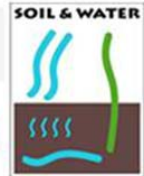


Teacher	Dr. Ilja M. Reiter
Contact	Aix-Marseille University, French National Centre for Scientific Research (CNRS), Observatoire de Haute-Provence (OHP) & Ecosystèmes Continentaux et Risques Environnementaux (ECCOREV) ilja.reiter@oamp.fr
Lectures	Experimental Climate Change
Key words	Global change, climate change, CO ₂ , O ₃ , temperature, precipitation, soil, experimental biology technical vs. scientific constraints, networking
Learning objectives	<ul style="list-style-type: none">* define global & climate change in a scientific sense* understand dynamic and pseudo-steady-state* grasp what is being done experimentally to understand climate change effects on ecosystems* grasp compromise between scientific objectives and technical solutions* elaborate strengths and weaknesses at the scale of 'local' and of 'global' approaches* make link to soil related processes, understand constraints in studying these* see how such research is organized at large scales, and why it also is a huge modeling challenge* discover the biologist at the scientific-technical interface as a career opportunity
Main subjects	The main subject is to discover how experimental approaches are applied to study ecosystem functioning under climate change, i.e. direct treatment, transect studies, long-term monitoring. What are the strengths and the weaknesses of such approaches in biological terms, and what can be the effect of the potential scientific questions that we would like to address (making cross-links to other lectures of the summer school). It is impossible to experimentally explore all the possibilities of environmental scenarios, therefore modeling is a necessary tool to conclude in more general terms. Changing several climatic drivers is more challenging, but essential to create 'unseen' scenarios expected in the future. It is shown how certain questions are addressed in networks and how meta-analyses help to aggregate knowledge from data of experiments following similar treatments. Emphasis is given to current insights and approaches in soil-related research.

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in České Budějovice



Eesti Maaülikool
Estonian University of Life Sciences

**Relevance to
EduSaPMan**

The lecture provides state-of-the-art insight into research on ecosystem functioning from a more technical point of view, spanning the bridge between local, European and a global perspective. This is complementary to lectures providing basic and advanced knowledge on plant, animal and ecosystem functioning.

**Recommended
literature**

<http://climmani.org/>
<https://www.icos-ri.eu/>
