



# Arctic Research in Finland

- Finland has long and wide ranging traditions for Arctic research
- Arctic issues are everyday life in many Finnish research institutes
- Lapland has most developed research infrastructures in the Arctic.

Finland has international excellence in cold climate research especially on:

- Construction
- Naval and marine engineering
- Natural sciences  
(forest, snow, ice, ozone, biodiversity, global change, upper atmosphere and UV-radiation)
- Northern identity and cultures





# Lapland has an extensive network of research stations:

Arctic Centre, University of Lapland

Finnish Forest Research Institute:

- Kolari Research Station
- Rovaniemi Research Station

Forest and Park Service, Perä-Pohjola and Ylä-Lappi

Finnish Game and Fisheries Research Institute

- Oulu Game and Fisheries Research Station
- Fisheries Research and Agriculture Station, Inari
- Kaamanen Reindeer Research Station
- Tenojoki Fisheries Research Station
- Rovaniemi Unit

Kevo Subarctic Research Institute, University of Turku

Kilpisjärvi Biological Station, University of Helsinki

Lapland Regional Environment Centre

Lapland Research Station of Food Research Finland

Tourism education and research institute

Arctic Research Centre of the Finnish Meteorological Institute

Radiation and Nuclear Safety Finland Rovaniemi Station

University of Lapland

Värriö Biological Research Station, University of Helsinki

University of Oulu

- Bothnian Bay Research Station
- Oulanka Biological Station
- Thule Institute

- Centre of Northern Environmental Technology

- Sodankylä Observatory

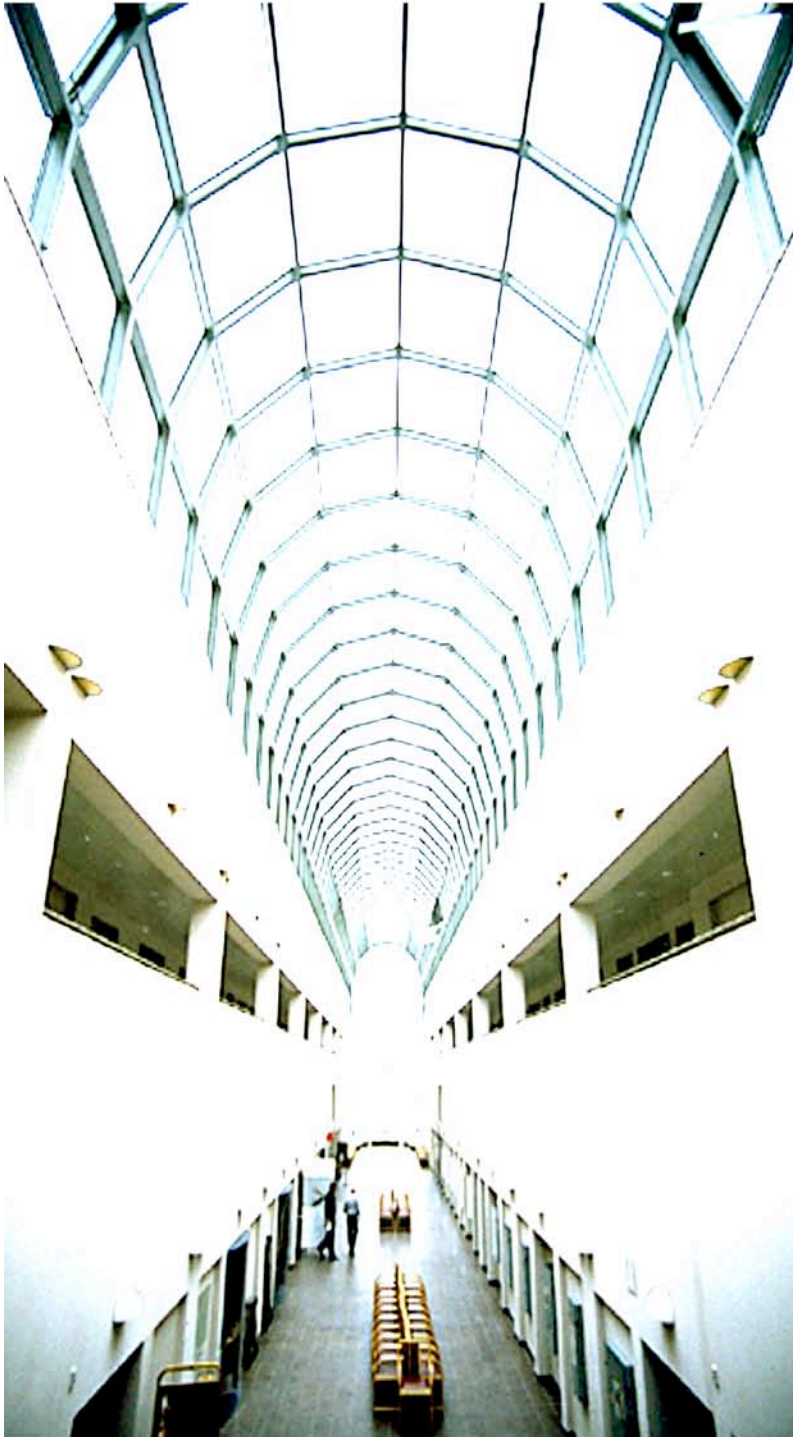
Forest Industry Research:

- Enso Group, Veitsiluoto Industry, Research Unit
- Oy Metsäbotnia Ab, Kemi Industry, Research Unit

Metallurgy and Mining Industry:

- Outokumpu Mining Oy, Rovaniemi
- Outokumpu Steel Oy, Metallurgy laboratory, Tornio





# Arctic Centre

of the  
University of Lapland

- studies the northern areas in the changing world
- is a multidisciplinary science and multifunctional institute
- has a geographical determination for the work i.e. the Arctic



# The centre implements its tasks through

- Research
- Electronic information services
- Library
- Consulting report and map services in Barents region;
- Exhibitions
- Expeditions
- Education and training
- Networking





# Budget

- allocated by the Ministry of the Education
- Annual budget is ~~about 1.85 m€~~ 2.34 m €
- Annual external funding is 1.0 m€
  - EU programmes (30%)
  - Finnish Academy (25%)
  - Ministries (25%)
  - Others (20%)
- Staff about 50-60 people





# Research Unit

*Strategic themes are multidisciplinary:*

- Human-nature interaction
- Global Change
- Sustainable Development
- 25-30 scientists, from which 13 permanent positions:
  - Ecology, human –nature interaction
  - Global change and climate change
  - Glaciology
  - Nature protection and forestry
  - Ecology and biodiversity
  - Population ecology, hunting
  - International politics in the North
  - Sami culture and conditions of indigenous people
  - Social sciences
  - International environmental law
  - Human and minority law
  - Environmental and land use rights





# Examples of Research Projects

Human – nature relationship, environment

- Modernisation and reindeer management, participatory land use planning
- Impact of petroleum development on critical habitat for reindeer herds belonging to the Yamal Nenets
- Human impacts in mountain birch forest ecosystems
- Impacts of forestry on northern biodiversity
- Birds as indicators of the environmental change within Environmental Impact Assessment documents
- State of Grouse populations, their management and traditional hunting
- UV-radiation and forest plants
- Status and Trends of the Arctic Flora and Fauna





# Examples of Research Projects

## Global change

- Tundra Degradation in the Russian Arctic
- Arctic Feedbacks to Global Change
- Permafrost in the Usa Basin: distribution, characterisation, dynamics and effects on infrastructure
- Sustainable Development of the Pechora Region in a Changing Environment and Society
- Paleo climatological studies of blue glacier ice in the Antarctic and Svalbard

## Sustainable development

- International politics in the European north; European Northern Dimension
- Cultural and livelihood development by Sami in Tana-region in Lapland
- Living Conditions of the Arctic Indigenous Peoples
- Environmental and minority law
- Traditional rights on land use in the Sami Cultures





# The Northern Institute for Environmental and Minority Law

- Sami language rights
- ILO Convention on Indigenous and Tribal Peoples – the land rights
- The right to use land regardless of ownership in Finnish Lapland – the traditional land use rights of Sami
- NGOs work to combat ethnic hatred, discrimination and intolerance
- Indigenous autonomy issues
- Precautionary measures in exploiting natural resources in Arctic
- Environmental law issues
- Minority rights in general (e.g. Roma in Nordic countries)
- EU-Asian human rights dialogue





# Information Services

- Library
- Electronic information products:  
Gateway to Arctic and Barents Information  
[www.arcticcentre.org](http://www.arcticcentre.org)
  - Aria  
(Arctic Environmental Impact Assessment)
  - Arctic Council
  - Arctic Research Databases
  - Barents Info
  - Barents Customs
  - Barents projects data base
  - Barents Library Network
  - Beata – Barents Euro-Arctic Transport Area
  - Maps
  - North-West Russian News
  - Northern Dimension in Finland
  - PolarWeb
  - Research Society of Lapland





# Science Centre Exhibition

- Exhibition: people and nature in the Arctic
- 1300 square meters
- About 80 000 visitors/year
  - 50 % foreigners: European countries: German, Japan, Spain, France, Holland. Others: US, Japan, Russia
- Renewing process ongoing
  - Goal:
    - Effective popularisation of Arctic science to wide audience and decision makers
    - Online information by using modern technology
    - Interactive, visually effective, experimental





# International co-ordination

## The University of Arctic

- 32 Universities
- Mobility Program
- Bachelor on Circumpolar Sciences
- Arctic Learning Environment
- Circumpolar Arctic Environmental PhD network, CAES
- Circumpolar Arctic Social Sciences PhD network, CASS
- Northern Research Forum

## International Arctic Science Committee, Regional Board

## Arctic Council

- Advisory help to the Secretariat;
- Circumpolar governmental for environmental and sustainable issues;
- Ministry of the Environment, Foreign affairs, and Trade and Industry





# The effective of network on

- 1) Scientific networks
- 2) Science center networks
- 3) Electronic information services networks
- 4) Library networks
- 5) Exhibition and content production networks – under development

