation of the Aota Masaaki Award   | Chair, Seiji Katakura (City of Mombetsu)         |
| 9:10  | <b>【A:Keynote Address】</b><br><b>A-1</b> Overview of the Arctic research vessel “MIRAI II”<br>○Eisuke Akane (JAMSTEC)   | Chair, Natsuhiko Otsuka (Okhotsk Sea Ice Museum) |
| 9:40  | <b>A-2</b> The Arctic: past, present, and future -Initiatives of the Sasakawa Peace Foundation-<br>○Atsushi Sunami (Sasakawa Peace Foundation)  |  |
| 10:10 | Break   |  |
| 10:20 | <b>A-3</b> Ecological interactions between viruses and copepods: A study using continuous ocean monitoring in the Okhotsk Sea off Mombetsu<br>○Junya Hirai (Univ. Tokyo)  |  |
| 10:50 | <b>A-4</b> Grand challenges and opportunities in a rapidly changing Arctic: Perspectives from Alaska<br>○Hajo Eicken, Nancy Fresco (Univ. Alaska, USA), Go Iwahana (Univ. Alaska, USA/Hokkaido Univ., Japan), Igor Polyakov, Scott Rupp, Erik Schoen (Univ. Alaska, USA), Hisatomo Waga (Univ. Alaska, USA/NIPR, Japan) and Harmony Wayner (Univ. Alaska, USA)  |  |
| 11:20 | <b>A-5</b> Prospects of polar research: Initiatives of the National Institute of Polar Research<br>○Yoshifumi Nogi (NIPR)   |  |
| 11:50 | Lunch   |  |
|       | <b>【B:Workshop, Arctic Research Activities and Future Plan by Asian and Arctic Institutions】</b>  |  |
| 13:30 | Introduction and Chair, Yuji Kodama (Hokkaido Univ.)  |  |
| 13:35 | <b>B-1</b> From HAI-FES to AANRE -Building a research and education network linking Asia and the Arctic-<br>○Shotaro Uto and Yuji Kodama (Hokkaido Univ.)   |  |
| 13:55 | <b>B-2</b> Rapid Arctic change: International Arctic Research Center collaborations<br>○Hajo Eicken, Nancy Fresco (Univ. Alaska, USA), Go Iwahana (Univ. Alaska, USA/Hokkaido Univ., Japan), Igor Polyakov, Scott Rupp, Erik Schoen (Univ. Alaska, USA), Hisatomo Waga (Univ. Alaska, USA/NIPR, Japan) and Harmony Wayner (Univ. Alaska, USA)   |  |
| 14:15 | <b>B-3</b> TaiPI: A research and education platform to bridge scientific knowledge and global warming actions<br>○Chuen-Fa Ni, Hwa Chien, Slawomir Jack Giletycz, Whyjay Zheng, Ping-Yu Chang, Kao-Shen Chung, Pei-Chuan Chuang and Wei-Tzu Liu (Natl. Ctrl. Univ., Taiwan)   |  |
| 14:35 | <b>B-4</b> Integrating and sustaining Arctic Ocean Observation Systems<br>Hanne Sagen, ○Stein Sandven, Espen Storheim (Nansen Environmental Remote Sensing Ctr. Norway), Matthew Dzieciuch (Univ. California San Diego, USA), Arild Sundfjord, (Norwegian Polar Inst., Norway), Mathilde B. Sørensen (Univ. Bergen, Norway), Jens Abrahamsen, Peter Skagen, (NAXYS TECH, Norway), Bjarte Langeland, Truls Munch-Ellingsen (Stinger AS, Norway), Normen Lochthofen, Thomas Soltwedel (Alfred Wegner Inst. Mar. Polar Res., Germany) and Agnieszka Beszczyńska-Möller (Inst. Oceanology Acad. Sci., Poland) |  |
| 14:55 | Break   |  |
| 15:05 | <b>B-5</b> We know the Arctic -Arctic Centre, University of Lapland, Finland<br>○Johanna Ikävalko (Univ. Lapland, Finland)  |  |
| 15:25 | <b>B-6</b> TaiPI data repository: a Taiwan-based polar data infrastructure built for open science<br>○Whyjay Zheng, and Ilham Adi Panuntun (Natl. Ctrl. Univ., Taiwan)  |  |
| 15:45 | <b>B-7</b> Arctic research at Nord University<br>○Kjell Stokvik (Nord Univ., Norway)  |  |
| 16:05 | <b>B-8</b> Advancing Arctic Research: UAV mapping and geological insights in Svalbard and the role of Taiwan's Arctic station in earth sciences<br>○Slawomir Jacek, Chuen-Fa Ni, Fang-Yi Tsai, Yue-Qi Chaung, Ireneusz Sobota, Kamil Czarniecki, and Chian-Hwa (Natl. Ctrl. Univ., Taiwan)  |  |
| 16:25 | Discussion  |  |

Monday 17 Feb. 2025

Arts & Culture Center, 3F Meeting Room

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|       | <b>【C:Sea Ice Region Engineering】</b>  | Chair, Akihisa Konno (Kogakuin Univ.)   |
| 13:30 | <b>C-1</b> Consideration of measurement methods for the characteristics of brash ice pieces in ice tank tests<br>○Keisuke Anzai, Shigeya Mizuno and Yutaka Yamauchi (Technical Res Ctr., Japan Mar. United Corp.)  |   |
| 13:50 | <b>C-2</b> Examination of ship beset incident by sea ice volume convergence<br>○Natsuhiko Otsuka (Hokkaido Univ./Sasakawa Peace Foundation)  |   |
| 14:10 | <b>C-3</b> A Framework and trial calculations of navigability assessment of ships in ice waters<br>○Shotaro Uto (Hokkaido Univ.) and Natsuhiko Otsuka (Okhotsk Sea Ice Museum)   |   |
| 14:30 | Break  |   |
|       | <b>【D:Biogeochemistry】</b>   | Chair, Takafumi Hirata (Hokkaido Univ.) |
| 14:40 | <b>D-1</b> Geochemical characteristics of particulate iron in the atmosphere and the sea ice in the southern Sea of Okhotsk<br>○★A Yuta Iwamoto, Aiko Murayama and Jun Nishioka (Hokkaido Univ.)   |   |
| 15:00 | <b>D-2</b> In situ observation of hyper spectral radiation at the Okhotsk Tower for validation of satellite measurements of ocean color<br>○Takafumi Hirata (Hokkaido Univ.), Natsuhiko Otsuka (Okhotsk Sea Ice Museum), Katsushi Iwamoto and Seiji Katakura (City of Mombetsu)  |   |
| 15:20 | <b>D-3</b> Seasonal variations of atmospheric organic aerosols by the continuous year-round measurements at the Okhotsk Tower in Mombetsu<br>○Yuzo Miyazaki, Eri Tachibana (Hokkaido Univ.), Hitomi Yoshida (Garinko&Tower Co., Ltd.), Zhengyang Fang (Hokkaido Univ.), Katsushi Iwamoto and Seiji Katakura (City of Mombetsu) |   |
| 15:40 | Break  |   |

Monday 17 Feb. 2025

Arts & Culture Center, 3F Special Conference Room

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|       | <b>【E:Snow, Ice and Human Life】</b>  | Chair, Shuhei Takahashi (Kitami Inst. Tech.) |
| 15:50 | <b>E-1</b> How do you feel about the Arctic?<br>Changing emotional representations of the Arctic in English literature from 1500 to the present<br>○Artem Suslov (Hokkaido Univ.)  |  |
| 16:10 | <b>E-2</b> Improving winter life in Sapporo: Proposals by Nitobe College graduate students and collaboration with the City of Sapporo<br>○Marina Lomaeva, Eman H.E. Toulabah, Chinatsu Igarashi, Atsuko Inoue, Emmilce A. Morillas, Taejun Son and Seralathan Dilushi (Hokkaido Univ.)   |  |
| 16:30 | <b>E-3</b> A comparative study of Arctic and northern indigenous tourism across three sites<br>○Juha Saunavaara and Takafumi Fukuyama (Hokkaido Univ.)   |  |
| 16:50 | Break  |  |
| 17:00 | <b>E-4</b> Digital forestry solutions and data-based decision-making: Lessons from Hokkaido and Finland<br>○Juha Saunavaara (Hokkaido Univ.), Tuomo Puumalainen, Yoshito Shimizu (OY Arbonaut Ltd., Finland) and Ram Avtar (Hokkaido Univ.)  |  |
| 17:20 | <b>E-5</b> Fluid simulation analysis of “temperature-adjustable bench” in cold regions -Nikko City zero carbon promotion project-<br>○★A Kouki Toyama, Reo Yamaguchi, Muhammad Najib Roslan, Namie Umezaki, Chinari Watanabe (Utsunomiya Univ.), Abdulgaphur Abdulkhadar Athani (Univ. Tech. Malacca, Malaysia), Mohd Ridha Muhamad (Univ. Malaya, Malaysia), Noriyoshi Yokoo and Kei Horio (Utsunomiya Univ.) |  |

○★A The Aota Masaaki Award Candidate

| <b>【F:Workshop, Emerging Changes in the Coupled Polar Climate Systems】</b> |   |
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| 13:00  | Introduction and Chair, Jun Inoue (NIPR)  |
| 13:05  | <b>F-1</b> Analysis of extreme warming events for annual observation at Dome Fuji, inland station of the East Antarctica<br>○Kyohei Yamada (NIPR), Jun Inoue and Naohiko Hirasawa (NIPR/SOKENDAI)   |
| 13:25  | <b>F-2</b> Modeling the supercooled liquid water clouds in the mid-troposphere over the Southern Ocean<br>○Jun Inoue, Kazutoshi Sato (NIPR/SOKENDAI), Kyohei Yamada (NIPR), Masashi Niwano (Meteorological Res. Inst.), Hitoshi Matsui (Nagoya Univ.), Jan Landwehrs and Annette Rinke (Alfred Wegener Inst., Germany)            |
| 13:45  | <b>F-3</b> Causes of the abrupt and sustained 2016-2023 Antarctic sea-ice decline: A sea ice-ocean model study<br>○Kazuya Kusahara and Hiroaki Tatebe (JAMSTEC)   |
| 14:05  | Break   |
|  | Chair, Kyohei Yamada (NIPR)   |
| 14:15  | <b>F-4</b> Predictability of sensor icing caused by supercooled fog in polar ocean operations<br>○Souichiro Sueyoshi (Nippon Mar. Enterprises, Ltd.)  |
| 14:35  | <b>F-5</b> Verification of temperature forecasts by observations during an Arctic cruise of R/V Mirai in November 2018 and analysis of positive error cases around the marginal ice zone<br>○Akio Yamagami (Ctr. Environmental Sci. Saitama), Takahiro Toyoda (Meteorological Res. Inst.) and Jun Inoue (NIPR)                    |
| 14:55  | <b>F-6</b> Impact of anthropogenic aerosols on Arctic amplification in a long-term future climate using a climate model<br>○Jun Ono (NIPR), Manabu Abe, Hiroaki Tatebe and Yoshiki Komuro (JAMSTEC)   |
| 15:15  | Break   |
|  | Chair, Takahiro Toyoda (Meteorological Res. Inst.)  |
| 15:25  | <b>F-7</b> Variations of current velocities in the Bering Strait in winter: Influences of local Ekman transport and inter ocean sea level difference detected by surface wind and sea ice velocities<br>○★A Kohei Hayakawa and Koji Shimada (Tokyo Univ. Mar. Sci. Tech.)   |
| 15:45  | <b>F-8</b> Decadal variation in sea ice meltwater amount in the Beaufort Gyre and its relationship with Arctic multi-year ice loss<br>○★A Y. C. Chen, Vigan Mensah and Kay. I. Ohshima (Hokkaido Univ.)   |
| 16:05  | <b>F-9</b> Mechanisms of winter SST variations in the subpolar North Atlantic Ocean: Influences of Arctic sea ice discharge and Gulfstream<br>○★A Hirotomoto Takahashi and Koji Shimada (Tokyo Univ. Mar. Sci. Tech.)   |
| 16:25  | Break   |
|  | Chair, Kazuya Kusahara (JAMSTEC)  |
| 16:35  | <b>F-10</b> Variation mechanism and predictability of early winter sea ice in the Barents and Kara Seas in new Arctic climate regime after 2008<br>○★A Kanata Oishi and Koji Shimada (Tokyo Univ. Mar. Sci. Tech.)  |
| 16:55  | <b>F-11</b> A variation in the sea ice area in the East Siberian Sea in summer<br>○★A Rin Harada and Koji Shimada (Tokyo Univ. Mar. Sci. Tech.)   |
| 17:15  | <b>F-12</b> Sensitivity of the Arctic sea ice representation to the ice thickness category resolution in an OGCM<br>○Takahiro Toyoda, L. Shogo Urakawa, Kei Sakamoto, Yuma Kawakami, Kunihiro Aoki, Hideyuki Nakano, Yuhei Takaya, Katsuya Toyama, Naohiro Kosugi, Yoshiteru Kitamura and Masao Ishii (Meteorological Res. Inst.) |
| 17:35  | Discussion  |

| <b>【G:Workshop, Interactions between the Antarctic Ice Sheet and the Global Climate System】</b> |  |
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| 9:00  | Introduction and Chair, Shuntaro Hyogo (Hokkaido University)   |
| 9:05  | <b>G-1</b> Subglacial lake activities in the Shirase drainage basin, east Antarctica, during 2010-2023<br>○Ken Kondo (Nagoya Univ.) and Masahiro Minowa (Hokkaido Univ.)   |
| 9:25  | <b>G-2</b> High-resolution estimation of sea-ice melt amount in the Southern Ocean, comparing with the climatology of the ice melt amount<br>○★A Mizuki Komatsu, Kay I Ohshima (Hokkaido Univ.), Noriaki Kimura (Univ. Tokyo.), Sohey Nihashi (Hokkaido Univ./Natl. Inst. Tech., Tomakomai KOSEN), Masakazu Fujii (NIPR/SOKENDAI), Masashi Machida (Hokkaido Univ.) and Takeshi Tamura (NIPR/SOKENDAI) |

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| <p><b>【G:Workshop, Interactions between the Antarctic Ice Sheet and the Global Climate System】</b></p> <p style="text-align: right;">Chair, Shuntaro Hyogo (Hokkaido University)</p> |   |
| 9:45   | <p><b>G-3</b> Development of Weddell Sea regional model</p> <p>○★A Hiroki Moriyoshi (Hokkaido Univ.), Yoshihiro Nakayama (Dartmouth College, USA), Mathias van Caspel, Markus Janout (Alfred Wegener Inst., Germany) and Alena Malyarenko (Univ. Canterbury, New Zealand)</p>   |
| 10:05  | <p><b>G-4</b> Development of the ocean model with improved reproducibility of thermocline and halocline off Totten Glacier, Antarctica</p> <p>○★A Shuntaro Hyogo (Hokkaido Univ.), Yoshihiro Nakayama (Dartmouth College, USA), Masakazu Fujii, Takeshi Tamura (NIPR/SOKENDAI), Ayako Abe-Ouchi (Univ. Tokyo) and Shigeru Aoki (Hokkaido Univ.)</p>   |
| 10:25  | Break   |
| <p style="text-align: right;">Chair, Keiko Takehara (Hokkaido Univ.)</p>   |   |
| 10:35  | <p><b>G-5</b> Impact of wind stress changes on the Antarctic Circumpolar Current -A comparison between 50 km and 5 km resolution models-</p> <p>○★A Shinnosuke Yoshida and Takuro Matsuta (Hokkaido Univ.)</p>  |
| 10:55  | <p><b>G-6</b> Impact of ocean physical conditions on atmospheric CO2 concentration at the last glacial maximum</p> <p>○Miyano Nishida, Akira Oka (Univ. Tokyo.) and Hidetaka Kobayashi (Univ. Toyama),</p>  |
| 11:15  | <p><b>G-7</b> Precipitation isotope variations in inland Antarctica influenced by daily-scale precipitation</p> <p>○★A Kanon Kino, Alexandre Cauquoin (Univ. Tokyo), Atsushi Okazaki (Chiba Univ.), Taikan Oki and Kei Yoshumura (Univ. Tokyo)</p>  |
| 11:35  | Lunch   |
| <p><b>【H:Meteorology, Climate, and Physical Oceanography】</b></p> <p style="text-align: right;">Chair, Akio Yamagami (Ctr. Environmental Sci. Saitama)</p>                           |   |
| 13:00  | <p><b>H-1</b> Detection of extremely weak precipitation in Rikubetsu, inland Hokkaido, Japan</p> <p>○Naohiko Hirasawa (NIPR/SOKENDAI) and Hiroyuki Konishi (Osaka Kyoiku Univ.)</p>   |
| 13:20  | <p><b>H-2</b> Estimation of visibility from mass flux of snow at weather stations in Hokkaido</p> <p>○Yuji Miki and Youmei Kawamura (Wakkanai Meteorological Office)</p>  |
| 13:40  | <p><b>H-3</b> Ice floe movements around bridge piers during the event of winter-season tsunami run-up into rivers</p> <p>○Takaaki Abe (Civil Engineering Res. Inst. Cold Region) and Yasuhiro Yoshikawa (Kitami Inst. Tech.)</p>  |
| 14:00  | Break   |
| <p style="text-align: right;">Chair, Jun Ono (NIPR)</p>  |   |
| 14:10  | <p><b>H-4</b> Decadal changes of water mass properties in the Bering Sea from 2007 to 2022</p> <p>○Hung-Wei Shu (JAMSTEC/Japan Fish. Res. Educ. Agcy.), Takuya Nakanowatari, Tomohiro Azumaya, Kentaro Honda, Tomoki Sato, Shunpei Sato (Japan Fish. Res. Educ. Agcy.), Hiroaki Tatebe, Shinya Kouketsu (JAMSTEC), Humio Mitsudera (Hokkaido Univ.), Takao Kawasaki (Univ. Tokyo), Yoshihiro Nakayama (Dartmouth College, USA), Sinichiro Kida (Kyushu Univ.), Tomohiro Nakamura (Hokkaido Univ.), Kiyoshi Tanaka (Univ. Tokyo) and Hiroshi Kuroda (Japan Fish. Res. Educ. Agcy.)</p> |
| 14:30  | <p><b>H-5</b> Unprecedented oceanographic conditions in October 2024 around the Oyashio and Coastal Oyashio off the southeastern coast of Hokkaido, Japan</p> <p>○Hiroshi Kuroda, Yukiko Taniuchi and Takuya Nakanowatari (Japan Fish. Res. Educ. Agcy.)</p>  |
| 14:50  | <p><b>H-6</b> Preliminary drifting buoy observations of the ice-free zone phenomenon in the Gulf of Patience in 2023</p> <p>○Hwa Chien, Li-Ching Lin, An-Shi Wang and Huang-Meng Chang (Natl. Ctrl. Univ., Taiwan)</p>  |
| 15:10  | <p><b>H-7</b> Nonlinear flexural-gravity wave in Arctic Sea</p> <p>○Hung-Chu Hsu and Hung-Yu Huang (Natl. Sun Yat-Sen Univ., Taiwan)</p>  |
| 19:00  | Dinner Party with Volunteer Groups  |



| <b>[I: Workshop, The Changing Ice-Covered Ocean and New Utilization]</b> |  |
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| 9:00   | Introduction and Chair, Takuji Waseda (Univ. Tokyo)  |
| 9:05   | <b>I-1</b> New technology for the simultaneous monitoring of sea ice thickness and overlying snow depth<br>○Jeremy Wilkinson (British Antarctic Survey, UK), Danny Hills, Rauan Khangerey, Becan Lawless and Liam Marsh (Univ. Manchester, UK)   |
| 9:25   | <b>I-2</b> Understanding the impact of predicted changes in sea ice on the under-ice lightscape within the Sea of Okhotsk<br>○★A Gaëlle Veyssière (British Antarctic Survey/Univ. College London, UK), Daiki Nomura (Hokkaido Univ.), Tomonori Tanikawa (Meteorological Res. Inst.), Takenobu Toyota (Hokkaido Univ.), Takahiro Toyoda (Meteorological Res. Inst.), Hiroyuki Enomoto (NIPR) and Jeremy Wilkinson (British Antarctic Survey, UK)  |
| 9:45   | <b>I-3</b> Investigation of a method for extracting deformed ice using machine learning on high-resolution SAR images<br>○Kentaro Ono and Akihisa Konno (Kogakuin Univ.)   |
| 10:05  | <b>I-4</b> A new method for deriving sea ice thickness based on sea ice history using satellite data<br>○Noriaki Kimura and Hiroyasu Hasumi (Univ. Tokyo.)   |
| 10:25  | <b>Break</b>   |
| 10:35  | <b>Chair, Akihisa Konno (Kogakuin Univ.)</b><br><b>I-5</b> A Polar Oceans Shipping Information System<br>○Michael A.S. Thorne (British Antarctic Survey, UK), Franz von Bock und Polach (Hamburg Univ. Tech., Germany), Andreas Cziferszky, Andrew Fleming, Dougal Goodman (British Antarctic Survey, UK), Takashi Kikuchi (JAMSTEC), Tsubasa Kodaira, Kohei Mikami, Hideaki Murayama (Univ. Tokyo), Junji Sawamura (Osaka Univ.), Mikko Suominen (Aalto Univ., Finland), Alex J. Tate (British Antarctic Survey, UK), Jukka Tuhkuri (Osaka Univ.), Peter Wadhams (Univ. Cambridge, UK), Takuji Waseda (Univ. Tokyo) and Jeremy Wilkinson (British Antarctic Survey, UK) |
| 10:55  | <b>I-6</b> Fundamental calculation of ship hull deformation during continuous icebreaking -Structural response in different ice pressure area-<br>○★A Aoi Genda and Junji Sawamura (Osaka Univ.)   |
| 11:15  | <b>I-7</b> Experimental investigation of ship longitudinal response in small ice floes and wave interaction<br>○Junji Sawamura (Osaka Univ.), Akihisa Konno and Taiki Tokudome (Kogakuin Univ.)  |
| 11:35  | <b>I-8</b> Relationship between sea ice thickness and ramming frequency in drift ice and fast ice of Lützow-Holm Bay, East Antarctica<br>○★A Shotaro Muraoka and Kazutaka Tateyama (Kitami Inst. Tech.)  |
| 11:55  | <b>I-9</b> Simulation for icebreaking navigation of icebreaker “Shirase”<br>○★A Yukihide Ishiyama, Tsubasa Kodaira, Takehiko Nose, Kohei Mikami (Univ. Tokyo), Kazutaka Tateyama (Kitami Inst. Tech.) and Takuji Waseda (Univ. Tokyo)  |
| 12:15  | <b>Lunch</b>   |
| 13:30  | <b>Chair, Junji Sawamura (Osaka Univ.)</b><br><b>I-10</b> A preliminary calculation of design ice load for offshore wind power generation facility using ice, meteorological and satellite data<br>○★A Yusuke Kohama, Kazutaka Tateyama (Kitami Inst. Tech.) and Shotaro Uto (Hokkaido Univ.)  |
| 13:50  | <b>I-11</b> Numerical method for quantitative evaluation of ice accretion on ship superstructures<br>○Kentaro Suizu, Akihisa Konno (Kogakuin Univ.) and Toshiro Ozeki (Hokkaido Univ. Educ. Sapporo)   |
| 14:10  | <b>I-12</b> Review of the latest ship activity along the Northern Sea Route -Cargo and voyages-<br>○Natsuhiko Otsuka (Hokkaido Univ./Sasakawa Peace Foundation) and Kjell Stokvik (Ct. High North Logistics, Norway)   |
| 14:30  | <b>I-13</b> Operational sea ice information services and Polar View -a UK perspective<br>○Andreas Cziferszky and Andrew Fleming (British Antarctic Survey, UK)   |
| 14:50  | <b>I-14</b> Arctic shipping and global greenhouse gas pricing: A simulation with computational general equilibrium and simple climate model-<br>○Trang Tran and Ryuichi Shibasaki (Univ. Tokyo)  |
| 15:10  | <b>I-15</b> Production of navigation support information in the ice-covered sea using satellite data based on in-situ sea ice observations<br>○Kazutaka Tateyama (Kitami Inst. Tech.), Akihisa Konno (Kogakuin Univ.), Koh Izumiyama (Hokkaido Univ.), Genki Sagawa (Weathernews) and Motomu Oyama (NIPR)  |
| 15:30  | <b>Break</b>   |

Tuesday 18 Feb. 2025

Arts & Culture Center, 3F Special Conference Room

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|       | <b>[I: Workshop, The Changing Ice-Covered Ocean and New Utilization]</b><br>Chair, Kazutaka Tateyama (Kitami Inst. Tech.)   |
| 15:40 | <b>I-16</b> Granular approach for continuum modeling of sea ice<br>○Félix St-Denis, L. Bruno Tremblay (McGill Univ., Canada), Damien Ringeisen, Jean-François Lemieux and Mathieu Plante (Environment and Climate Change Canada, Canada)              |
| 16:00 | <b>I-17</b> Material point method for modelling sea ice movement and breakup -MPM modelling of sea ice dynamics-<br>○Igor Gribanov and Takuji Waseda (Univ. Tokyo)  |
| 16:20 | <b>I-18</b> Wind wave and swell evolution in the ice-covered southern Sea of Okhotsk under explosive cyclogenesis<br>○Takehiko Nose, Takuji Waseda, Tsubasa Kodaira (Univ. Tokyo), Yasushi Fujiwara (Kobe Univ.) and Takenobu Toyota (Hokkaido Univ.) |
| 16:40 | <b>I-19</b> 2024 mid-term Arctic Sea ice forecast: comparison with observations<br>○Motomu Oyama (NIPR), Noriaki Kimura (Univ. Tokyo.) and Hironori Yabuki (NIPR)   |
| 17:00 | <b>I-20</b> Wave dissipation and spectral downshifting in ice: Experimental and numerical study with the Nonlinear Schrödinger Equation<br>○★A Koya Sato (Univ. Tokyo), Takuji Waseda (Univ. Tokyo/JAMSTEC) and Tsubasa Kodaira (Univ. Tokyo)         |
| 17:20 | <b>I-21</b> Short-term sea ice forecast for the whole Arctic Ocean using ice-ocean coupling model<br>○Yoshihiro Niwa, Motomu Oyama, Takeshi Sugimura and Hironori Yabuki (NIPR)   |
| 17:40 | Discussion  |
| 19:00 | Dinner Party with Volunteer Groups  |

Tuesday 18 Feb. 2025

Arts & Culture Center, 3F Meeting Room

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|       | <b>[J: Workshop, Review of the Arctic Governance by East-Asian Perspective]</b>   |
| 9:00  | Introduction and Chair, Xiang Gao (Sasakawa Peace Foundation)   |
| 9:05  | <b>J-1</b> Review of Japan's ocean policy: Toward the 5th basic plan on ocean policy<br>○Yuta Komori (Sasakawa Peace Foundation/Meiji Univ.)  |
| 9:25  | <b>J-2</b> Japan's Arctic policy: Current status and challenges<br>○Sakiko Hataya (Sasakawa Peace Foundation)   |
| 9:45  | <b>J-3</b> From the JCAR long-term plan to ICARP IV and IPY5, Japan's potential for future polar research<br>○Hiroyuki Enomoto (NIPR)   |
| 10:05 | <b>J-4</b> Review of Russia's Northern Sea Route Regulation<br>○Natsuhiko Otsuka (Hokkaido Univ./Sasakawa Peace Foundation)   |
| 10:25 | <b>J-5</b> The role of epistemic community on Arctic governance<br>○Xiang Gao (Sasakawa Peace Foundation)   |
| 10:45 | Break   |
| 10:55 | <b>J-6</b> Seventy years of Arctic discourses in Japan's national diet: From reactive to proactive engagement<br>Fujio Ohnishi and ○Artem Suslov (Hokkaido Univ.)   |
| 11:15 | <b>J-7</b> Science meets policy: The precautionary principle in the Central Arctic Ocean Fisheries Agreement<br>○Aileen Aseron Espiritu (UiT Arctic Univ. Norway, Norway)   |
| 11:35 | <b>J-8</b> Russia's international Arctic policy after the invasion of Ukraine: Experts' voices in the domestic media<br>○Marina Lomaeva and Natalya Shmakova (Hokkaido Univ.)   |
| 11:55 | Lunch   |
|       | <b>[K: Workshop, The Okhotsk Sea: Unique Weather and Climate Generated by the Earth's Cool Spot]</b>  |
| 15:30 | Introduction and Chair, Meiji Honda (Nigata Univ.)  |
| 15:35 | <b>K-1</b> Drift ice along the Sea of Okhotsk coast of Hokkaido during the IGY (1957-58)<br>○Shuheki Takahashi (Okhotsk Sea Ice Museum), Atsumu Omura (Swiss Federal Inst. Tech., ETH, Switzerland) and Natsuhiko Otsuka (Okhotsk Sea Ice Museum) |
| 15:55 | <b>K-2</b> Large-scale dynamics shaping the Aleutian Low<br>○★A Keisuke Morimoto (Univ. Tsukuba), Masaya Kuramochi (Japan Meteorological Agcy.) and Hiroaki Ueda (Univ. Tsukuba)  |
| 16:15 | <b>K-3</b> Influence of cut-off lows on quasi-stationary convective bands occurred in the Tohoku region<br>○★A Tomonari Tsumori, Meiji Honda and Naoya Takahashi (Nigata Univ.)   |
| 16:35 | Break   |

Tuesday 18 Feb. 2025

Arts & Culture Center, 3F Meeting Room

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|       | <b>【K:Workshop, The Okhotsk Sea: Unique Weather and Climate Generated by the Earth's Cool Spot】</b><br>Chair, Meiji Honda (Nigata Univ.)  |
| 16:45 | <b>K-4</b> Long-term variations of temperature, salinity and volume transport in the Soya Warm Current and their relationships with the Japan Sea<br>○★A Mariko Honda, Kay I. Ohshima and Vigan Mensah (Hokkaido Univ.)   |
| 17:05 | <b>K-5</b> Weather records and climatic changes in northern Japan in the 1840s-50s<br>○Yoshio Tagami (Univ. Toyama) and Gaston Demarée (Royal Meteorological Inst. Belgium, Belgium)  |
| 17:25 | <b>K-6</b> Sea ice records over more than a century at an observatory facing the Okhotsk coast of Hokkaido, Japan<br>○Takahiro Toyoda (Meteorological Res. Inst.), Kento Tsukagawa (Abashiri Local Meteorological Office), Yusuke Kimura, Honoka Abe, Meiji Honda (Niigata Univ.), Yuki Yamada, Miku Amano, Yoshihiro Tachibana (Mie Univ.), Yuka Sawa, Keisuke Morimoto, Hiroaki Ueda (Univ. Tsukuba), Katsushi Iwamoto (City of Mombetsu), Kimihiro Itoh (Sapporo Regional Headquarters), Fumitake Shido (Wakkanai Local Meteorological Office), Hitoshi Tada, (Abashiri Local Meteorological Office), Hideki Kaneko (Fukui Local Meteorological Office), Katsuya Toyama, Naohiro Kosugi, Yusuke Ushijima and Masao Ishii (Meteorological Res. Inst.) |
| 19:00 | Dinner Party with Volunteer Groups  |

Tuesday 18 Feb. 2025

Mombetsu Municipal Museum

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|       | <b>【L:Workshop, The Dynamics and Roles of Plankton in Boreal Waters】</b>  |
| 9:00  | Introduction and Chair, Junya Hirai (The University of Tokyo.)  |
| 9:05  | <b>L-1</b> Seasonal variation of diel vertical migration of zooplankton in the Soya Warm Current region observed by ADCP backscatter<br>○Mizuki Kuga, Atsushi Yamaguchi, Matsuno Kohei and Kay I. Ohshima (Hokkaido Univ.)  |
| 9:25  | <b>L-2</b> Seasonal and interannual changes in zooplankton communities and size spectra at Mombetsu Port, Hokkaido in 2014 and 2021<br>○★A Shuo Wang, Tsubasa Suga (Hokkaido Univ.), Hideaki Fujiya, Masaki Iwabuchi (Econix Co. Ltd.), Hiromi Kasai (Japan Fish. Res. Educ. Agcy.), Seiji Katakura (City of Mombetsu) and Atsushi Yamaguchi (Hokkaido Univ.) |
| 9:45  | <b>L-3</b> Annual variability of size and bulk density of planktic foraminiferal tests in the western North Pacific<br>○Katsunori Kimoto and Rika Horiuchi (JAMSTEC)  |
| 10:05 | <b>L-4</b> Comparative analysis of eDNA-based taxonomic assignment in micro eukaryotes from Mombetsu using different databases<br>○Satoshi Nagai (Japan Fish. Res. Educ. Agcy.), Noriko Nishi (Axiohelix) Junya Hirai (Univ. Tokyo.) and Seiji Katakura (City of Mombetsu)  |
| 10:25 | <b>L-5</b> Revealing hidden diversity of zooplankton under sea ice in the Okhotsk Sea<br>○Junya Hirai (Univ. Tokyo.), Atsushi Yamaguchi (Hokkaido Univ.) and Seiji Katakura (City of Mombetsu)  |
| 10:45 | Break   |
|       | <b>【M:Workshop, Current Status and Future Prospects of Fisheries Industry in Hokkaido, Japan】</b>   |
| 10:55 | Introduction and Chair, Makoto Hatakeyama (Abashiri Fish. Res. Inst.)   |
| 11:00 | <b>M-1</b> Current status of salmon fishery<br>○Hayato Saneyoshi (Salmon Freshwater Fish. Res. Inst.)   |
| 11:20 | <b>M-2</b> Economic seaweed in Hokkaido: Focusing on seaweed from Mombetsu<br>○★A Takahiro Arai (Wakkanai Fish. Res. Inst.)   |
| 11:40 | <b>M-3</b> Tracking Japanese neon flying squid vessels in the central North Pacific using Automatic Identification System (AIS) data<br>○★A Shintaro Ohno (Abashiri Fish. Res. Inst./Hokkaido Univ.), Hiroto Abe (Hokkaido Univ.), Hiromichi Igarashi (JAMSTEC) and Sei-Ichi Saitoh (Hokkaido Univ.)  |
| 12:00 | <b>M-4</b> Time-lapse videos reveal the unique behavioral patterns of Starfish<br>○★A Chitose Yamazaki (Abashiri Fish. Res. Inst.)  |
| 12:20 | Lunch   |

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|       | <b>【M:Workshop, Current Status and Future Prospects of Fisheries Industry in Hokkaido, Japan】</b><br>Chair, Makoto Hatakeyama (Abashiri Fish. Res. Inst.)   |
| 13:30 | <b>M-5</b> The role of Hokkaido and its fisheries associations in Japan-Russia fisheries relations<br>○Marina Lomaeva (Hokkaido Univ.) and Tatsuo Nakajima (Hokkaido Government)  |
| 13:50 | <b>M-6</b> The relationship between stock of Hokkai Shrimp ( <i>padalus latirostris</i> ) in Lake Saroma and prohibition on fishing since 2017 to 2023<br>○Hiroya Okumura (Abashiri Fish. Res. Inst.), Nobuyuki Tanaka (Wakkanai Fish. Res. Inst.) and Takashi Ohashi (Yubetsu Fish. Coop.)   |
| 14:10 | <b>M-7</b> Sea cucumber aquaculture: current situation and new perspectives -New insights from sea cucumber aquaculture research in Hokkaido-<br>○Nobukazu Sato (Wakkanai Fish. Res. Inst.)   |
| 14:30 | <b>M-8</b> Bio-optical properties of salmon driftnet fishing sites inferred from field observation and satellite-derived ocean color data<br>○★A Yuki Iino, Tomoki Sato, Hayato Koyakumaru and Shunpei Sato (Japan Fish. Res. Educ. Agcy.)  |
| 14:50 | <b>M-9</b> Bioeconomic trade-offs of future redistribution of fisheries resources in the Eastern Bering and Chukchi Seas<br>○Irene D. Alabia, Jorge Garcia Molinos, Takafumi Hirata (Hokkaido Univ.), Daiju Narita (Univ. Tokyo) and Toru Hirawake (NIPR/SOKENDAI)  |
| 15:10 | Break   |
|       | <b>【N:Workshop, Environmental-Social Changes and Seabirds and Marine Mammals】</b>   |
| 15:20 | Introduction and Chair, Yoko Mitani (Kyoto University)  |
| 15:25 | <b>N-1</b> Evolution of marine mammal conservation and management, and the role of substate and non-state actors : The case of the North Pacific and Japan<br>○Marina Lomaeva (Hokkaido Univ.) and Yoko Mitani (Kyoto Univ.)  |
| 15:45 | <b>N-2</b> Collaborative study with Inuit on the foraging ecology of marine mammals in the Arctic<br>○★A Monica Ogawa (Hokkaido Univ.), Aqqalu Rosing-Asvid, Sascha Schiøtt (Greenland Inst. Natl. Resources, Greenland), Caroline Bouchard (Greenland Inst. Natl. Resources, Greenland/Univ. Laval, Canada), Yuta Sakuragi (Hokkaido Univ.), Evgeny Podolskiy, Shin Sugiyama (Hokkaido Univ.) and Yoko Mitani (Kyoto Univ.)  |
| 16:05 | <b>N-3</b> Underwater sounds of Arctic animals<br>○Evgeny A. Podolskiy, Mayuko Otsuki, Monica Ogawa, Kohei Hasegawa and Shin Sugiyama (Hokkaido Univ.)  |
| 16:25 | <b>N-4</b> Post-release behaviors and movements of juvenile spotted seals ( <i>Phoca largha</i> ) rehabilitated at the Okhotsk Tokkari Center: Insights from satellite tracking-<br>○★A Heping Li (Kyoto Univ.), Kay I Ohshima (Hokkaido Univ.), Masako Okazaki (Okhotsk Tokkari Ctr.) and Yoko Mitani (Kyoto Univ.)  |
| 16:45 | <b>N-5</b> First track of Baird's beaked whales in the southern Sea of Okhotsk from autumn to winter<br>○Hiroko Sasaki, Hikari Maeda, Yu Kanaji (Fish. Resources Inst., Japan Fish. Res. Educ. Agcy.), Mari Kobayashi (Tokyo Univ. Agriculture/Mar. Wildlife Ctr. Japan), Shun Ikuta (Mar. Wildlife Ctr. Japan) and Kenji Konishi (Inst. Cetacean Res.)   |
| 17:05 | <b>N-6</b> Was offshore Hokkaido used as one of the refugia for killer whales ( <i>Orcinus orca</i> ) during the last glacial maximum?<br>○★A Momoka Suzuki (Kyoto Univ.), Mami Kawai, Takashi Hayakawa (Hokkaido Univ.), Yuki F. Kita (Tokai Univ.), Motoi Yoshioka (Mie Univ.), Hiroshi Ohizumi (Tokai Univ.), Fumio Nakahara (Tokiwa Univ.), Shigeo Saino (Kobe Animals-and-Plants Environmental Col.), Tadasu K. Yamada, Yuko Tajima, Akira Shiozaki (Natl. Museum Nature Sci.), Shimpei F. Hiruta (Showa Univ.), Shin Nishida (Univ. Miyazaki), Masao Amano (Nagasaki Univ.), Yoshikazu Uni (Tokyo Univ. Agriculture), Ayaka T. Matsuda, Takashi F. Matsuishi (Hokkaido Univ.), Miho Murayama, Yu Sato and Yoko Mitani (Kyoto Univ.) |
| 17:25 | Break   |
| 17:35 | <b>N-7</b> Ingestion of plastics by little auks in northwestern Greenland across sea-ice conditions<br>○★A Hinata Kawamori, Mayuko Otsuki, Ryo Kusaka, Shin Sugiyama and Jean-Baptiste Thiebot (Hokkaido Univ.)   |
| 17:55 | <b>N-8</b> Winter bird monitoring using a camera at the Okhotsk Tower in Mombetsu<br>○Toru Takeuchi, Yukinori Nakane, Shinichi Sakai (Ctrl. Res. Inst. Electric Power Indus.), Yuta Urabe (Okhotsk Garinko Tower Co., Ltd.), Katsushi Iwamoto and Seiji Katakura (City of Mombetsu)   |
| 18:15 | <b>N-9</b> Movement of juvenile black-eared kites after fledgling<br>○Kei Matsumoto (Kitami Inst. Tech.)  |
| 19:00 | Dinner Party with Volunteer Groups  |



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|       | <b>【O:Online Session】</b> Chair, Yuji Kodama (Hokkaido Univ.) and Artem Suslov (Hokkaido Univ.)  |
| 15:00 | <b>O-1</b> About remote monitoring opportunities for natural disaster forecasting<br>○Ferdenant Mkrtychyan (Kotelnikov IRE, RAS Fryazino Branch, Russia)   |
| 15:20 | <b>O-2</b> Impact of wind on tides in the Kuril Straits<br>○Vsevolod Ilin (Lomonosov Moscow State Univ./Shirshov Inst. Oceanology, Russia) and Victor Arkhipkin (Lomonosov Moscow State Univ., Russia)   |
| 15:40 | <b>O-3</b> Investigation of co-oscillating and independent tides in the Sea of Japan<br>○Vsevolod Ilin (Lomonosov Moscow State Univ./Shirshov Inst. Oceanology, Russia), Victor Arkhipkin (Lomonosov Moscow State Univ., Russia) and Igor Medvedev (Shirshov Inst. Oceanology, Russia)                             |
| 16:00 | <b>O-4</b> Environmental safety and development of environmentally sustainable shipping along the Northern Sea Route<br>Olga Konovalova, Alexander Shestakov, Vladislav Kalenichenko, Alexey Skorina, Sergey Kirillov,<br>○Anita Dkhar and Nikolay Shabalin (Mar. Res. Ctr., Lomonosov Moscow State Univ., Russia) |
| 16:20 | <b>O-5</b> Numerical modeling of iceberg-generated tsunami<br>○Yi-Xuan Huang, Tso-Ren Wu, Pi-Chun Huang and Shu-Kun Hsu (Natl. Ctrl. Univ., Taiwan)  |
| 16:40 | Break  |
|       | <b>【P:Workshop, Doing Things the Right Way: What Role for Japan to Implement the Rights of Indigenous Peoples in the Arctic and Beyond?】</b>   |
| 16:50 | Introduction and Chair, Lindsay Arthur (Univ. Akureyri, Iceland)   |
| 17:00 | <b>P-1</b> Attempts of strengthening indigenous engagement in Japanese Arctic Research Projects<br>○Hiroyuki Enomoto (NIPR)  |
| 17:20 | <b>P-2</b> Indigenous knowledge under the UNFCCC (IPCC) and CBD (IPBES) and possible contribution by the Ainu<br>○Hitomi Kimura (Otsuma Women's Univ.)   |
| 17:40 | <b>P-3</b> The implementation of the Central Arctic Ocean Fisheries Agreement (CAOFA) and Arctic indigenous peoples<br>○Osamu Inagaki (Kobe Univ.)   |
| 18:00 | <b>P-4</b> The Arctic normative order? Roles and responsibilities of non-Arctic states in promoting indigenous rights globally<br>○Romain Chuffart (Univ. Akureyri, Iceland)   |
| 19:00 | Dinner Party with Volunteer Groups   |

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|       | <b>【K:Workshop, The Okhotsk Sea: Unique Weather and Climate Generated by the Earth's Cool Spot】</b> Chair, Takahiro Toyoda (Meteorological Res. Inst.)  |
| 9:00  | <b>K-7</b> Sea ice conditions in the Sea of Okhotsk in the 2023/2024 winter season<br>○Misa Komuro, Yoshikazu Fukuda, Keiji Hamada and Yuji Akasaka (Japan Meteorological Agcy.)  |
| 9:20  | <b>K-8</b> Relationship between snowfall in Niigata City and sea ice in the Okhotsk Sea<br>○Honoka Abe, Meiji Honda and Naoya Takahashi (Nigata Univ.)  |
| 9:40  | <b>K-9</b> Atmospheric characteristics associated with plain-type snowfall in Niigata Prefecture<br>○Yusuke Kimura, Meiji Honda and Naoya Takahashi (Nigata Univ.)  |
| 10:00 | <b>K-10</b> The influence of the Okhotsk high on widespread and long-lasting heavy rainfall<br>○Yuki Yamada, Yoshihiro Tachibana and Satoru Kasuga (Mie Univ.)  |
| 10:20 | <b>K-11</b> Influence of the Okhotsk Sea on weather and climate in Japan<br>○Meiji Honda (Nigata Univ.), Yoshihiro Tachibana (Mie Univ.), Takahiro Toyoda (Meteorological Res. Inst.) and Hiroaki Ueda (Univ. Tsukuba)          |
| 10:40 | Discussion  |
| 10:50 | Break   |
| 11:00 | <b>【Closing Session】</b> Chair, Seiji Katakura (City of Mombetsu)<br>•A Review of the Symposium,<br>•Prize-awarding Ceremony of the Aota Masaaki Award<br>•Closing Remarks, Natsuhiko Otsuka (Chair of the Symposium Committee) |



**Exhibition****Arts & Culture Center, 3F Lobby****【Extra】****Ex-1** Johann August Miertsching and his circum-continental travel as Inuit language interpreter on board H.M.S. *Investigator*

Gaston R. Demarée (Royal Meteorological Inst. Belgium, Belgium), Yoshio Tagami (Univ. Toyama) and Astrid E. J. Ogilvie (Stefansson Arctic Inst., Iceland/ Univ. Colorado, USA)

**Ex-2** Symphony of the ENSO -Correlations between sea level pressure and sea surface temperature- Takao Nakajin (Tokai Univ.)**Ex-3** Scallop catch statistics for 126 years -Fishing and fish-processing industrie, economics Masaya Yamada (Hokkaido Indus. Archaeology Soc./Hokkaido Cultural Prop. Protection Assoc.)**Monday 17 - Tuesday 18 Feb. 2025****Arts & Culture Center, 3F Lobby**9:00 | **【Demonstration】**

17:00

**Experience of Forecasting Systems with a View to Arctic Observation  
- Introduction of Short- and Mid-term Forecasting Techniques -***by Arctic Sea Ice Information Center, National Institute of Polar Research, **NIPR***

As global warming progresses, temperatures are rising significantly, especially in the Arctic region. Consequently, the summer sea ice extent in the Arctic is decreasing, drawing attention to the use of the Arctic Passage. The Arctic Sea Ice Information Center has been providing mid-term and short-term sea ice forecasts, which are useful for navigating the Arctic Passage and observing the Arctic Ocean, to vessels operating in the Arctic and to the oceanographic research vessel "Mirai" to verify their effectiveness.

The exhibit will present the latest information on these forecasts and the changes in oceans and sea ice, as well as their impacts. Let's think together about the current state of sea ice forecasting and global warming.

**■Public Program****Monday 17 Feb. 2025****Arts & Culture Center, 3F Special Conference Room**13:30 | **【Public Program, Our Home Okhotsk Sea】***(in Japanese language only)*

15:30

I Current conditions and issues of scallop fishery in the Okhotsk Sea  
Yasufumi Hada (Abashiri Fish. Res. Inst.)II Current programs to conserve salmon populations  
Yasuyuki Miyakoshi (Kitami Salmon Enhancement Program Assoc.)**Monday 17 Feb. 2025****Mombetsu Municipal Museum, Entrance Hall**18:00 | **【Public Program, Forum for Considering the Global Environment and Nature】**

19:30

An Evening of Learning from Indigenous People and Discovering the Mysteries of Nature  
Chair, Tomoya Ishi (OEPN) *(in Japanese language only)*I Natural environment of Sakhalin and traditional plant use by indigenous peoples  
Miki Mizushima (Senior Curator Natural History Gr., Res. Div., Hokkaido Museum)II Case studies of low-latitude aurora around Mombetsu City  
Hiromu Ishihara (Okhotsk Sea Ice Museum of Hokkaido)

Review, Hirokazu Odate (Okhotsk Environment Protection Net, OEPN)

**Monday 18 Feb. 2025**

**Mombetsu Municipal Museum**

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|       | <b>【Public Program, Consideration of Winter Weather Disasters in the Okhotsk Region】</b><br>Considering the Improvement of Disaster Response Capability in the Okhotsk Region<br>-Learning from the Noto Peninsula Earthquake- <i>(in Japanese language only)</i><br>Chair, Shuji Mori (Abashiri Develop. Constr. Dept., Hokkaido Develop. Bu.)  |
| 16:00 | Introduction, Otsuka Natsuhiko (Okhotsk Sea Ice Museum of Hokkaido/Symposium Committee)  |
| 16:05 | I Preparing for a major disaster<br>Hisayoshi Oba (Abashiri Develop. Constr. Dept., Hokkaido Develop. Bu.)   |
| 16:15 | II How to achieve a health-preserving evacuation<br>Masahiro Nemoto (Japanese Red Cross Hokkaido College of Nursing)   |
| 16:55 | Break  |
| 17:05 | Panel Discussion “Local Thoughts for Improving Disaster Response Capabilities”<br>Coordinator, Masahiro Nemoto (Japan Red Cross Hokkaido College of Nursing)<br>[Panelists]<br>Kenzo Kasai (Abashiri Local Meteorological Observatory, Japan Meteorological Agency)<br>Daisuke Kubo (Shokotsu Junior High School, City of Mombetsu)<br>Yuko Kinoshita (Mombetsu City Social Welfare Council)<br>Ryo Hamada (Hokkaido Okhotsk General Promotion Bu.)<br>Makoto Ishikawa (City of Mombetsu)<br>Review, Masahiro Nemoto (Japan Red Cross Hokkaido College of Nursing) |
| 18:00 | Closing Remarks, Takehiko Suzuki (Abashiri Develop. Constr. Dept., Hokkaido Develop. Bu.)  |

**Wednesday 19 Feb. 2025**

**Arts & Culture Center, 1F Hall**

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| 14:00 | <b>【Public Program, Symposium on the Forest-Ocean Linkage】</b> <i>(in Japanese language only)</i><br>=Cutting Edge of Forestry=  |
| 16:00 | Introduction, Masatoshi Nakamura (City of Mombetsu)<br>From the forest in Mombetsu toward the universe<br>~ development of world's first wooden satellite and new possibilities of wood<br>Kenji Kariya (Tsukuba, Res. Inst., Sumitomo Forestry Co., Ltd.) |

**Wednesday 19 Feb. 2025**

**Mombetsu Municipal Museum**

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| 13:30 | <b>【Public Program, The Okhotsk Terroir Symposium 2025 in Mombetsu】</b> <i>(in Japanese language only)</i>   |
| 17:20 | Left message from the Okhotsk People and Culture<br>~ Examining the Origin of the Okhotsk Culture and Future Potential of Okhotsk Tourism-II ~<br>Part 1 Reports on the Actual Recirculating Life in the Okhotsk region<br>Part 2 Possibility of the Okhotsk Region, Perspective from the Outside<br>Part 3 Free Discussion, -How We Can Utilize Okhotsk Nature and Culture for Further Interaction- |

**Wednesday 19 Feb. 2025**

**Mombetsu Citizens' Public Hall**

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| 13:10 | <b>【Symposium on Sea Ice for Children】</b> <i>(in Japanese language only)</i><br>Chair, Kazuaki Tomiyasu (Board of Education, Mombetsu City Office)  |
| 14:30 | I. Sea ice, the Sea of Okhotsk, and earth's environment”<br>Natsuhiko Otsuka (Director, Okhotsk Sea Ice Museum of Hokkaido)<br>II. Listen to the underwater sound of the Arctic”<br>Evgeniy Podolskiy (Associate Professor, Arctic Research Center, Hokkaido University) |

**Saturday 15 Feb.- Sunday 23 Mar.**

**Okhotsk Sea Ice Museum**

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|  | <b>【Public Program, Poster Exhibition】</b> Okhotsk Photo Exhibition by "Nishi-Mom Photo Club" |
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*All Photos by Noriaki Kimura*

**Organized and Sponsored by**

**Okhotsk Sea and Polar Oceans Research Association (OSPORA)**  
**Arctic Research Center, Hokkaido University (ARC)**  
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**Tokyo University of Marine Science and Technology**  
**Graduate School of Fisheries Sciences, Hokkaido University**  
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**Hokkaido National Fisheries Research Institute**  
**Japan Consortium for Arctic Environmental Research (JCAR)**  
**City of Mombetsu**

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