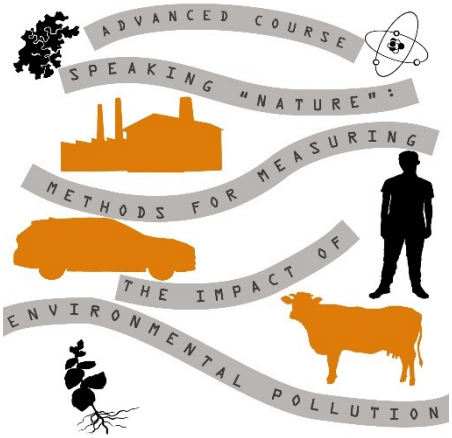

Speaking "nature": Methods for measuring the impact of environmental pollution on ecosystems

Lecturer(s) or Responsible(s): Silvana Munzi (cE3c, Univ. Lisboa), Pedro Pinho (cE3c, Univ. Lisboa), Sofia Augusto (ISPUP, Univ. Porto), Cristina Branquinho (cE3c, Univ. Lisboa), Cristina Máguas (cE3c, Univ. Lisboa), Alexandra Oliveira (cE3c, Univ. Lisboa), Helena Serrano (cE3c, Univ. Lisboa)

Note: This course is intended to be presential, but if needed (e.g. due to COVID-19 security measures by the time of the course) it may be adapted to be given remotely

Calendar: July 11th- 15th 2022

Schedule: 9:00-18:30 (36h)

Objectives: The course aims at enabling the participants to use different methods to measure the impacts of pollutants on ecosystems. Basic knowledge will be provided through theoretical and practical lessons on how to select and use the most suitable metrics based on the analysis of multiple compartments of the ecosystems.

General plan:

Environmental Pollution refers to the contamination of any component of an ecosystem causing adverse effects in its functioning. A widespread phenomenon in the Anthropocene, it impacts biodiversity, ecosystem functioning, and affects the ability of ecosystems to provide ecosystem services to humans. Besides, pollution also causes direct adverse effects on human health. Although the tools to measure pollutants concentration are increasingly well established, the tools available to measure the impacts of pollution on Ecosystems are far less known.

This course will train students on the use of tools to measure the impact of environmental pollution on ecosystems. These will include the use of ecological indicators based on biodiversity, physic and chemical measures and modelling, to measure the impact of atmospheric, water and soil pollution. Examples will be provided for natural, semi-natural and human-built ecosystems.

The course will be organized in lectures, lab experiences, computer analysis and, if possible, an excursion.

This course can have a recognition of 6 ECTs for FCUL PhD students enrolling in it as part of their first doctoral year. These students need to deliver two reports after the course. For students only requiring 5 ECTs recognized in their specific PhD programmes the last 3.5 hours of the course are not mandatory, they need to deliver only the main report and the certificate will be on 'Methods for measuring the impact of environmental pollution on ecosystems'. Such report(s) are also advised for other students requesting creditation of the course in their institutions.

Nº (min, max) students: 10 – 20

Minimum formation: "Licenciatura" (bachelor) in Biology, Natural Science or related areas

Directed to: PhD or MSc students in Biology, Microbiology, Ecology, Environmental Studies or related areas, and postdocs and other professionals working in related topics

Fee: Free for 1st year PhD students in Doctoral programmes at FCUL (e.g. Biologia), Biodiversity, Genetics and Evolution (BIODIV UL; UP), Biology and Ecology of Global Changes (BEAG UL, UA) and Sustainability Science (UL, several institutions), when the course counts credits for their formation, in which case the delivery of a final report done after the course is mandatory; the course is also free for more advanced PhD students of the BIODIV programme (ULisboa or UPorto); 50 € for more advanced PhD students of cE3c; 80 € for PhD students of the PEERS network (CFE); 125 € for FCUL Master students and unemployed; 180 € for BTI, BI and other PhD students; 250 € for Professional and postdocs.

When the maximum number of students is reached, 10 vacancies will be available for non-paying 1st year PhD students mentioned above, being, by order of preference students from: 1) cE3c; 2) BIODIV (not from cE3c); 3) FCUL (not from cE3c); 4) Sustainability Science (not from cE3c or FCUL); 5) BEAG (not from cE3c or FCUL).

Deadline for applications: June 8th 2022

Candidates should send an e-mail to "lichenscourse@fc.ul.pt" with a short cv and motivation letter. The cv and letter should be named as *1st-lastNAME-CV.pdf and 1st-lastNAME-ML.pdf* (that is personalize the name of each file with your first and last name).

In the email please add the following information:

Full Name:

E-mail:

Phone:

Professional activity: Professional/Postdoc, BTI, BI (or other non-post-doc research grant), PhD student (with/ without scholarship), Lic. (Bachelor)/Master student

PhD student of the 1st year of a Doctoral programme at FCUL, BIODIV (FCUL/FCUP), or BEAG (FCUL or UA)?

If yes to the above question, PhD student doing the Course to count credits for 1st year?:

PhD student of cE3c or CEF (Centro de Ecologia Funcional)?:

Name of the PhD programme: