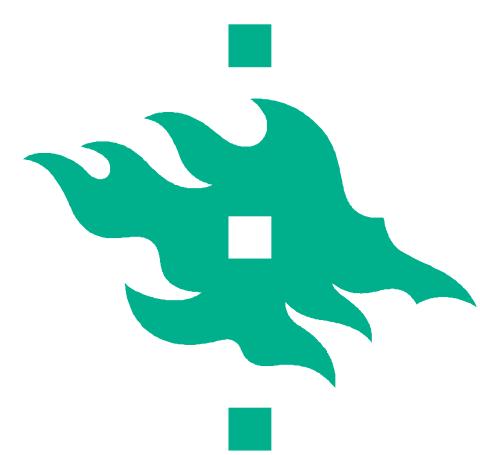


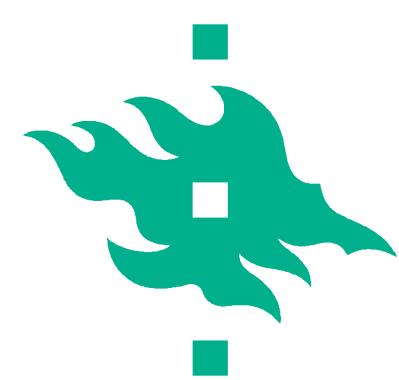
The University of Helsinki

**One of the leading European research universities
and among the best multidisciplinary research
universities
in the world**



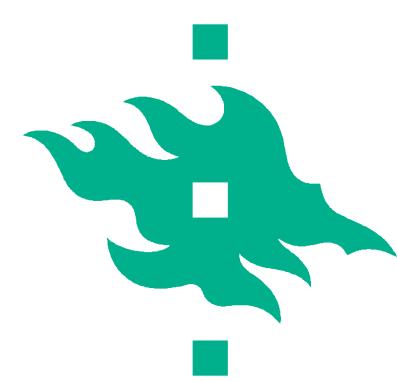
Universitas Helsinki

**Salah satu universitas riset terkemuka di
Eropa dan di antara universitas-universitas
terbaik untuk penelitian multidisiplin di dunia**



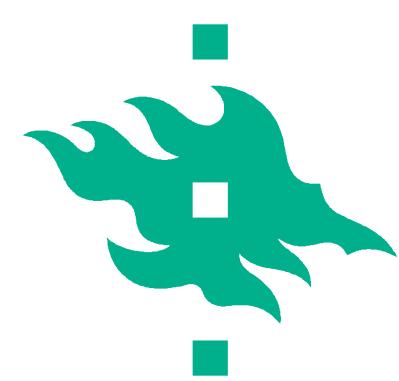
University of Helsinki

- Founded in Turku 1640, moved to Helsinki in 1828
- European top University (Webometrics 7th, Shanghai list 74th)
- Biggest University in Finland
 - 11 Faculties
 - 37 000 degree students
 - Staff 8 700, of which 4 800 are researchers and teachers
 - International and multicultural. Provides over 30 Masters degree programmes and all PhD tuition in English
- Functions in four campuses in Helsinki and in 17 other places in Finland



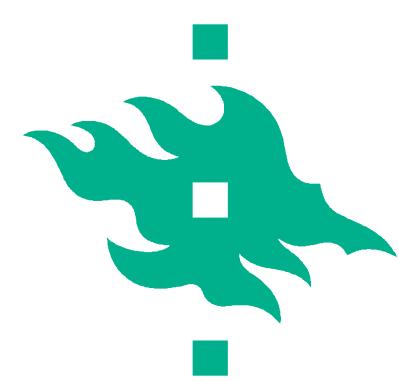
Universitas Helsinki

- Didirikan di Turku 1640, pindah ke Helsinki pada 1828
- Universitas top Eropa (Webometrics ke-7, Shanghai ke-74)
- Universitas terbesar di Finlandia
 - 11 Fakultas
 - 37 000 mahasiswa
 - Staf 8 700, dimana 4 800 adalah peneliti dan dosen
 - Internasional dan multikultural. Menyediakan lebih dari 30 program gelar Master dan semua pendidikan PhD dalam bahasa Inggris
- Fungsi di empat kampus di Helsinki dan di 17 tempat-tempat lain di Finlandia



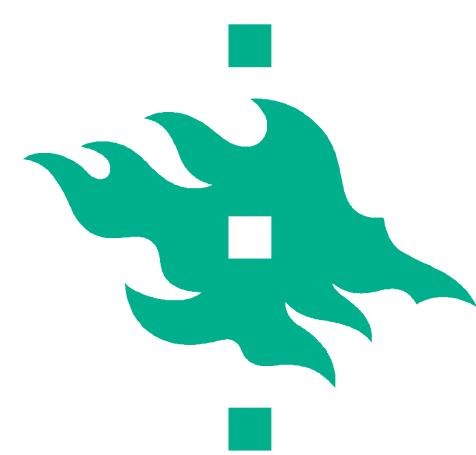
Faculty of Agriculture and Forestry

- Located in Viikki campus
 - 2900 students
 - Post-graduate students 400
 - Staff 520
- Departments
 - Forest Sciences
 - Agricultural Sciences
 - Economics and Management
 - Food and Environmental Sciences



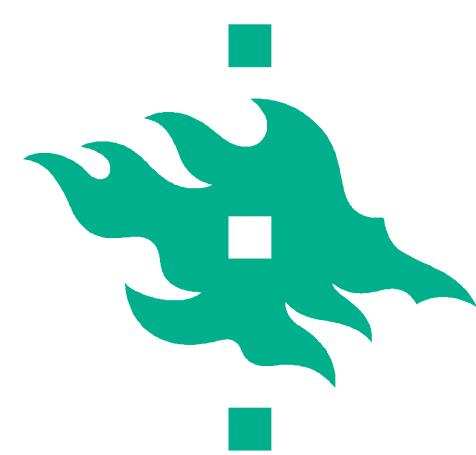
Fakultas Pertanian dan Kehutanan

- Lokasi di Viikki campus
 - 2900 mahasiswa
 - 400 mahasiswa Pasca Sarjana
 - Staf: 520
- Jurusan:
 - Ilmu-ilmu Kehutanan
 - Ilmu-ilmu Pertanian
 - Ekonomi dan Managemen
 - Ilmu-ilmu Pangan dan Lingkungan



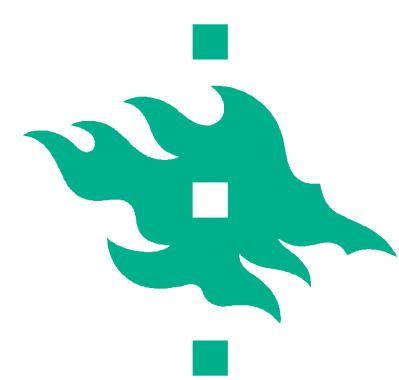
Department of Forest Sciences

Promoting the sustainable use of forests and forest environments by high-level teaching based on scientific research



Jurusan Ilmu-Ilmu Kehutanan

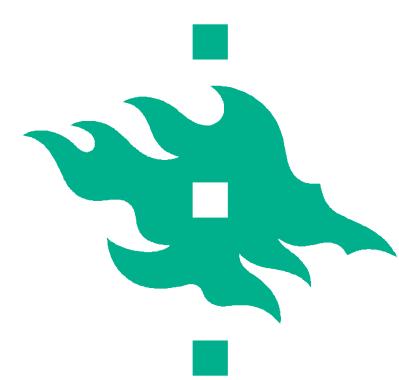
**Mempromosikan pemanfaatan hutan dan lingkungan
hutan dengan pengajaran bermutu tinggi berdasarkan
penelitian ilmiah**



Department of Forest Sciences

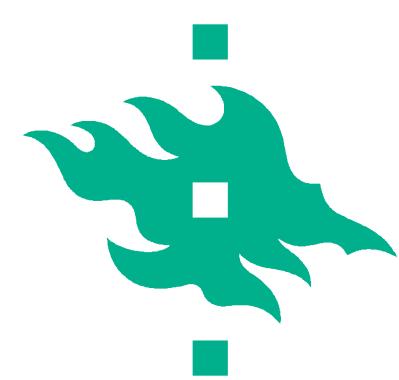


- Academic education in and teaching of forest sciences started at 1908
- The Department of Forest Sciences started at 1.1.2010
- Three previous units were merged and formed the new Department of Forest Sciences, including two field stations
 - Forest Economics, Forest Ecology and Forest Resource Management
 - The Hyytiälä Forestry Field Station and Värriö Subarctic Research Station.
 - Viikki Tropical Resources Institute - VITRI



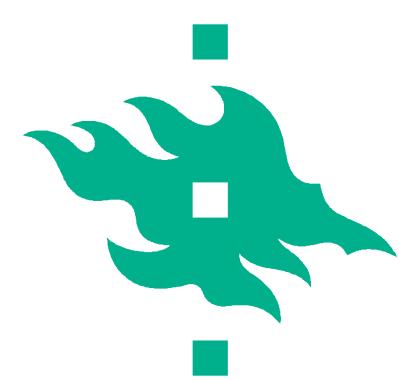
Jurusan Ilmu Kehutanan

- Pendidikan dan pengajaran akademis ttg ilmu kehutanan, dimulai pada 1908
 - Jurusan Ilmu Kehtanan dimulai pada 1 Jan 2010
 - Tiga unit sebelumnya digabung dan dibentuk Departemen baru Ilmu Kehutanan, termasuk dua stasiun lapangan
 - Ekonomi Hutan, Ekologi Hutan dan Pengelolaan Sumber Daya Hutan
 - Stasiun Lapangan Kehutanan Hyytiälä dan Stasiun Penelitian subarctic Värriö.
 - Viikki Tropical Resources Institute - VITRI



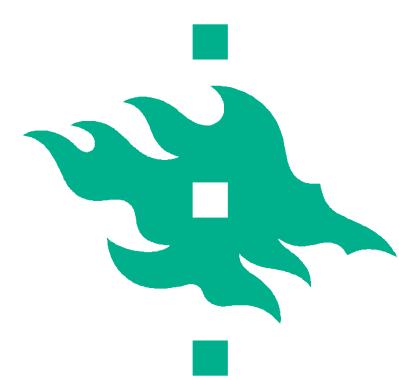
Department of Forest Sciences Field Stations

- Hyytiälä Forestry Field Station - research, field courses
- Värriö Subarctic Research Station - research, field courses



Stasiun Lapangan Jurusani Ilmu Kehutanan

- Hyytiälä Forestry Field Station - research, field courses
- Värriö Subarctic Research Station - research, field courses



Department of Forest Sciences

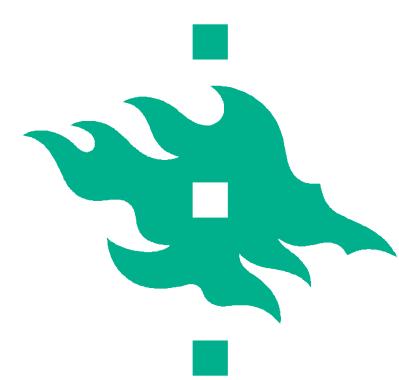
Who we are:

The Department personnel consists of (incl. Hyttiälä and Värriö)

- App. 110 researchers and postgraduate students
- 30 administrative and technical personnel
- Annually 90 new students and about 50 M.S. degrees
- 20 Professors and 14 Lecturers

Department of Forest Sciences in Figures

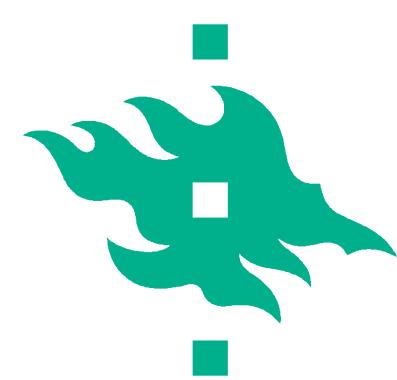
Year	Master's degrees	Doctor's degrees	Personnel years
2008	149	14	130
2009	28	9	129
2010	46	7	134



Jurusan Ilmu Kehutanan

Bagaimana kami:

- Personel Jurusan terdiri dari (termasuk Hyytiälä dan Värriö)
 - Sekitar 110 peneliti dan mahasiswa pascasarjana
 - 30 tenaga administrasi dan teknis
 - Setiap tahun 90 baru mahasiswa dan sekitar 50 mahasiswa program master
 - 20 Profesor dan 14 Dosen



Majors and study lines

Forest Ecology and Management

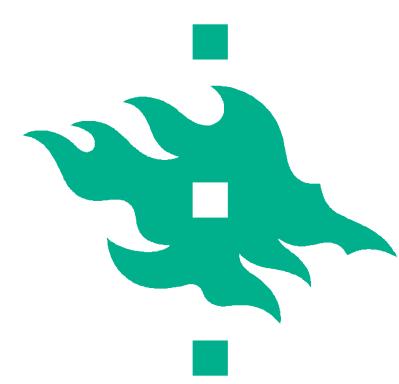
- Functions and Production of Forest and Peatland Ecosystems
- Management and Restoration of Forest and Peatland Ecosystems
- Forest Entomology and Wildlife Management
- Forest Pathology and Mycology
- Forest Resource Management
- Forest Technology and Logistics
- Wood Technology
- Tropical Forest Ecology and Management

Forest Economics and Marketing

- Forest Products Marketing and Management
- Business Economics of Forestry
- Forest Resource and Environmental Economics

Biotechnology

- Organized jointly by 2 faculties and 4 departments
- The Department is mainly involved in the teaching of the option Biotechnology of Natural Resources



Peminatan

Ekologi dan Manajemen Hutan

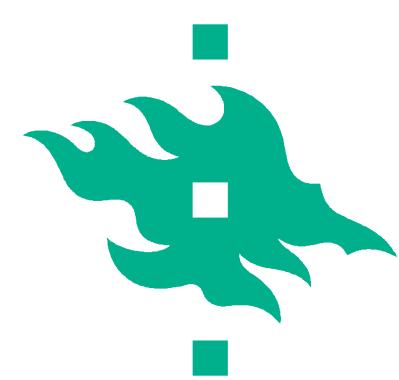
- Fungsi dan Produksi Ekosistem Hutan dan Lahan Gambut
- Manajemen dan Restorasi Ekosistem Hutan dan Lahan Gambut
- Entomologi Hutan dan Manajemen Satwa Liar
- Hutan Patologi dan Mycology
- Manajemen Sumberdaya Hutan
- Teknologi Hutan dan Logistik
- Teknologi kayu
- Ekologi dan Manajemen Hutan Tropis

Ekonomi Hutan dan Pemasaran

- Pemasaran dan Manajemen Produk Kehutanan
- Bisnis Ekonomi Kehutanan
- Ekonomi Sumber Daya Hutan dan Lingkungan

Bioteknologi

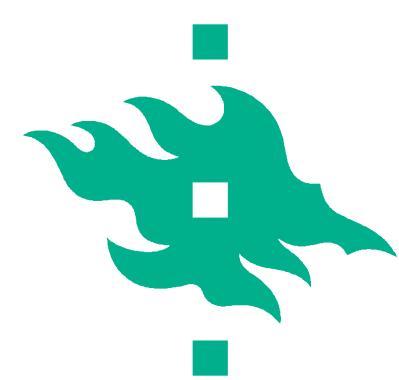
- Diselenggarakan bersama oleh 2 fakultas dan 4 departemen
- Jurusan ini terutama terlibat dalam pengajaran matakuliah pilihan Bioteknologi Sumber Daya Alam



International Master's Degree Programmes

Every year 20-25 new students are selected into the multidisciplinary two-year Master's Degree Programmes

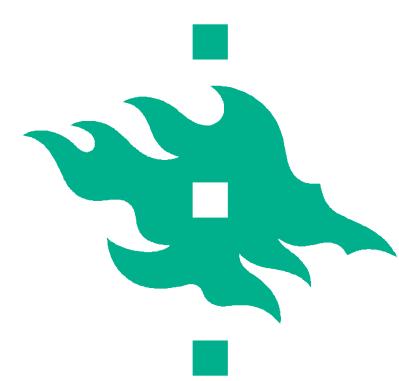
- Master's Degree Programme in Forest Sciences and Business, (MScFB)
www.helsinki.fi/mscfb
- Transatlantic Master's Degree Program in Forest Resources, (Atlantis)
www.cnr.ncsu.edu/fer/atlantis
- Master's Degree Programme in Forestry and Environmental Engineering, (CBU)
<http://cbu.fi/en/ohjelmat/forestry-and-environmental-engineering>
- Master's Degree Programme in Biotechnology, (MBIOT)
www.helsinki.fi/biotech/



Program Master International

Setiap tahun 20-25 siswa baru yang dipilih ke program magister multidisiplin (2 tahun)

- Program Master di Bidang Ilmu Kehutanan dan Bisnis (MScFB)
www.helsinki.fi/mscfb
- Program Master Transatlantic bidang Sumberdaya Hutan, (Atlantis)
www.cnr.ncsu.edu/fer/atlantis
- Program Master bidang Kehutanan dan Teknik Lingkungan, (CBU)
<http://cbu.fi/en/ohjelmat/forestry-and-environmental-engineering>
- Program Master bidan in Bioteknologi, (MBIOT)
www.helsinki.fi/biotech/



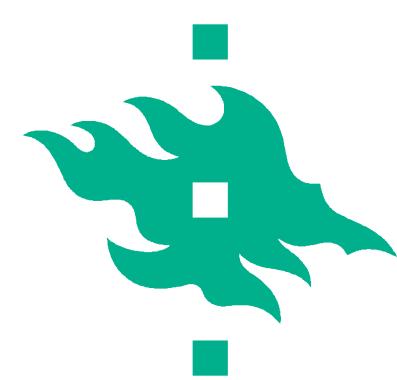
Research

The Department's research focuses on understanding of production chains of material and immaterial services and commodities produced by the forests globally.

The research extends from biological basic processes to economic analyses. It includes measurements, analyses and modelling of diverse phenomena and evaluation and formulation of future developments in forest ecosystems, forestry and forest sector.

The main research challenges are

- The interactions between climate change and forest and peatland ecosystems
- Socio-economic changes and the global forest sector
- New methods of managing forest information
- The economic-ecological models of forest use and conservation
- Forests as source of well-being



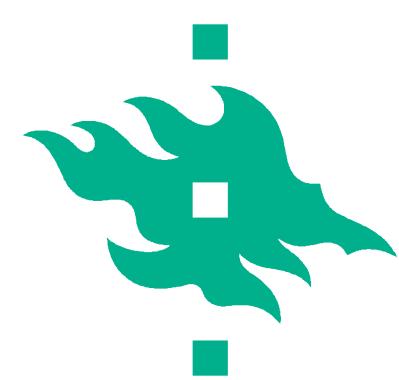
Penelitian

Penelitian di Jurusan berfokus pada pemahaman rantai produksi material dan immaterial jasa dan komoditas yang dihasilkan oleh hutan secara global.

Penelitian ini diperluas dari proses dasar biologis untuk analisis ekonomi. Ini mencakup pengukuran, analisis dan pemodelan fenomena yang beragam dan evaluasi dan perumusan perkembangan masa depan pada ekosistem hutan, kehutanan dan sektor kehutanan.

Tantangan utama penelitian adalah:

- Interaksi antara perubahan iklim tehadap hutan dan ekosistem lahan gambut
- Perubahan sosio-ekonomi dan sektor kehutanan secara global
- Metode baru pengelolaan informasi kehutanan
- Model ekonomi-ekologi pemanfaatan hutan dan konservasi
- Hutan sebagai sumber kesejahteraan



How do we Meet the Challenges?

Some examples from the Department's research projects:

Effects of the climate change

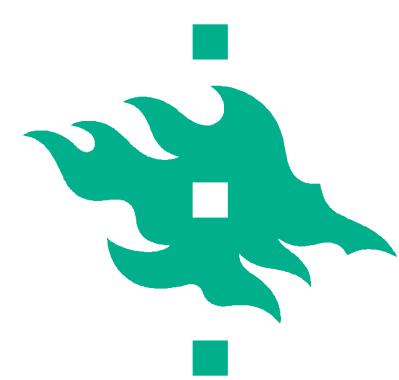
- Forest-based bioenergy and its climatic and economic viability
- Effect of vegetation on the forest ecosystems' energy and matter cycles in changing environmental conditions
- Formulation of timber and forest stand output potentials in changing environmental conditions
- Peatland ecosystems' functions and effects on climate change and environmental impacts of the use of peatlands
- Carbon gas dynamics in boreal forest ecosystems
- Climate change impacts on tropical peatlands (Kalimantan)

Socio-economic changes and the global forest sector

- Democratic legitimacy of Finnish forest and nature conservation policy
- Corporate social responsibility and value creation challenges in global forest industry

Technological development in forestry

- Solving the tree species identification with airborne laser scanning and invariant directional reflectance signatures in radiometrically calibrated images
- Forest reflectance models and optical satellite images
- Wood harvesting logistics



Bagaimana Menghadapi Tantangan?

Beberapa contoh kegiatan penelitian di Jurusan :

Dampak perubahan iklim

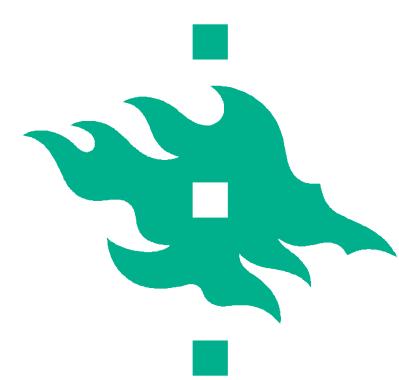
- Bioenergi berbasis hutan dan kelangsungan hidup iklim dan ekonomi
- Pengaruh vegetasi pada energi ekosistem hutan 'dan siklus materi dalam mengubah kondisi lingkungan
- Perumusan potensi output kayu dan tegakan hutan dalam perubahan kondisi lingkungan
- Ekosistem lahan gambut 'fungsi dan dampak pada perubahan iklim dan dampak lingkungan dari penggunaan lahan gambut
- Dinamika gas karbon dalam ekosistem hutan boreal
- Dampak Perubahan iklim pada lahan gambut tropis (Kalimantan)

Perubahan sosio-ekonomi dan sektor kehutanan secara global

- Legitimasi demokratis hutan Finlandia dan kebijakan konservasi alam
- Tanggung jawab sosial perusahaan dan tantangan penciptaan nilai dalam industri hutan global

Teknologi pembangunan di kehutanan

- Menyelesaikan identifikasi spesies pohon dengan laser scanning udara dan invarian tanda reflektansi yang terarah pada gambar radiometrically dikalibrasi
- Model reflektansi Hutan dan citra satelit optik
- Logistik pemanenan kayu



Research Groups

Research groups, some examples

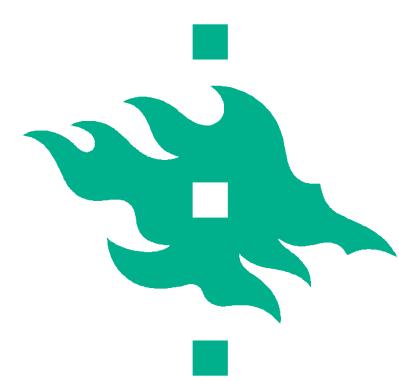
- SMEAR - Station for Measuring Forest Ecosystem Atmosphere relationships
- Forest mycology and pathology research Lab
- Forest insects and wildlife management research group
 - Biodiversity and Forest Pest Problems in Northeast China
- Peatland ecology group and Tropical peatlands group
- Canopy radiation regime group
- Viikki Street Tree Research Project
- Viikki Tropical Resources Institute – VITRI

Research Stations

- Hyytiälä Forestry Field Station
- Värriö Subarctic Research Station

<http://www.atm.helsinki.fi/SMEAR>, <http://www.hiilipuu.fi/>

Further information: www.helsinki.fi/forestsciences/research



Kelompok penelitian

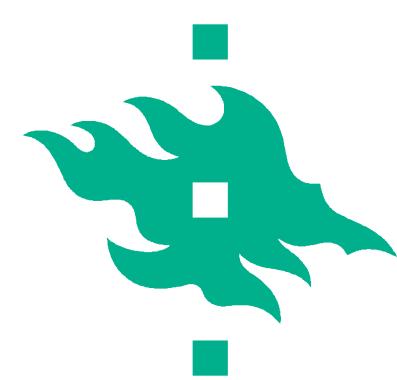
Kelompok Penelitian, beberapa contoh:

- SMEAR - Stasiun Pengukuran Hubungan antara Ekosistem Hutan dan Atmosfer
- Laboratorium Penelitian Mikologi dan Patologi Hutan
- Kelompok Peneliti Serangga Hutan dan Pengelolaan satwa Liar
 - Masalah keanekaragaman dan Perlindungan Hutan di Cina Utara Timur
- Kelompok Peneliti Ekologi Gambut dan Gambut Tropika
- Kelompok Regim Radiasi Kanopy
- Proyek Penelitian Pohon di Tepi Jalan Viikki
- Lembaga Sumberdaya Tropik Viikki – VITRI

Stasiun Penelitian

- Stasiun Penelitian Kehutanan Hyytiälä
 - Stasiun Penelitian Subartik Värriö
- <http://www.atm.helsinki.fi/SMEAR>, <http://www.hiilipuu.fi/>

Informasi lebih lanjut: www.helsinki.fi/forestsciences/research



Find out more!

Department of Forest Sciences

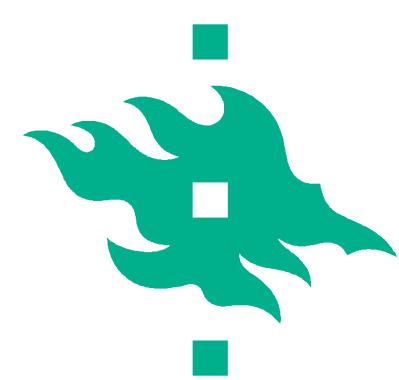
www.helsinki.fi/forestsciences

Faculty of Agriculture and Forestry

www.helsinki.fi/af-faculty

University of Helsinki

www.helsinki.fi/university



Temukan selanjutnya!

Jurusan Ilmu-Ilmu Kehutanan

www.helsinki.fi/forestsciences

Fakultas Pertanian dan Kehutanan

www.helsinki.fi/af-faculty

Universitas Helsinki

www.helsinki.fi/university