

## **B2: Current and Future Observing Strategies for Understanding the Evolving Arctic Climate and Ecological System**

**Main Convener: Gijs de Boer**

### **April 27 (Monday), Room 203, 14:00-15:30**

**Chair: Gijs de Boer, Leif Anderson**

- 14:00-14:18 B02-O01 ENHANCING PROCESS UNDERSTANDING IN THE COUPLED ARCTIC ATMOSPHERE-OCEAN-ICE SYSTEM THROUGH MOSAIC  
M. D. Shupe\*, K. Dethloff, the MOSAiC planning consortium
- 14:18-14:36 B02-O02 TOWARDS A COORDINATED RESEARCH AND MONITORING PROGRAM FOR NY-ÅLESUND  
C. A. Pedersen\*, G. W. Geir
- 14:36-14:54 B02-O03 THE GLOBAL CRYOSPHERE WATCH (GCW) SURFACE OBSERVATIONS PROGRAMME CRYONET  
W. Schoener\*, B. Goodison, J. Key, C. Fierz, A. Snorrason
- 14:54-15:12 B02-O04 THE SVALBARD INTEGRATED ARCTIC EARTH OBSERVING SYSTEM (SIOS); IMPLEMENTATION AND MAIN ASSETS OF THE SIOS KNOWLEDGE CENTRE  
J. B. Oerbaek\*, V. Vitale, O. A. Misund, N. Biebow, H. S. Shin, K. Holmen, B. Andersen, P. Glowacki, C. E. Evans, S. Priamikov, R. Roenneberg, C. D. Olseng, B. L. Bye
- 15:12-15:30 B02-O05 OPENING THE ARCTIC AIRSPACE FOR UNMANNED AIRCRAFT  
R. Storvold, C. Sweatte\*, L. O. Reiersen

### **April 27 (Monday), Room 203, 16:00-17:30**

**Chair: Jacqueline Grebmeier, Gijs de Boer**

- 16:00-16:18 B02-O06 INTERNATIONAL ARCTIC SYSTEMS FOR OBSERVING THE ATMOSPHERE (IASOA) – CREATING A COLLABORATION PLATFORM FOR PAN-ARCTIC RESEARCH  
S. Starkweather\*, T. Uttal
- 16:18-16:36 B02-O07 TRACING ARCTIC HYDROLOGY WITH OBSERVATIONS OF WATER VAPOR ISOTOPES FROM IN SITU, AIRBORNE, AND SATELLITE PLATFORMS  
J. Cherry\*, E. Klein, R. Herman, J. Young, J. Leffler, J. Worden, J. Welker
- 16:36-16:54 B02-O08 AN ATMOSPHERE FLAGSHIP PROGRAMME FOR NY-AALESUND, SVALBARD AND BEYOND  
R. Neuber\*, C. A. Pedersen
- 16:54-17:12 B02-O09 SHIP-BASED ATMOSPHERIC AND SEA-STATE MEASUREMENTS TO SUPPORT THE PACIFIC ARCTIC GROUP (PAG) CLIMATE OBSERVING SYSTEM  
T. Uttal\*, J. H. Kim, J. Inoue, A. Makshtas, O. Persson, A. Wiacek, K. Strong, K. Crane, M. Shupe, S. J. Park
- 17:12-17:30 B02-O10 IMPACT OF RADIOSONDE OBSERVATION ON A SUMMERTIME ARCTIC CYCLONE FORMATION FORECAST  
A. Yamazaki\*, J. Inoue, K. Dethloff, M. Maturilli, G. König-Langlo

### **April 28 (Tuesday), Room 203, 10:45-12:15**

**Chair: Leif Anderson, Terry Callaghan**

- 10:45-11:03 B02-O11 ARCTIC OCEAN BOUNDARY ARRAY: CORNERSTONE OF ARCTIC MONITORING  
S. Bacon\*, T. Tsubouchi, Y. Aksenov
- 11:03-11:21 B02-O12 THE DISTRIBUTED BIOLOGICAL OBSERVATORY: A LATITUDINAL DETECTION ARRAY FOR TRACKING ECOSYSTEM CHANGE IN THE PACIFIC ARCTIC  
J. M. Grebmeier\*, L. W. Cooper, K. E. Frey, T. Kikuchi, S. E. Moore, S. Vagle
- 11:21-11:39 B02-O13 THE PACIFIC ARCTIC GROUP CLIMATE OBSERVING SYSTEM: AN INTERNATIONAL EFFORT TO UNDERSTAND THE CAUSES AND CONSEQUENCES OF SEA ICE LOSS IN THE 'HOT SPOT' OF THE ARCTIC OCEAN  
K. H. Cho, J. He, S. H. Kang, J. H. Kim, H. Melling, A. Ostrovskiy, G. Panteleev, R. Pickart, I. Polyakov, K. Shimada, T. Uttal, W. Williams, H. Yamaguchi, J. Zhao, J. Wang, K. Crane
- 11:39-11:57 B02-O14 YEAR-LONG, DAILY-SCALE ECOSYSTEM OBSERVATIONS UNDER PERENNIAL ICE COVER IN THE ARCTIC OCEAN  
S. Laney\*, J. Toole, R. Krishfield, M. L. Timmermans
- 11:57-12:15 B02-O15 SIZONET: MULTI-PURPOSE, MULTI-PLATFORM OBSERVATIONS TO INFORM RESPONSES TO AN ARCTIC SEA ICE COVER IN TRANSFORMATION  
H. Eicken\*, A. R. Mahoney, D. O. Dammann, J. Jones, S. Hendricks, Y. Fukamachi, K. I. Ohshima, C. Haas, S. Gerland, A. Makshtas

### **April 28 (Tuesday), Room 203, 13:45-15:15**

**Chair: Terry Callaghan, Martin Raillard**

- 13:45-14:03 B02-O16 A WORLD CLASS TERRESTRIAL RESEARCH INFRASTRUCTURE: BRINGING THE SCIENTIFIC COMMUNITY TOGETHER IN REMOTE, COLD REGIONS  
M. Johansson\*, T. V. Callaghan
- 14:03-14:21 B02-O17 BUILDING A MULTI-DISCIPLINARY OBSERVATORY IN THE LOWER YENISEI REGION (IGARKA GEOCRYOLOGY LAB)  
N. Tananaev\*, R. Teisserenc
- 14:21-14:39 B02-O18 SPECIALLY PROTECTED NATURE AREAS OF NORTHEAST EURASIA AS POSSIBLE CENTERS OF KNOWLEDGE ON CONSERVATION OF ARCTIC ECOSYSTEMS STABILITY  
N. G. Solomonov\*, I. M. Okhlopkov, N. I. Germogenov, A. P. Isaev, S. Tatsuzava, M. V. Vladimirtseva, R. V. Desyatkin
- 14:39-15:15 PANEL DISCUSSION ON CENTRAL CHALLENGES OF ARCTIC OBSERVING  
Panelists include Matthew Shupe, Larry Hinzman, Koji Shimada and Harald Loeng.

**B10: Ice mass loss in Greenland and Arctic glaciers under the influence of changing atmosphere and the ocean**

**Main Convener: Shin Sugiyama**

**Subtitle: Dynamics of the Greenland ice sheet**

**April 28 (Tuesday), Room 203, 15:45-17:15**

**Chair: Shin Sugiyama**

- 15:45-16:00 B10-O01 RELEVANCE OF ICE STREAM DYNAMICS AND INDUCED ANISOTROPY FOR SIMULATING THE DISCHARGE OF THE GREENLAND ICE SHEET  
R. Greve\*
- 16:00-16:15 B10-O02 SENSITIVITY OF THE SIMULATED PROJECTION OF GREENLAND ICE SHEET TO VARIATION OF STRUCTURAL UNCERTAINTIES IN ICE-SHEET MODELS  
F. Saito\*, A. AbeOuchi, K. Takahashi
- 16:15-16:30 B10-O03 DESTABILIZATION OF THE GREENLAND ICE SHEET DURING THE LAST INTERGLACIAL  
K. H. Nisancioglu\*, A. Born
- 16:30-16:45 B10-O04 ICE FRONT AND FLOW SPEED VARIATIONS OF MARINE TERMINATING OUTLET GLACIERS ALONG THE COAST OF PRUDHOE LAND, NORTHWESTERN GREENLAND  
D. Sakakibara\*, S. Sugiyama
- 16:45-17:00 B10-O05 MODELING THE FLOW DYNAMICS OF THE BOWDOIN GLACIER, QAANAAQ REGION, NORTHWESTERN GREENLAND  
H. Seddik\*, R. Greve, S. Sugiyama, D. Sakakibara
- 17:00-17:15 B10-O06 GLACIAL EARTHQUAKE ACTIVITIES AND ICE SHEET DYNAMICS IN GREENLAND  
M. Kanao\*, S. Tsuboi, G. Toyokuni, T. Himeno, Y. Tono, K. Anderson

**Subtitle: Interaction of glaciers and the ocean**

**April 29 (Wednesday), Room 203, 10:45-12:15**

**Chair: Ursula Schauer**

- 10:45-11:00 B10-O07 OCEAN, SEA ICE AND GLACIERS INTERACTIONS IN SVALBARD AREA  
W. Walczowski\*, M. Blaszczyk, T. Wawrzyniak
- 11:00-11:15 B10-O08 THE OCEANIC INFLUENCE ON GLACIERS CALVING IN HORNSUND FJORD, SPITSBERGEN  
A. Prominska\*, D. Ignatiuk
- 11:15-11:30 B10-O09 MELTWATER AND RAIN WATER DISCHARGE FROM GLACIER BASINS OF SPITSBERGEN AND ITS INFLUENCE ON ICE CLIFF DYNAMICS  
E. Majchrowska\*, J. A. Jania, M. Cieply
- 11:30-11:45 B10-O10 PATHWAYS OF WARM WATER TO THE NORTHEAST GREENLAND OUTLET GLACIERS  
J. Schaffer\*, R. Timmermann, T. Kanzow, J. E. Arndt, U. Schauer
- 11:45-12:00 B10-O11 GRIFF 2016 - AN INTERDISCIPLINARY CAMPAIGN TO STUDY THE 79°N GLACIER AND ITS INTERACTION WITH THE OCEAN  
T. Kanzow\*, U. Schauer, A. Humbert, K. Nicholls, F. Straneo, A. Muenchow, C. S. Andresen, G. Hamilton, D. Roberts, O. Huhn, M. Scheinert, M. R. van der Loeff
- 12:00-12:15 B10-O12 STRATEGY FOR FUTURE RESEARCH TO INVESTIGATE ICE-OCEAN INTERACTION IN GREENLAND

A. Humbert\*

**Subtitle: Arctic glaciers**

**April 29 (Wednesday), Room 203, 13:45-15:15**

**Chair: Nozomu Takeuchi**

- 13:45-14:00 B10-O13 MASS BALANCE AND DYNAMICS OF AUSTFONNA ICE CAP, SVALBARD  
J. O. Hagen\*, T. Dunse, T. Eiken, J. Kohler, G. Moholdt, T. V. Schuler, T. Ostby
- 14:00-14:15 B10-O14 MASS BALANCE ESTIMATION FOR THE HURLBUT ICE CAP IN NORTHERN GREENLAND,  
K. Konya\*, J. Saito, S. Sugiyama
- 14:15-14:30 B10-O15 MODELLING MASS BALANCE AND DYNAMICS OF HARDANGERJØKULEN ICE CAP, SOUTHERN  
NORWAY  
H. Akesson, K. H. Nisancioglu\*, R. H. Giesen, M. Morlighem
- 14:30-14:45 B10-O16 SHRINKING GLACIERS IN SUNTAR KHAYATA, EAST SIBERIA  
T. Kadota\*, T. Shirakawa, R. Kusaka, S. Takahashi, A. Galanin, A. Fedorov, H. Enomoto,  
T. Ohata, H. Yabuki
- 14:45-15:00 B10-O17 MODELING FUTURE MASS BALANCE OF THE ARCTIC GLACIERS: CASE STUDY IN THE  
ALTAI MOUNTAINS  
Y. Zhang\*, H. Enomoto, T. Ohata
- 15:00-15:15 B10-O18 APPEARANCE OF NEW ARCTIC ISLANDS DUE TO RECESSION OF GLACIERS  
W. Ziaja\*, K. Ostafin

**Subtitle: Snow/ice impurities and surface energy balance**

**April 29 (Wednesday), Room 203, 15:45-17:15**

**Chair: Teruo Aoki**

- 15:45-16:00 B10-O19 LIGHT ABSORBING SNOW IMPURITIES MEASURED AT SIGMA-A, GREENLAND ICE  
SHEET AND THEIR EFFECT ON ALBEDO  
T. Aoki\*, S. Matoba, S. Yamaguchi, T. Tanikawa, M. Niwano, K. Kuchiki, M. Hori,  
H. Motoyama, K. G. Azuma, Y. Ogawa, Y. Kondo, N. Moteki
- 16:00-16:15 B10-O20 DARKENING GREENLAND AND CRYOCONITE HOLE DYNAMICS  
N. Takeuchi\*, R. Sakaki, T. Aoki, M. Niwano, Y. Onuma, S. Tanaka, R. Shimada, N. Nagatsuka,  
J. Uetake
- 16:15-16:30 B10-O21 FORMING PROCESS OF CRYOCONITE GRANULES ON QAANAAQ GLACIER,  
NORTHWESTERN GREENLAND  
J. Uetake\*, T. Segawa, N. Takeuchi, N. Nagatsuka, H. Motoyama, T. Aoki
- 16:30-16:45 B10-O22 SNOW ALGAL COMMUNITIES AND ITS EFFECT ON MELTING OF GLACIERS IN SUNTAR  
KHAYATA MOUNTAIN RANGE IN EASTERN SIBERIA  
S. Tanaka\*, N. Takeuchi, Y. Fujisawa, M. Miyairi, T. Kadota, T. Shirakawa, R. Kusaka,  
S. Takahashi, H. Enomoto, T. Ohata, H. Yabuki, K. Konya, A. Fedorov, P. Konstantinov
- 16:45-17:00 B10-O23 GEOGRAPHICAL VARIATIONS IN SR-ND ISOTOPIC RATIOS OF MINERAL DUST IN  
ARCTIC SNOW  
N. Nagatsuka\*, K. Sugiura, Y. Ogawa, K. Goto-Azuma, H. Enomoto, T. Nakano
- 17:00-17:15 B10-O24 SURFACE ENERGY BALANCE AT THE SITE SIGMA-A, NORTHWEST GREENLAND DURING THE  
RECORD SURFACE MELT EVENT IN THE SUMMER OF 2012  
M. Niwano\*, T. Aoki, S. Matoba, S. Yamaguchi, T. Tanikawa, K. Kuchiki, H. Motoyama

**C2: Arctic in Rapid Transition - future research directions from the perspective of early career scientists**

**Main Convener: Makoto Sampei**

**April 30 (Thursday), Room 203, 10:45-12:15**

- 10:45-10:50 OPENING REMARKS  
M. Sampei
- 10:50-11:05 C02-O01 UNDERSTANDING MECHANISMS CONTROLLING THE ARCTIC ENVIRONMENT IN THE

		LAPTEV SEA – IMPLICATIONS FROM ND ISOTOPES AND RARE EARTH ELEMENTS G. Laukert*, M. Frank, E. Hathorne, C. Wegner, H. Kassens
11:05-11:20	C02-O02	VARIABLE PATHWAY OF THE PACIFIC WATER IN THE PACIFIC SECTOR OF THE ARCTIC OCEAN K. Mizobata*
11:20-11:35	C02-O03	CONTRASTING OPTICAL PROPERTIES OF SURFACE WATERS ACROSS THE FRAM STRAIT AND ITS POTENTIAL BIOLOGICAL IMPLICATIONS A. K. Pavlov*, M. A. Granskog, C. A. Stedmon, B. V. Ivanov, S. R. Hudson, S. Falk-Petersen
11:35-11:50	C02-O04	EXAMINING THE POTENTIAL CONSEQUENCES OF CLIMATE-INDUCED PREY SHIFTS ON BELUGA WHALES IN THE BEAUFORT SEA E. S. Choy*, L. L. Loseto, J. D. Roth
11:50-12:15		DISCUSSION

**April 30 (Thursday), Room 203, 13:45-15:15**

13:45-14:00	C02-O05	WHERE ARE THEY NOW? A CASE STUDY OF INTERNATIONAL TRAVEL SUPPORT FOR EARLY CAREER RESEARCHERS S. Majaneva*, J. Baeseman, G. Fugmann, M. Lisowska, L. Christie
14:00-14:20	C02-O06	THE FUTURE OF PERMAFROST RESEARCH; CONTRIBUTIONS OF EARLY CAREER RESEARCHERS FROM THE EUROPEAN CONFERENCE ON PERMAFROST TO ICARPIII Y. Sjoberg*, F. Bouchard, A. Cassidy, B. Desphande, M. Fritz, E. Hogtrom, J. Lepage, A. Morgenstern, A. Nieuwendam, M. Oliva, M. Paquette, A. Rudy, M. Siewert, S. Weege
14:20-14:40	C02-O07	ARCTIC IN RAPID TRANSITION: INTEGRATING SPATIAL AND TEMPORAL SCALES IN THE CHANGING ARCTIC SYSTEM: TOWARDS FUTURE RESEARCH PRIORITIES N. Morata, S. Majaneva*, H. Findlay, M. Fritz, M. Kedra, A. Nikolopoulos, M. Oregan, A. Pavlov, I. Peeken, M. Sampei, K. Werner, C. Wegner
14:40-15:15		DISCUSSION ON ART NETWORK SUGGESTION FOR ICARP III