



GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN

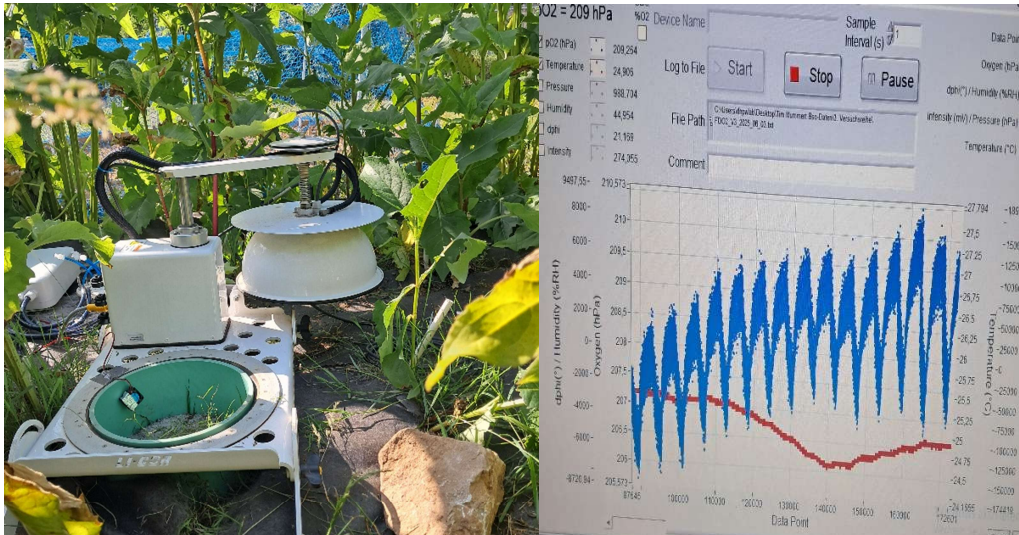
Course:



Soils as sinks and sources of greenhouse gases

1 Week Block-Course 28.09.2026 – 02.10.2026

Prof. Dr. M Freudiger, Dr. A Apostolakis, Div, Soil Physics , University Göttingen



Learning outcome, core skills:

The students will learn the theoretical background of different methods to measure soil-atmosphere fluxes of greenhouse gases and typically used experimental designs and get a practical training in measuring and calculating soil gas fluxes

Concept

Soils are significant sources and sinks of greenhouse gases (GHG) in a global but also local context. Land use has a direct impact on these sources and sink functions. This course focuses on soil processes and their relevance for GHG fluxes. In addition to lectures, field-trips and hands on practical measurements and data exercises will provide a good insight into current scientific methods in this field.

The module takes place as a one-week block during the semester break. The theoretical basics and background will be presented in the form of presentations and examples which typically covers half of the day. The other half is dedicated to a field trip to ongoing experiments, hand-on training on gas flux measurement of different approaches and laboratory visit, and data analysis training. Students interested in doing a project study as a follow-up of this course are welcome develop an experimental design during the course.

Examination: Short Report (4 pages, 50%) and oral exam (15 min, 50%)

The short report will be made of the documentation of an exemplary set of measurements conducted during the course practical. In the oral exam student show that they understood the basics of the processes involved in the GHG turnover and principles of GHG measurements and typical designs used in studies.

Lectures: Room L07, Grisebachstrasse 6, Nord-Campus University Göttingen; Practicals mostly at von Sieboldstrasse , Lysimeter Station