

Quaternary Environmental Change

ENVS214

This module aims to provide an overview and critical insight on the major changes that have impacted our landscapes during the Quaternary, i.e. the last 2.6 million years, a time interval that has witnessed the establishment of high amplitude glacial/interglacial cycles. Through six themes, you will learn how climate and human activities had shaped our landscape, from micro-to macroscale. Over the course, you will learn how we can reconstruct climatic conditions, landscape and vegetation from the past, exploring a wide variety of archives (lakes, peatbogs, oceans,...) and many key tracers of environmental conditions (physical properties, biogeochemistry, biological indicators) as well as dating methods.

Discussion of the main drivers of environmental changes of the last 2.6 Ma as well as the pace and amplitude of the changes will engage students with the latest findings in the scientific community. At the end of this module, you will have acquired a theoretical knowledge of the major changes and their forcing that occurred during the Quaternary, the key characteristics of important depositional environments, the major environmental indicators used in these environments and the dating techniques. Through practicals, you will acquire a practical knowledge of: laboratory techniques needed for i) identification of pollen grains and construction and interpretation of pollen diagrams; ii) lake sediment description and analysis; iii) radiochronology measurement and iv) spatial awareness of landscape change through GIS exercises. This module has two assessment components, four assessed practicals throughout the course and a 2-hour examination at the end of the module.

