OVERVIEW OF THE POSITION OF PROFESSOR/ASSOCIATE PROFESSOR/ASSISTANT PROFESSOR IN ENVIRONMENTAL SOIL SCIENCE

University of Helsinki

The University of Helsinki (https://www.helsinki.fi/en), founded in 1640, is an international academic community of 40,000 students and staff members. It operates on four campuses in Helsinki and 15 other locations in Finland. The high-quality research conducted at the University of Helsinki creates new knowledge for educating specialists in various fields, and for use in social decision-making and the business sector.

As the oldest and largest of the Finnish Universities, University of Helsinki has established a solid track record of international recognition. It is ranked among the top 100 universities in the World, University of Helsinki collaborates widely with academia, industries and RTO’s in Europe, in North America and, increasingly, in Asia. University of Helsinki is a founding member of the leading research-intensive League of European Research Universities. University of Stockholm, Sweden, and University of Beijing, China are strategic partner universities in education and research.

The University of Helsinki is building a better, more sustainable world by involving itself more actively in the resolution of global problems. Multidisciplinary research, teaching and learning of a high standard generate new knowledge and know-how for the benefit of humankind. Forward and fresh thinking, an attentive and proactive attitude, and creative interaction will help the University of Helsinki to solidify its position among the foremost universities in the world.

Faculty of Agriculture and Forestry

The Faculty of Agriculture and Forestry (http://www.helsinki.fi/af-faculty), located on the Viikki campus which is an internationally recognized concentration of bio- and life sciences, promotes the sustainable use of natural resources and human wellbeing through scientific research and research-based teaching. The faculty’s key areas of education and research are agricultural, food, forest and environmental sciences, and economics. The faculty has 3,200 undergraduate and postgraduate students and employs 500 experts. The faculty's focus area of research is sustainable bioproduction covering the whole agro-food chain.

Viikki campus houses three further faculties (Biological and Environmental Sciences, Pharmacy, and Veterinary Medicine) and a two University of Helsinki research institutes (Institute of Biotechnology, Neuroscience Center). The Finnish Food Safety Authority operates at the Viikki campus,
The Natural Resources Institute Finland has just moved to the campus, and the Finnish Environmental Institute will move in the near future complementing the strongest hub of teaching and research in the agriculture, bio-, environmental, and forest sciences in Finland.

**Department of Food and Environmental Sciences**

The Department of Food and Environmental Sciences ([http://www.helsinki.fi/food-and-environment](http://www.helsinki.fi/food-and-environment)) is the biggest department of the Faculty of Agriculture and Forestry with its 200 employees, 500 undergraduate students and 100 doctoral students. The department has five divisions: Food Chemistry, Food Technology, Microbiology and Biotechnology, Nutrition, and Soil Science. The department provides an active, multidisciplinary research environment including up-to-date research laboratories with latest analytical instrumentation for biological, chemical and physical analyses ([http://www.helsinki.fi/food-and-environment/infra](http://www.helsinki.fi/food-and-environment/infra)). Each year the research groups acquire about EUR 4 million in external research funding and publish some 120 papers in leading international journals. The high quality of the department’s research has been demonstrated international research assessments conducted at the University of Helsinki.

The Department of Food and Environmental Sciences has four focal areas of research:

- food production chains,
- food quality and healthy nutrition,
- utilization of microbial resources, and
- vital soil and clean environment.

The scientific, technological and economic disciplines on Viikki campus provide a framework for research in these focal areas. Complementary expertise enables mutually beneficial collaboration with industry. An international perspective as well as a high standard of research and teaching form the foundation of the department’s operations. The department continuously pursues high quality of its research and teaching while keeping abreast of the ongoing changes in the national and international operating environment. The department strives to be an attractive and interesting environment for top-level researchers and students.

**Overview and duties of Professors to be hired**

Professor of Environmental Soil Science is expected to carry out top-level research and provide high-quality research-based teaching, supervise theses on Bachelor, Master and Doctoral level, and be active in national and international research cooperation and networks. In collaboration with other teaching and research staff, the recruited professor is responsible for the coordination and development of teaching and research of environmental soil science.

Environmental soil science focuses on the processes and phenomena occurring in soil. The interactions of soil with plants, watercourses and air are studied with the means of chemistry, physics and biology. The focus is in mechanisms that control the reactions and impacts of native and anthropogenic substances on the functions of ecosystems in soil and sediment.

The studies include, for example, characterization and roles of different soil components, including the solid phase, water and soil air. The reactions and fate of various solutes, such as fertilizers, pesticides and different organic and inorganic harmful substances and their transport from soil to plants, watercourses and atmosphere are investigated. The objective of the research and teaching is to get a thorough insight into how soil processes can be utilized in sustainable plant production, in prevention of environmental problems, and in remediation of deteriorated sites. Clean soil is a precondition for vital biota and material cycling in the ecosystem.
Environmental Soil Science participates in two large Bachelor’s programmes: Agricultural Sciences (annual intake 80) and Environmental Sciences (annual intake 65), of which the latter is a joint programme with the Faculty of Biological and Environmental Sciences. Both programmes contain a soil science module that allows the students to get the required expertise for specializing in soil science in the Master’s level. Presently the Master’s Degree curricula at the University of Helsinki are reorganized. From 2017 onwards environmental soil science will contribute to two Master’s programmes: Agricultural Sciences and Environmental Change and Global Sustainability. In both programmes there is an option to specialize in Environmental Soil Science. Master’s programmes are thought in English and will also take international students.

Currently, the Faculty of Agriculture and Forestry employs several professors whose fields are close to and who collaborate with the Environmental Soil Science. Their areas of expertise are:

- agroecology
- crop production science
- environmental and natural resource economics
- environmental engineering of agriculture
- forest soil science
- horticulture
- microbiology (environmental microbiology)
- peatland forestry
- tropical silviculture
- economics of Baltic Sea protection

The Faculty of Biological and Environmental Sciences has professors specialising in aquatic sciences, environmental biotechnology and ecology, environmental change and policy, and sustainable development.

We are looking excellence in environmental soil science, and applications from scientifically active, knowledgeable, and enthusiastic researchers and teachers who are motivated to make an impact at the University of Helsinki are warmly welcomed.

www.helsinki.fi/university
www.helsinki.fi/food-and-environment