

AGREEMENT ON CO-OPERATION

between

UoB.

Saint Petersburg State University,

**Nansen International Environmental and Remote Sensing Center
St. Petersburg, Russia**

University of Bergen

and

**Nansen Environmental and Remote Sensing Center
Bergen, Norway**

A mutual agreement is made between the Saint Petersburg State University (SPBU), St. Petersburg Russia and the University of Bergen (UoB), Bergen, Norway and the Nansen International Environmental and Remote Sensing Center (NIERSC), St. Petersburg, Russia and Nansen Environmental and Remote Sensing Center (NERSC), Bergen, Norway, in order to develop co-operative efforts between the four institutions within research and education within Arctic Environment and Climate, Regional Ecology and Risk Management Studies, and Satellite Earth Observation Technology, in accordance with the appendix to this agreement.

The Parties:

SPBU

The St. Petersburg State University was founded in St. Petersburg, Russia, in 1724. Today, it is one of the most prestigious educational and research institutions in Russia. The University is organised in 19 Faculties and 15 Research Institutes with approximately 4 000 staff members, 18 000 undergraduate students, and 1 500 graduate students.

NIERSC

NIERSC is an international non-profit research centre founded in 1992, by the St. Petersburg Research Centre for Ecological Safety of the Russian Academy of Sciences, NERSC, Max Planck Institute for Meteorology, Hamburg, Germany and Environmental Research Institute of Michigan, USA. Its function is to execute co-operative environmental research and education between the Russian and the international science communities. Currently it employs 11 permanent staff, 5 Ph.D. candidates and approximately 50 project associated scientists.

UoB

The University of Bergen was founded in 1946 and has through its 50 years developed 7 faculties with ca 100 institutes. The University has a staff of approximately 2.000 and hosts approximately 17.500 students.

NERSC

NERSC is a non-profit research institute founded in 1986 and is affiliated with the University of Bergen. NERSC performs environmental and climate research on a contract basis with government, research councils and industry. The Center staff employs approximately 50 persons of which 13

Ph.D. candidates. Several undergraduate students performs their studies under supervision from the scientists at the Center.

Objectives:

The overall objective is to develop joint co-operation in research and education between institutes, scientists and students from the four participating institutions.

This includes specifically:

- To develop the exchange of visiting scientists between the parties in order to strengthen the basic understanding of the prioritised research and educational activities of the parties.
- To initiate and develop joint research projects between scientists from the four institutions.
- To co-ordinate and facilitate the elaboration of joint project allocations to be submitted for funding through national and international bodies.
- To stimulate and support the exchange of undergraduate and graduate students through dedicated programs such as the NANSEN Fellowship programme for young Russian students.
- To stimulate and support joint publications of co-operative research activities.
- To develop co-operation in the fields of distance educational courses and research programs.

Financial aspects:

All Parties will explore national, international, institutional, and other sources of funding in order to support the scientific and educational aspects which will arise from this Agreement. Any activity which requires resources from any of the Parties will be discussed and mutually agreed upon in order to assure that all parties agree to the financial arrangements prior to the commencement of each activity.

Administrative Responsibility:

The parties will nominate officials responsible for the co-ordination of this Agreement.

Duration:

This Agreement is effective for a period of five years from the signature of all parties. It may be terminated by a six months notification from either of the parties. The actual scientific co-operation under this agreement are subject to annual revisions.

Approval:

This Agreement is signed in four originals one to each of the four parties.

For SPBU:



Prof. Ludmila A. Verbitskaya
Rector

For UoB:

Bergen, 28. November, 1996



Prof. Jan Fridthjof Bernt
Rector



For NIERSC:

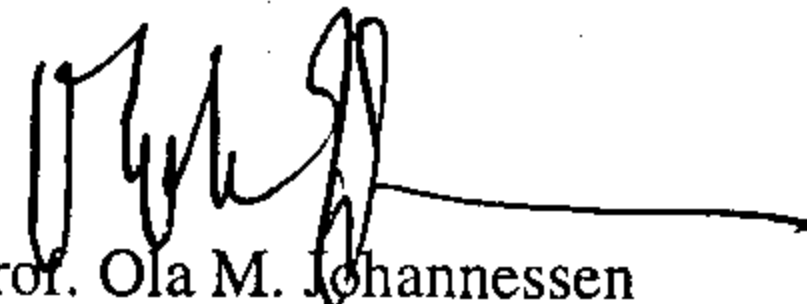
Bergen, 28. November, 1996



Dr. Leonid P. Bobylev
Director

For NERSC:

Bergen, 28. November, 1996



Prof. Ola M. Johannessen
Director

APPENDIX:

NERSC and NIERSC specific fields of co-operation:

The following topics are included in the fields of scientific and educational co-operation. The intention is to develop scientific co-operative projects within the topics below as well as to stimulate the recruitment of graduate students within the same topics to be funded through the NANSEN Fellowship Programme for young Russian students. The fellowship program will make it possible for Russian Graduate students to obtain scholarships for studies at SPBU, under supervision from scientists at the NIERSC founding institutions. The program will also enable the students to get visiting periods at these institutes during their studies. The program will also stimulate students at the University of Bergen to undertake trainee periods in St. Petersburg during the course of their studies.

Arctic Environmental and Climate Research:

- Sea ice conditions and its variability
- Application of satellite technology for ship navigation in ice covered regions
- Changes in the terrestrial Arctic environment and its climatic effects
- Development of the Global Climate models with emphasis in the effects in the Arctic region

Regional Ecological and Risk Management Studies:

- State and development of the ecological situation in the St. Petersburg region
- Transport and dilution of radioactive waste in river and ocean regions, such as the Kara, Barents and White Seas, and the Gulf of Finland.
- Forestry ecology studies using field and remote sensing observations
- Studies of terrestrial oils pollution
- Major hazard risk management
- Development of numerical models and assimilation techniques for optimal use of earth observation data in prediction of marine and atmospheric processes.

Earth Observation Technology:

- Development of algorithms for processing of satellite earth observation data to be used in studies of sea ice, ocean primary production, coastal zones and large lake water quality.
- Development of methods for studies of the various signal characteristics for satellite earth observation data included atmospheric corrections, surface interactions and signal processing.