


The Research Institute of Organic Agriculture FiBL is one of the world's leading research institutions in the field of organic agriculture and employs around 300 people in Switzerland. FiBL's strengths are interdisciplinary research, joint innovations with farmers and the food industry, and rapid knowledge transfer. FiBL Switzerland's expertise is also in demand beyond the country's borders. It is therefore involved in numerous international projects - in research, extension and training as well as in development cooperation.

In the Department of Soil Sciences, we are offering the following position starting on September 1st, 2025, or by agreement:

PhD Student (100%): "Supporting the EU Carbon Farming framework - Spatial and temporal variability of soil organic carbon stocks and fractions"

The European Commission is developing the first EU-wide voluntary framework for certifying carbon removals, carbon farming and carbon storage across Europe. A comprehensive MRV system (Measuring, reporting, verification) is key to guarantee effectivity and scientific robustness of climate mitigation. However, the detection of soil organic carbon (SOC) stock changes remains a challenge, because changes are relatively small compared to background noise caused by their temporal and spatial variability. While field scale spatial variability has been assessed many times, knowledge about the seasonal and vertical variability of SOC content and soil bulk density remains rather anecdotal.
This PhD position is part of a new EU project on Carbon Farming Monitoring and Registry (CAFAMORE). The PhD student will do literature review and apply state-of-the-art analytical techniques like imaging infrared spectroscopy of undisturbed soil cores and physical fractionation of SOC to assess the vertical variability of topsoils and the temporal variability of SOC fractions. The PhD student will closely collaborate with partners from Thuenen Institute and University of Trier in Germany. The results will directly feed to the development of the new MRV system of the European carbon farming framework.

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Specific tasks of this position

- Coordination of soil sampling campaigns (on-farm in Switzerland, field trial in Germany);
- Literature review on uncertainties of soil carbon stock assessment in agricultural soils;
- Physical fractionation and infrared spectroscopy of existing soil samples from the long-term system comparison trial DOK and two regional soil organic matter management projects to elucidate temporal dynamics of SOM fractions;
- Hyperspectral imaging of undisturbed soil cores to assess the vertical heterogeneity of SOC in agricultural plots during two consecutive years;
- Publication and presentation of the results.

We expect

- You are passionate about fundamental research – and its direct translation and application into practice!
- MSc in agricultural or environmental sciences, geography or similar;
- Driving license B;
- Good understanding of statistics and knowledge in R or Python;
- Good language skills in German and English, with the ability to publish in both.

We offer

- Opportunity to do a PhD in a relevant and interdisciplinary EU project;
- Combination of field and lab work, data analysis and international exchange (Thuenen Institut and Trier University);
- An excellent and passionate team of young and experienced scientists;
- Participation in the Graduate school of Climate Sciences, University of Bern and affiliation with FiBL as well as the Institute of Geography, Uni Bern;
- Attractive working environment with flexible working conditions (salary according to SNSF).

Markus Steffens, group leader soil fertility and climate, is happy to answer your questions: Tel. +41 62 865 04 18.

We will gladly accept your application until June, 6th via the application form.

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