

RESEARCH CLINIC

General information

Supervisor:	Peter Houben
Title of clinic:	Microbiology of soils - a review
Number of students:	One
Major (<i>if applicable and approved by the Major Convener</i>):	EES, GPH
(Pre)requisites (<i>if applicable</i>):	Interest in gaining an overview of the state-of-art and opportunities of assessing microbial functions in soils. You are a self-motivated, single-handed, independently thinking student with an ambition to learn much more about the topic domain.

Research context

Relationships between classic physical and chemical soil parameters and the residing soil microbiome are a developing field in soil sciences.

In particular, it is the microbes which qualitatively and quantitatively control major soil functions such as plant growth (fertility, food provisioning) and climate regulation (via carbon sequestration). v
sampling and testing - field-based documentation of key profiles

If you are a 2nd year student, you may use the methodology and results to develop the topic towards a research **BSc thesis**.

Students' tasks and activities

Please specify the tasks and activities, timeline, the learning aims and how they are assessed, i.e. what the deliverables will be.

This research clinic explores the opportunities to characterizing microbial mass, activity, and community fingerprinting.

Student work includes to

- Review standard methods in the form of a literature review
- Pay specific attention to methods that can be performed in the LUC Science Lab
- Include a review of community analysis methods based on RNA and DNA fingerprinting.

Literature review - 8 weeks

- Learn and apply method of conducting a systematic literature review (e.g., PRISMA concept)
- Gain overview of present standards in soil microbiological research.