

Laboratory Methods in Environmental Science

Laboratory work is an integral part of environmental research: Experiments mimicking the outside world are used to investigate environmental processes under controlled conditions, and environmental samples, for example air, water, soil or sediment components, are analyzed in the laboratory. Scientific progress in Environmental and Earth System science, as well as monitoring of vulnerable systems under anthropogenic pressure, rely on laboratory work.

This course offers the opportunity to develop practical skills in a selection of laboratory experiments, focusing on e.g. the biogeochemical cycles of carbon, nutrients and heavy metals, as well as on gases and particles in the atmosphere. You will get an introduction into the fundamentals of good laboratory practice and into different analytical methods and techniques, such as gas chromatography, mass spectrometry, photo/fluorometric tools, and laser tools.

You will learn how to analyze environmental samples in the laboratory as well as process generated data. The course has a strong focus on practical work that is complemented by introductory lectures and seminars with student presentations.