



**Hands on Functional Diversity:
from Ecological Indicators to Ecosystem Services**

Lecturers/Organizers:

Laura Concostrina-Zubiri (Univ. Lisboa), Paula Matos (Univ. Lisboa), Alice Nunes (Univ. Lisboa), Pedro Pinho (Univ. Lisboa), Margarida Santos-Reis (Univ. Lisboa), Cristina Branquinho (Univ. Lisboa).

Date: 6-10 February 2017

Duration: 36 hours

Schedule: 9:00-17:30; Lectures/Computer Lab – 4 days, Field trip – 1 day

Objectives:

Under the general framework of Global Change Ecology, the goal of this course is to provide the participants with the most recent and practical knowledge on the use of Functional Diversity. This includes the selection of functional traits and calculation of Functional Diversity Indexes. Examples of the application of this knowledge will be given regarding Ecological Indicators and Ecosystem Services.

The specific objectives are:

- To give a general overview on global change drivers and point out the needs of current and future studies on Ecology

- To synthesize the most useful methods and tools for Ecosystem Services assessment, focusing on Ecological Indicators
- To allow the participants to apply the acquired knowledge on case study data (participants' data or data provided by the organizers), using R software. Examples of calculation with other software will also be provided (e.g. PC-ORD)

General plan:

- Day 1: Lecture on theory and concepts on Ecological Indicators and Ecosystem Services, Project presentation (research line/current data of participants' or case study selected from the literature by early stage PhD students with no current project)
- Day 2: Lecture on Functional Diversity Indices and Methods for measurement/calculation, Database management, Computer Lab
- Day 3: Computer Lab
- Day 4: Field trip
- Day 5: Synthesis' Lecture based on case studies by the organizers, Final presentation on the application of the acquired knowledge during the course by participants

This course can have a recognition of 6 ECTs for FCUL PhD students enrolling in it as part of their first doctoral year. For students only requiring 5 ECTs recognized in their specific PhD programmes the last 6 hours of the course are not mandatory and the certificate will be on 'Topics in Hands on Functional Diversity'.

Specific needs (e.g. computers, lab):

Lectures' room
Computers' room
Transportation to the field

Location: Departamento de Biología Vegetal e Departamento de Biología Animal, FCUL

Nº (min, max) students: 10-20

Minimal formation of students: Bachelor in Biology, Natural Science or related areas

Directed to: MSc or PhD students in Biology, Environmental Sciences, Ecology or related areas, postdocs and professionals working in related topics.

Fee: free for 1st year PhD students in the Doctoral program in Biology (FCUL), Biodiversity, Genetics and Evolution (BIODIV UL; UP) and Biology and Ecology of Global Changes (BEAG UL, UA) when the course counts credits for their formation, in which case the delivery of a final report done after the course is mandatory; 25 € for PhD students from institutions of the PEERS network (cE3c, 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: 1) cE3c students; 2)

BIODIV students (not from cE3c); 3) FCUL students (not from cE3c); 4) BEAG students (not from FCUL).

Deadline for applications: December 9th, 2016

Candidates should send a short CV and motivation letter explaining why they are interested in the course to Laura Concostrina-Zubiri (lczubiri@fc.ul.pt)