

**Program of the Third International Symposium of the Arctic Research
and
Seventh Ny-Ålesund Scientific Seminar
22–24 February 2005, Tokyo**

Open Forum: Arctic environment today

over all expediting: Y. Fujii

Opening address: H. Sato, H. Shimamura

- 1 **S. Akasofu** Roles of IARC in integrating/synthesizing arctic climate change research
 - 2 **S. Kohshima** Glacier Ecosystem
 - 3 **T. Yamanouchi** Overview of “Variations of Atmospheric Constituents and their Climatic Impact in the Arctic”
 - 4 **A.B. Herber** Arctic study of tropospheric aerosols, clouds, and radiation—Outline and results of Arctic aircraft campaigns
 - 5 **M. Fukuchi** Marine production in the Arctic: Results of Canada–Japan cooperative research
 - 6 **L. Fortier** Polynyas: windows on a future, warmer, Arctic Ocean
 - 7 **H. Kanda** Researches on terrestrial ecosystem in the Arctic and Japanese activities
 - 8 **E.J. Cooper** The effects of goose grazing and climatic warming on Svalbard tundra productivity
 - 9 **T. Aso** On our polar upper atmosphere research in the Arctic
 - 10 **A. Brekke** Svalbard; a platform for upper polar atmosphere research
- Closing of the Open Forum: G. di Prisco

Glaciological environments in the Arctic I

chair: F. Nishio

- 101 **S. Takahashi *et al.*** Glaciological observations on McCall glacier in Alaska, 2003–2004

Geoscience in the Arctic

chair: F. Nishio

- 102 **M. Kanao *et al.*** Lithospheric structure and evolution of Northern Siberia, Arctic Russia, derived from geoscience investigations

Arctic marine ecosystems

chair: M. Fukuchi, H. Sasaki

- 103 **I.A. Melnikov** Structure of the coastal ice ecosystem in the zone of sea-river interactions
- 104 **P. Wassmann** Carbon flux and ecosystem feed back in the northern Barents Sea in an era of climate change (CABANERA)
- 105 **H. Sasaki *et al.*** Sedimentation of biogenic particles in the Canadian Arctic polynyas
- 106 **Y. Kashino *et al.*** Strategy for photosynthetic acclimation against the environmental change in psychrophilic phytoplankton inhabiting Arctic polynya as assessed by pulse amplitude modulation method (PAM)
- 107 **H. Svendsen *et al.*** Arctic fjords as climate indicators
- 108 **C. Verde *et al.*** The adaptive evolution of polar fish: structure, function and molecular phylogeny of hemoglobin
- 109 **F. Mehlum** Co-variation between climate signals and breeding phenology of high-arctic breeding kittiwakes

Arctic terrestrial ecosystems

chair: H. Kanda, M. Bölter

- 110 **S. Kojima** Syntaxonomical classification and ecological characterization of the high arctic vegetation in Canada and Svalbard
- 111 **M. Bölter *et al.*** A survey of soils and soil biological characteristics from Arctic Canada (TNW99)
- 112 **T. Nakatsubo** Ecosystem development and carbon cycle on a glacier foreland in Ny-Ålesund, Svalbard
- 113 **M. Uchida *et al.*** Net ecosystem production over a snow-free season on a glacier foreland in Ny-Ålesund, Svalbard

- 114 **Y. Harazono *et al.*** Temporal and spatial differences of methane emission and uptake at Arctic and sub-arctic tundra in Alaska
- 115 **T. Sweda *et al.*** Quantification of terrestrial carbon stock and its change in Arctic/boreal zone using airborne laser profiling/scanning

Poster Session

- P-01 **R. Neuber *et al.*** The joint French-German Arctic research platform on Spitsbergen
- P-02 **O.S. Savoskul** Present and LGM climate in the Arctic: interaction of ocean and glaciation
- P-03 **O. Magand *et al.*** Analysis of ^7Be , ^{210}Pb , ^{210}Po and ^{137}Cs air concentrations in Ny-Ålesund (Svalbard) and during Arctic Ocean 2004 expedition (CHIMERPOL project)
- P-04 **L. Girard *et al.*** Investigation of minor atmospheric mercury depletion events observed at Zeppelin, Ny-Ålesund, in early and late spring 2003
- P-05 **S. Nakaoka *et al.*** Temporal and spatial variations of oceanic partial pressure of CO_2 and air-sea CO_2 flux in the Greenland and Barents Seas
- P-06 **Y. Inomata *et al.*** Distribution of carbonyl sulfide (COS) concentration in the troposphere and lower-most stratosphere between Japan and the Arctic observed by Arctic Airborne Measurement Program 2002 (AAMP02)
- P-07 **N. Hirasawa *et al.*** Vertical structure in air temperature of the arctic lower troposphere sounded by dropsonde observation related to AAMP 2002
- P-08 **T. Garbrecht *et al.*** Influence of sea ice ridges and polynyas on the structure of the polar atmospheric boundary layer
- P-09 **V.N. Makarov** Monitoring of acid precipitation in central Yakutia (Russia)
- P-10 **M. Shiobara *et al.*** The Arctic MPL measurement at Ny-Ålesund for ground truth of the ICESat/GLAS cloud and aerosol measurements
- P-11 **M. Yabuki *et al.*** Characteristics of cloud distribution from all-sky camera and micro-pulse lidar measurements at Ny-Ålesund
- P-12 **H. Konishi *et al.*** Seasonal variation of precipitating clouds at Ny-Ålesund, Arctic
- P-13 **K. Shiraishi *et al.*** OPC, LPC and lidar observations of stratospheric aerosol over Ny-Ålesund in the winter of 2002–2004
- P-14 **T. Garbrecht *et al.*** Sensor network for polar research aircraft
- P-15 **H. Yabuki *et al.*** The long term hydrological and meteorological monitoring on Tundra region near Tiksi, eastern Siberia
- P-16 **T. Petelski *et al.*** Studies of physical properties of Arctic aerosols
- P-17 **T. Ohata** New project of WCRP “Climate and Cryosphere (CliC)”
- P-18 **T.J. Yasunari *et al.*** Dust transport, deposition, and variations on Mt. Wrangell, Alaska, and their implications to material circulation
- P-19 **S. Kanamori *et al.*** Detailed density profiles in Mts. Logan and Wrangell—meaning as climate signals—
- P-20 **K. Satow *et al.*** Stratigraphical studies in accumulation area of McCall glacier, Alaska, 2003–2004
- P-21 **F. Nakazawa *et al.*** Reconstruction of mean summer air temperature variations by using an ice core from a wet-snow zone on a summer-accumulation-type glacier
- P-22 **T. Segawa *et al.*** Snow algae and pollen in the snow pit samples from Mt. Logan, Canada
- P-23 **M. Yoshioka *et al.*** Change of glaciers in Spitsbergen observed with surface photographs
- P-24 **S.M. Arkhipov *et al.*** Geochemistry of the nival-glacial complexes of Eurasian Arctic
- P-25 **N. Kurita *et al.*** Isotopic composition and origin of snow over Siberia
- P-26 **K. Dale** The Arctic Marine Laboratory in Ny-Ålesund, Svalbard Norway
- P-27 **N. Tanaka *et al.*** Comparative study on deficiency of N-nutrient deduced from Beaufort and Laptev Sea expedition data (JWACS and NABOS cruises)
- P-28 **S. Aikawa *et al.*** Photosynthetic properties of phytoplankton inhabiting the Mackenzie Shelf
- P-29 **T. Ota *et al.*** Succession of microzooplankton and their grazing activity in the Canadian Arctic winter (CASES2004)
- P-30 **H. Hattori *et al.*** Sequential zooplankton trap and its preliminary result obtained in the Amundsen Gulf, Canadian Arctic in the CASES 2003–2004
- P-31 **M. Sampei *et al.*** Spatial changes in the particle fluxes in the southeast Beaufort Sea

- P-32 **Y. Ropert-Coudert *et al.*** Swim speed of male and female great cormorants in relation to prey escape speeds
- P-33 **S. Yoshitake *et al.*** Characterization of soil microflora on a successional glacier foreland in Ellesmere Island using phospholipid fatty acid analysis
- P-34 **M. Uchida *et al.*** Net photosynthesis, respiration and primary production of the lichen *Cetrariella delisei* in Ny-Ålesund, Svalbard
- P-35 **T. Ueno *et al.*** Growth pattern of a common feather moss, *Hylocomium splendens* from contrasting water regimes in a high arctic tundra
- P-36 **T. Ohtsuka *et al.*** Primary succession and soil development on a glacier foreland in Ny-Ålesund, Svalbard
- P-37 **A. Mori *et al.*** Initial recruitment and establishment of vascular plants in relation to topographical variation in microsite conditions on a recently-deglaciated moraine in Ellesmere Island, high arctic Canada
- P-38 **T. Osono *et al.*** Chemical property of plant leaves in a polar oasis in high-arctic Canada: comparison between xeric and mesic deglaciated chronosequences
- P-39 **H. Muraoka *et al.*** Leaf photosynthetic characteristics and net primary production of vascular plant species in high-arctic, Ny-Ålesund, Svalbard
- P-40 **S. Nishitani *et al.*** Germination characteristics of Arctic *Polygonum viviparum* in Ny-Ålesund, Svalbard
- P-41 **M. Ueyama *et al.*** Micrometeorological measurements of methane flux at boreal forest in central Alaska
- P-42 **L.S. Buzoleva *et al.*** Biological control of environment of far eastern north-east coast
- P-43 **B. Howe *et al.*** Overview of Canadian Arctic scientific research issues, organizations and opportunities
- P-44 **V.D. Suvorov *et al.*** Deep structure and tectonics around the Baikal Rift Zone, Russia, from temporary broadband seismic observations
- P-45 **S. Toda *et al.*** Conversion tectonics and crustal structure around Magadan-Kolymsoe region, Far East, Russia, from deep seismic exploration
- P-46 **J. Lee *et al.*** Late quaternary paleoenvironmental change in the Saint Anna Trough, Arctic Russia
- P-47 **H. Yoon *et al.*** Glaciomarine sedimentation and its paleoclimatic implications on the West Spitsbergen fjord (Isfjorden) over the last 15000 years
- P-48 **K. Tsubone *et al.*** Simultaneous observation of ion upflow events using all-sky spectrograph and EISCAT Svalbard radar
- P-49 **M. Tsutsumi *et al.*** Seasonal variations of atmospheric gravity wave activities in the Arctic mesopause region

Overview*chair:* K. Kamiyama

- 116 **F. Mehlum** Coordination of international research in Svalbard—new initiatives from the Research Council of Norway

Glaciological environments in the Arctic II*chair:* K. Kamiyama

- 117 **Y. Zhang *et al.*** Evaporative loss of snow cover in Northern Eurasia sub-Arctic region
- 118 **J. Uetake *et al.*** Cryobiological ice core analyses in Sofiskiy glacier, Russia
- 119 **C.P. Ferrari *et al.*** Two years of mercury atmospheric chemistry study in Ny-Ålesund, Svalbard. Air to snow interaction. Seasonal evolution of mercury deposited onto Kongsvegen Glacier
- 120 **D. Steinhage *et al.*** Ice thickness and basal reflectivity in Northeast Greenland derived from airborne radio-echo sounding

Atmospheric environment in the Arctic*chair:* R. Neuber, Yoshio Asuma

- 121 **K. Aoki *et al.*** Aerosol optical characteristics in Ny-Ålesund derived from Sky radiometer
- 122 **R. Treffeisen *et al.*** Study of radiative effects of arctic aerosols bases on airborne measurements: a case study for March
- 123 **I.S. Stachlewska *et al.*** Arctic aerosol observations using airborne lidar during ASTAR 2004

- 124 **J. Ström *et al.*** Origin of new particles in the summer Arctic boundary layer: can simple sulfur chemistry explain observations?
- 125 **A. Matsuki *et al.*** Mixing state and spatial distribution of tropospheric aerosols derived from in situ aircraft measurements during ASTAR 2004
- 126 **J.-F. Gayet *et al.*** Microphysical properties of an Arctic stratocumulus cloud observed during ASTAR experiment
- 127 **J.-F. Gayet *et al.*** Microphysical and optical properties of mixed-phase clouds obtained from alternated lidar and in situ measurements
- 128 **V. Velazco *et al.*** Long-term measurements of Arctic trace gases in Ny-Ålesund Spitsbergen by fourier transform infrared spectroscopy; Effects of biomass burning emissions
- 129 **I.-T. Pedersen *et al.*** Investigation of how observed methane concentrations in Ny-Ålesund are influenced by atmospheric flow patterns
- 130 **M. Wolff *et al.*** A new light-weight balloon borne optical sensor for measuring vertical profiles of stratospheric trace gases
- 131 **E. Raschke *et al.*** The radiation budget of the atmosphere over the Arctic computed from the ISCCP data set
- 132 **T. Ohata *et al.*** Sensitivity of hydrological conditions to climate change in Siberian tundra

Arctic upper atmosphere environment*chair:* B. Gustavsson

- 133 **T. Aso *et al.*** A study on Arctic mesosphere and lower thermosphere tidal dynamics by meteor, EISCAT and other radar observations
- 134 **Y. Miyoshi *et al.*** Day-to-day variations of the diurnal and semidiurnal tides in the MLT region simulated by a GCM
- 135 **B. Gustavsson** Gyroharmonic effects in HF radio induced optical emissions