



The **Central Laboratory** of Metla is located in Vantaa Research Centre. The laboratory is equipped with the latest instruments and offers a high quality service for the chemical analysis of plant material, soil and water samples. There are additional laboratory facilities for research of forest diseases and the properties of wood.

Metla's **Main Library** is also located in Vantaa. Some 1,300 journals are available through the library and the total number of volumes in the library is 41,000. The library also offers inter-library loan and CD-ROM services for access to information from around the world.

Besides conducting research, the Vantaa Research Centre offers its skills to forest owners and people interested in forests, e.g. the investigation of local forest damage. The Vantaa Research Centre is responsible for the registration of forest cultivation material and the testing of breeding material in Finland, for means of measuring timber, and the control of the use of pesticides and insecticides.



Metla/Erkki Oksanen

Metla's **Research Forests** in southern Finland (the Solböle, Ruotsinkylä, Lapinjärvi and Vesijako Research Areas and the Aulanko Nature Conservation Area) are administered by the Vantaa Research Centre. The field station in Ruotsinkylä offers greenhouses for conducting detailed research.

Head of the Research Centre

Professor Eero Paavilainen

Research fields and professors

- Forest entomology, Erkki Annila
- Forest technology, Pentti Hakkila
- Peatland research, Seppo Kaunisto
- Forest genetics, Veikko Koski
- Forest pathology, Timo Kurkela
- Silviculture, Erkki Lähde
- Forest growth, Kari Mielikäinen
- Forest soils, Eino Mälkönen
- Wood quality, Olli Uusvaara

Central laboratory

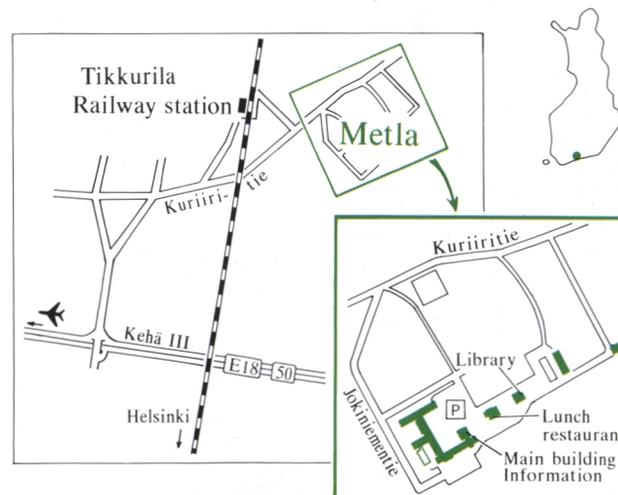
Chief of laboratory, Maija Jarva

Library Chief of library, Liisa Ikävalko-Ahvonen

Address The Finnish Forest Research Institute
Vantaa Research Centre
Jokiniemenkuja 1, P.O. Box 18
FIN-01301 Vantaa, Finland

Phone +358-0-857 051

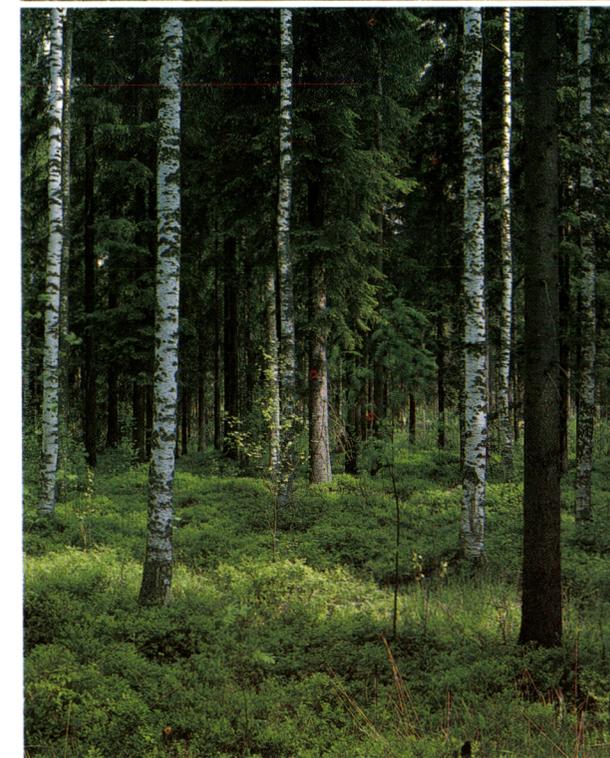
- Fax**
- +358-0-8570 5569 - Head of the Research Centre, peatland research
 - +358-0-8570 5361 - silviculture, forest growth and technology, wood quality
 - +358-0-857 2575 - forest soils, forest pathology and entomology
 - +358-0-8570 5711 - forest genetics
 - +358-0-8570 5582 - library



Photos on the cover: Arieli Ilmakuva Oy
Metla/Erkki Oksanen

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VANTAA RESEARCH CENTRE



The Finnish Forest Research Institute (Metla) is a national research institute under the Ministry of Agriculture and Forestry of Finland. Metla provides scientific knowledge from forest environment, utilisation of forests and wood and forest economy.



Metla/Erkki Oksanen

The Vantaa Research Centre, which is one of the ten units of Metla, is situated in Jokiniemi, Vantaa about 15 km from Helsinki centre and 5 km from Helsinki-Vantaa airport. The number of staff is nearly 250, which includes 92 research scientists. In addition, there are 35 external researchers, based mainly in universities and other research institutes. Metla moved to Jokiniemi site in 1980 after it had been vacated by the Agricultural Research Institute. A new extension to the main building was completed in 1993.

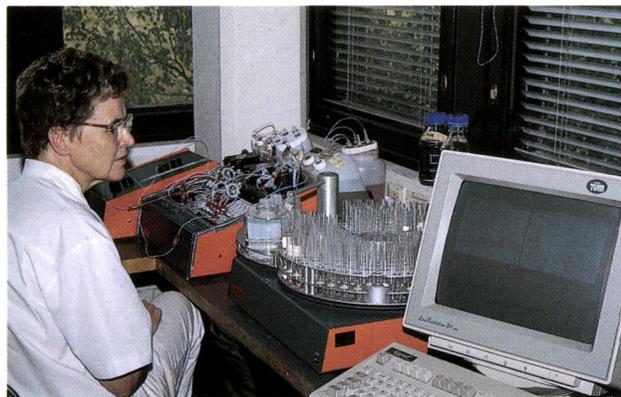
Research carried out at the Vantaa Research Centre ranges from the level of the plant cell and microbes upto that of the forest ecosystem, and from biotechnology to the technology of timber harvesting. The research results increase the knowledge for the basis of sustainable silviculture and forestry, the effects of forest practices on the environment, the effects of changing environment on forest health as well as forest growth, methods of timber harvesting and quality of wood. Much of the research is carried out in cooperation with other institutes and organizations at both national and international levels.

Research work is organized into a number of **research projects**, some of which are coordinated under **research programmes**. The research programmes deal with comprehensive and topical themes relevant to Finnish forestry today. In 1995 two research programmes, the Forest Health Programme and the Forest Biodiversity Programme, were based at Vantaa. Some of the research projects at Vantaa are part of the Utilisation of Timber Resources Programme coordinated from the Helsinki Research Centre. The number of individual research projects not included in the research programmes was 22.

The Forest Health Research Programme covers monitoring and research into the condition of forests, the effects of air pollutants and other environmental stress factors on forest ecosystems and ways of improving forest health. The European Union provides funding towards some of the research projects included.

The aim of the **Forest Biodiversity Research Programme** is to investigate the effects of forest practices on biodiversity and means of sustaining and increasing biodiversity of managed forests.

The Utilisation of Timber Resources Research Programme deals with consequences of increasing forest stock, delayed thinning harvesting and new ways to utilise forest biomass as a source of raw material in forest industry and as a renewable energy source.



Ilari Lumme

Scientists from Vantaa also participate in two research programmes initiated by the Academy of Finland. These programmes are the effects of global warming on forest ecosystems and the relationship between tree species and soil microbiology.

Vantaa Research Centre is collaborating with 20 other European countries in a research project investigating growth trends of European forests. This project is coordinated by the European Forest Institute in Joensuu. In addition, researchers from Vantaa take part in a national programme which deals with the effects of timber harvesting, forest soil management and fertilization of forests on the aquatic environment.



Pekka Saranpää

Individual **research projects** not included in the research programmes deal with various problems facing forestry. These include:

- sustaining soil fertility
- the effects of global warming on element balances of peat and mineral soils
- root and foliar pests and molecular biology of pathogens
- population ecology of insects in coniferous trees
- prevention of damage caused by moose and small mammals
- cultivation of different tree species and mixed stands
- methods and basis of tree breeding and forest genetics
- properties and quality of wood and timber
- timber harvesting techniques
- methods for organizing timber harvesting

Field experiments are conducted in forests owned by Metla, the Finnish Forest and Park Service, companies and private forest owners around the country. Studies requiring detailed control of environmental factors are carried out in greenhouses and growth chambers.