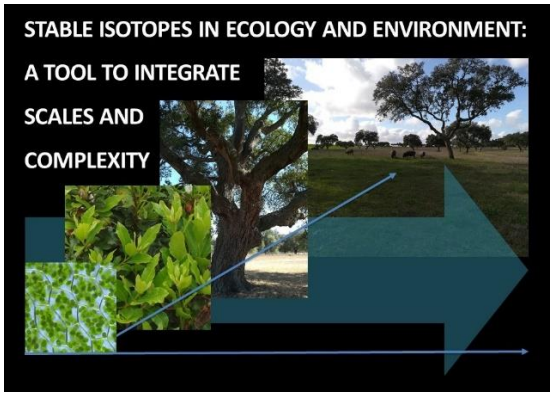
cE3c Advanced Courses 2018/2019



Stable isotopes in Ecology and Environment: a tool to integrate scales and complexity

Taught by: Cristina Máguas | Edition 2018/2019 **cancelled**;

New edition 2019/2020 4th-8th November 2019 @ FCUL

Objectives

Currently, climate changes or alterations are known to be reflected on the stable isotope ratios of Hydrogen, Nitrogen, Carbon, Oxygen and Sulphur present in atmospheric gas forms, fresh or ocean water, as well as in plants and animals and organic matter in the soil. Samples from those matrices can provide a record for such changes across a given length of time and / or space. Also, ecological and physiological processes often reflect on stable isotope ratios, again setting a record in plant, animal or other living tissues. Many such processes will establish typical "isotopic signatures" which can allow for a geographical discrimination of the origin (or growth) of a given living tissue; at the same time, the time scales involved in establishing those isotopic markers will depend upon metabolic turnover time of a given isotope, residence time of a given organism or cycling time in the ecosystem. For those, and other, reasons, stable isotopes ratios are widely used in diverse ecological areas of research, integrating multidisciplinary approaches together with biochemistry, molecular biology, physiology geochemistry and climate sciences.

Deadline for applications: October 1, 2019.

The course is free for a maximum of 10 1st year PhD students in the Doctoral programme in Biology (FCUL), Biodiversity, Genetics and Evolution (BIODIV UL, UP) and Biology and Ecology of Global Changes (BEAG UL, UA). For information of fees for other participants see the programme details.

See the PROGRAMME, how to apply and fees at:

http://ce3c.ciencias.ulisboa.pt/training/ver.php?id=106

cE3c centre for ecology, evolution and environmental changes

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