

Teaching and research in Plant Ecology: Q & A

Division of Plant Biology, Department of Biosciences
University of Helsinki

What falls within plant ecology?

- Research in plant ecology aims at understanding interactions between plants and their biotic and abiotic environment. Ecology can be divided into three different areas according to organizational level: organismal ecology, population and community ecology, and, ecosystem ecology. Another classification is based on processes: physiological ecology, sensory ecology, and evolutionary ecology. Plant Ecology encompasses the study not only of plants, but also of organisms that plants interact with.
- In physiological plant ecology the interaction of plants with their environment is studied by looking at physiological processes. An example is research into the mechanisms allowing plants to survive and reproduce under different stress conditions (extreme temperatures, drought, herbivory, etc.) .
- In sensory plant ecology, the interaction of plants with their environment is studied by looking at the availability, acquisition and use of environmental information. An example is research on how plants use information about their environment to "predict" future stress events like shading by other plants or cold temperatures.
- In evolutionary plant ecology, the interaction of plants and their environment is studied by looking at how interactions have driven evolution and, in turn, how the interactions themselves have been affected by the evolutionary processes. A typical topic is research into how diversity is maintained in interacting host and parasite populations.
- In plant population and community ecology, research is focused on the interactions between plant individuals or between plant species mostly from the perspective of the use of limited resources and or breadth of suitable environmental conditions. For example the competition between two plant species can be studied by monitoring their growth and reproduction when growing together in environments differing in some factor like water supply.
- In ecosystem ecology, the approach is even broader and focal points can be the turnover of nutrients, the flow of energy through a system, or natural and man-induced alterations in the functioning or structure of ecosystems.
- While teaching covers all these areas, our current research is focused on physiological- and sensory plant ecology, even though population and ecosystem ecology are also represented. The practical goal of our research is either to understand possible consequences of different aspects of global change, or to achieve a better understanding of plant sensory capabilities as a means of developing new environmentally-friendly agriculture and horticulture.

What are the information channels?

Blog for our students <http://blogs.helsinki.fi/kasbi-opiskelija/> [FI, SE, EN]

E-mail list for students <mailto:kasbi-opiskelija@helsinki.fi> (subscribe by e-mail, by sending a 'subscribe' or 'help' message to <mailto:majordomo@helsinki.fi> from your university e-mail account).

Intranet information <http://flamma.helsinki.fi/> [FI, SE, EN]

Professor <mailto:heikki.hanninen@helsinki.fi> [FI, SE, EN]

Study advisor <mailto:pedro.aphalo@helsinki.fi> [FI, EN, ES]

Study advisor <mailto:helena.astrom@helsinki.fi> [SE]

Study secretary <mailto:leena.hayrinen@helsinki.fi> [FI, SE, EN]

Other teachers and researchers see university on-line phone and e-mail catalogues at <http://www.helsinki.fi/university/contact.html>

When should I do my “HOPS”?

- Early in your studies!
- It is not binding, it can be altered as your studies progress, or your interests change.
- It is just a way for study advisors and teachers to help you plan your studies and thesis.

How do I find a thesis subject?

Look at what the different research groups are doing and contact those whose research you find interesting. Take into account that you can either ask which subjects are available, or propose a subject yourself. It is possible to do your thesis research at other research institutes, universities or even companies, in which case you need to contact Prof. Heikki Hänninen about the suitability of subject and supervisor for your degree before you start. Also, contact your study advisor and do not forget to sign the agreement with your supervisor and send it to the faculty office.

Table 1: Research groups in plant ecology

Group	Web site
PECC (Hänninen)	http://www.helsinki.fi/bioscience/pecc/
Åström group	http://www.helsinki.fi/biosciences/plantbiology/astrom.htm
SenPEP (Aphalo)	http://www.helsinki.fi/bioscience/senpep/
CanSEE (Robson)	http://blogs.helsinki.fi/robson/
Laine's group	http://allaine.it.helsinki.fi/