

**Program of the International Symposium on Environmental Research in the Arctic  
19–21 July 1995, Tokyo**

Session I : Overview of the Arctic Environmental Research

- I-1. A review of the development of international science cooperation in the Arctic with a focus on IASC activities and its science priority projects. Odd ROGNE.
- I-2. The role of the Arctic in global climate change. G. WELLER.
- I-3. Global environmental research in the Arctic Canada (tentative). E. F. ROOTS.
- I-4. A natural complex of the seas of the Siberian shelf (the Laptev Sea). S. PRYAMIKOV and L. TIMOKHOV.
- I-5. Drilling in ice sheets. C. C. LANGWAY, Jr.
- I-6. Delightful participation of a Japanese scientist in the Arctic science community. T. HOSHIAI.
- I-7. Global Environment Research in the Arctic. N. ONO.

Session II : Arctic Terrestrial and Marine Ecosystems and Environments

- II-1. Canadian Arctic and Global change: a case for neotropication or neoglaciation? J. SVOBODA.
- II-2. Current effort of Japan to develop ecological research in northern regions. S. KOJIMA.
- II-3. Vegetation at deglaciated terrain in Spitsbergen Island. H. KANDA, Y. MINAMI and T. KIBE.
- II-4. Distribution pattern, flowering phenology, pollinator visitation and fruit-set of alpine plants along a snowmelt gradient in the Taisetsu Mountains. G. KUDO.
- II-5. Study on the water and energy cycle and land surface processes in Siberia (GAME/Siberia). T. OHATA and Y. FUKUSHIMA.
- II-6. Our marine ecological researches in the high Arctic fjord, Kongsfjorden. S. KUDOH.
- II-7. 3D model study of ice distribution, primary production and sedimentation as a function of climatic events. P. WASSMANN.
- II-8. Food web structure and biogenic carbon export on the continental shelves of the Arctic Ocean. L. LEGENDRE, R. B. RIVKIN and C. MICHEL.

Poster Session I : (Biology, Oceanography, Atmosphere)

- PI-1. Some vegetation indication of climate warming as detected on forest-tundra border in the continental Canadian Arctic. T. SWEDA.
- PI-2. Snow and ice algae of Spitsbergen glaciers: possible climate signal in ice core analysis. S. KOHSHIMA, K. GOTO-AZUMA, S. TAKAHASHI, T. KAMEDA and O. WATANABE.
- PI-3. Distribution pattern of mosses on deglaciated terrain in Ny-Ålesund. Y. MINAMI, H. KANDA and T. MASUZAWA.
- PI-4. Growth and reproduction of two *Carex* species in Spitsbergen Island. T. KIBE, T. MASUZAWA and H. KANDA.
- PI-5. Temporal changes of microalgal and bacterial assemblages in and under the sea-ice of Saroma Ko lagoon. M. YASUDA, S. KUDOH and M. FUKUCHI.
- PI-6. Ecological studies of marine bacterioplankton in the high arctic Kongs Fjord, Ny-Ålesund (Norway) —Quantitative relationships between algae and protozoa during sea ice melting in early summer 1994 —. M. YASUDA, S. KUDOH and M. FUKUCHI.
- PI-7. Rotifer composition in freshwater habitats on Spitsbergen (Arctic) and King George Island (Antarctica). K. JANIEC and K. SALWICKA.
- PI-8. Soil respiration in three soil-type agro-ecosystems in Finland. H. KOIZUMI, M. KONTTURI and T. MELA.
- PI-9. Biological aspects of Cryoconite and Cryoconite hole of a Spitsbergen glacier, Brøggerbreen, Svalbard. N. TAKEUCHI, S. KOHSHIMA and S. TAKAHASHI.
- PI-10. Diversity, seasonally and spatial distribution of freshwater algae in a glacial stream at Ellesmere Island, Canada. J. ELSTER and J. SVOBODA.
- PI-11. Photosynthetic and respiratory characteristics of an Arctic ice algal community living in low light and low temperature conditions. Y. SUZUKI, S. KUDOH and M. TAKAHASHI.
- PI-12. Primary production of phytoplankton in high arctic Kongs fjold, Svalbard, Norway. Y. YAMAGUCHI, O. MATSUDA and S. KUDOH.
- PI-13. Diel variability in vertical flux of chlorophyll *a* and biogenic silica in Saromako lagoon, Hokkaido, Japan. S. TAGUCHI, H. SAITO, H. HATTORI and K. SHIRASAWA.
- PI-14. Ecophysiological and genetic studies of *Dryas octopetala* in polar region and Japan. T. MASUZAWA, Y. YODA, A. INAMURA, K. YOSHINAGA and H. KANDA.
- PI-15. Water structure of the Kongsfjorden, Spitsbergen in 1991–1993. S. USHIO, H. ITO and N. ONO.

- PI-16. Improvement of SSM/I sea ice concentration algorithm for the sea of Okhotsk. K. CHO, N. SASAKI, H. SHIMODA, and T. SAKATA.
- PI-17. Sea ice extent in the Okhotsk sea related to global warming. F. NISHIO.
- PI-18. Relation between the variation in the Arctic sea-ice distribution and the atmospheric circulation. K. RIKIISHI and Y. TAKAMORI.
- PI-19. Numerical simulation of Labrador polar low formed off the east coast of Canada. K. TSUBOKI.
- PI-20. Characteristics of fluctuations of wind speed and air temperature in Canadian Arctic in winter season. H. TORITANI, K. TSUBOKI, Y. ASUMA, Y. MATSUKAWA, T. ENDOH, R. KIMURA and A. YAMASHITA.
- PI-21. Cold air formation mechanism in Arctic Canada. T. ENDOH, Y. ASUMA, Y. KODAMA, K. TSUBOKI and R. KIMURA.
- PI-22. A study of polar vortex and recent abnormal weather in the Arctic. R. KANOHI, H.L. TANAKA and T. YASUNARI.
- PI-23. BASE (Beaufort and Arctic Storms Experiment) project in the Canadian Arctic. Y. ASUMA, K. KIKUCHI, H. UYEDA, S. IWATA, T. SHIMAMURA, R. KIMURA, K. TSUBOKI, E. STEWART, D.R. HUDAK, E. T. HUDSON and G.W.K. MOORE.
- PI-24. The relationship of chemical components among atmospheric aerosols, gases and snow-fall in Spitsbergen. M. IGARASHI, M. WADA, K. OSADA, K. KAMIYAMA and O. WATANABE.

Poster Session II : (Atmosphere, Glaciology)

- PII-1. Formations of the cold air mass in the Canadian Arctic area. Y. ASUMA, K. KIKUCHI, Y. MATSUKAWA, T. ENDOH, R. KIMURA and K. TSUBOKI.
- PII-2. Ice crystals and snow crystals observed in Arctic Canada. A. YAMASHITA and T. ARAKAWA.
- PII-3. Observations of winter clouds and precipitation in Ny-Ålesund, Svalbard. M. WADA, S. AOKI, M. IGARASHI and T. YAMANOUCHI.
- PII-4. Large variability of radiation budget in the Greenland Sea sector, Arctic. T. YAMANOUCHI and J. B. ØRBAEK.
- PII-5. Polar stratospheric clouds observed by a lidar at Ny-Ålesund in the winters 1994 and 1995. T. SHIBATA, Y. IWASAKA, M. FUJIWARA, K. SHIROISHI, H. ADACHI, T. SAKAI, K. SUSUMU and Y. NAKURA.
- PII-6. Variation of Arctic stratosphere aerosol observed by balloon-borne particle counter at Ny-Ålesund in 1994/1995. M. HAYASHI, M. WATANABE, Y. IWASAKA, T. SHIBATA and M. FUJIWARA.
- PII-7. Arctic aerosol chemistry at Ny-Ålesund, Spitsbergen in 1994/95 winter. K. MATSUNAGA, K. OSADA, M. HAYASHI, Y. IWASAKA, M. IGARASHI and K. KAMIYAMA.
- PII-8. Observation of ozone profiles in the upper stratosphere at Ny-Ålesund using a UV sensor on board a light weight high altitude balloon. S. OKANO, M. OKABAYASHI and H. GERNANDT.
- PII-9. Atmospheric concentration of  $^{210}\text{Pb}$  and  $^{210}\text{Po}$  in Ny-Ålesund, Svalbard. T. SUZUKI, N. NAKAYAMA, M. IGARASHI, K. KAMIYAMA and O. WATANABE.
- PII-10. Aerosol and snow chemistry near Fairbanks, Alaska in 1995 spring. K. OSADA, K. MATSUNAGA, M. HAYASHI, H. ADACHI, T. SHIBATA, Y. IWASAKA and G.E. SHAW.
- PII-11. Environmental fluctuation traced from *in situ* measurement of snow and ice samples in Northern part of Svalbard. K. KAMIYAMA, H. MOTOYAMA, H. NARITA, S. MATOBA and O. WATANABE.
- PII-12. Characteristics of snowmelt heat balance at Ny-Ålesund, Spitsbergen Island. H. NAKABAYASHI, Y. KODAMA, Y. TAKEUCHI, T. OZEKI and N. ISHIKAWA.
- PII-13. Runoff characteristics of Bayelva basin in Spitsbergen. Y. KODAMA, H. NAKABAYASHI, Y. TAKEUCHI, H. ITO and O. WATANABE.
- PII-14. Glaciological and meteorological observations in Spitsbergen—Observations of Brøggerbreen in summer, 1991—. H. ENOMOTO, S. TAKAHASHI, S. KOBAYASHI, K. GOTO-AZUMA and O. WATANABE.
- PII-15. Heat balance in a Cryoconite hole on Brøggerbreen, Svalbard. S. TAKAHASHI and S. KOHSHIMA.
- PII-16. Climate changes and acidification environments. H. FUSHIMI.
- PII-17. Chemical components in the ice core from Åsgårdfonna, Spitsbergen. M. IGARASHI, K. KAMIYAMA, H. MOTOYAMA, Y. FUJII, K. IZUMI and O. WATANABE.
- PII-18. Vertical distribution of dicarboxylic acids in the Greenland ice core. K. KAWAMURA, K. YOKOYAMA, Y. FUJII and O. WATANABE.
- PII-19. High resolution internal ice layer observation using L-band ice-radar at Agassiz ice cap. S. URATSUKA, H. MAENO, T. SUITZ, D. A. FISHER, K. GOTO-AZUMA and S. MAE.
- PII-20. Characteristics of chemical component of superimposed ice in Svalbard. H. MOTOYAMA, K. KAMIYAMA, M. IGARASHI, F. NISHIO, S. TAKAHASHI and O. WATANABE.

- PII-21. Temporal and spatial variations of ion concentrations and  $\delta^{18}\text{O}$  in the Agassiz ice cap, Canadian high Arctic. K. GOTO-AZUMA, R.M. KOERNER, J. SEKERKA, M. NAKAWO, K. NAKAMURA, K. OSADA and A. KUDO.
- PII-22. Ice core analyses and borehole temperature measurements at the drilling site on Åsgårdfonna, Spitsbergen, in 1993. T. UCHIDA, K. KAMIYAMA, Y. FUJII, A. TAKAHASHI, T. SUZUKI, Y. YOSHIMURA and O. WATANABE.
- PII-23. Seesaw in  $\delta^{18}\text{O}$  anomalies between ice cores from Svalbard and Greenland after 1750 AD. Y. FUJII, K. KAMIYAMA, T. KAMEDA and O. WATANABE.
- PII-24. Response of Greenland ice sheet to the global warming. A. ABE-OUCHI.
- Session III : Global Atmospheric Environment in the Arctic**
- III-1. Atmospheric science observations at Ny-Ålesund, Svalbard. T. YAMANOUCHI, S. AOKI and M. WADA.
- III-2. The impact of Arctic circulation on trace gas measurements. K. HIGUCHI.
- III-3. NILU's atmospheric research in the Arctic—Results and future plans—. G. O. BRAATHEN. Canceled
- III-4. Lidar measurements at Alaska and Ny-Ålesund: Effect of polar vortex meandering on stratospheric aerosol processes. Y. IWASAKA, T. SHIBATA, H. ADACHI, T. SAKAI, M. HAYASHI, T. OJIO, M. FUJIWARA, K. SHIRAIISHI, K. MIYAGAWA-KONDOH and H. NAKANE.
- III-5. Variability and long-term changes of ozone and aerosols in the polar atmosphere. H. GERNANDT.
- III-6. EISCAT observations. A. BREKKE.
- Session IV : Oceanographic Observations in the Arctic**
- IV-1. The European subpolar ocean programme(ESOP): Investigations of the role of sea ice in Greenland Sea convection. P. WADHAMS.
- IV-2. Evolution of T-S structure obtained by the ice-ocean environmental buoy in the Nansen basin off Greenland. T. TAKIZAWA, K. HATAKEYAMA, T. NAKAMURA, S. HONJO, R. KRISHFIELD and J. KEMP.
- IV-3. The Arctic ocean in the global climate system. G. V. ALEKSEEV, V. F. ZAKHAROV and A. V. YANES.
- IV-4. Carbon dioxide variations in the Greenland Sea. S. AOKI, S. MORIMOTO, S. USHIO, H. ITO, T. NAKAZAWA, T. YAMANOUCHI, N. ONO and T. VINJE.
- IV-5. Recent changes in Arctic Ocean termohaline structure: results from the U.S./Canada 1994 Arctic Ocean section. E. C. CARMACK, K. AAGAARD, R. W. MACDONALD, F. A. McLAUGHLIN, R. G. PERKIN, E. P. JONES and J. H. SWIFT.
- IV-6. Heat budget of the Arctic sea. H. ITO.
- Session V : Environment Change from Circum Polar Ice Core of the Ice Sheet and Glaciers**
- V-1. Japanese Arctic glaciological studies during 1987–1995. O. WATANABE.
- V-2. Volcanic records in polar ice cores. H. B. CLAUSEN.
- V-3. Participation in the GRIP programme— Core study on mechanical and physical properties—. H. SHOJI and O. WATANABE.
- V-4. Recent trends in mass balance of glaciers in Norway and Svalbard. J. O. HAGEN.
- V-5. Glaciological activities in Svalbard by Japanese Arctic Glaciological Expeditions (JAGE). S. TAKAHASHI and O. WATANABE.
- V-6. Glaciological studies in the Canadian Arctic. K. GOTO-AZUMA, R. M. KOERNER and D. A. FISHER.