

ADVANCES IN FRESHWATER ECOLOGY

20-24 JUNHO 2022
COIMBRA



ADVANCES IN FRESHWATER ECOLOGY...

is an intensive course aiming to introduce post-graduate students and young researchers to recent advances in concepts and techniques used to address ecological questions in freshwater research. The 30 hours course will be lectured by academics and researchers from 4 Institutions of High Education.

SUBJECTS

Ecosystems Services & Ecological Integrity
Rivers Hydromorphology and Rehabilitation
Longitudinal and Lateral Connectivity
Ecological Insights from Species Invasions
Molecular Approaches to Biomonitoring
Current Advances in Molecular Biodiversity
Traits in Ecology
Meta-Analysis in Ecology

GENERAL INFORMATION

Duration: 30 hours **Participants:** 20 **Fee:** 50€

Scholarships: 10 scholarships (400€) and fee exemption are available for MARE members (a motivation letter explaining how the course will fit in your research interests is required). Participants from the district of Coimbra can apply for fee exemption only. Priority will be given to: MARE Ph.D. students > MARE master students > MARE researchers > other Ph.D. students > other master students > other researchers

Accommodation: rooms in the University residences can be booked at: <https://portaldossas.uc.pt/meuprocesso/#/sasuc/pedidoAlojamento>

Cost: 14.2€/night in shared room; 28€/night in single room

Registration: <https://tinyurl.com/encx6v2a>

Organization: Manuel Graça (mgraca@ci.uc.pt), Maria João Feio (mjf@ci.uc.pt), Verónica Ferreira (veronica@ci.uc.pt), Seena Sahadevan (seena.sahadevan@uc.pt)

DAY 1

Administração de Recursos Hídricos do Centro- ARH

9:00 – 9:15 Welcome. Introduction to the course.

9:15 – 10:45 Species invasions in freshwaters. *Pedro Anastácio, U. Évora*

11:00 – 11:45 Fish invasions: trends, vectors, impacts and what can we do about it! *Filipe Ribeiro, U. Lisboa*

12:00 – 12:45 Bivalve invasions: economic and biological impacts. *Joaquim Reis, U. Lisboa*

14:00 – 15:00 Field session: The concept of river connectivity; how a fishway works (Açude-Ponte, Coimbra). *Pedro Raposo de Almeida, U. Évora*

15:15 – 17:00 Field session: Sampling fish by electrofishing. *Filipe Ribeiro, U. Lisboa*

DAY 2

Department of Life Sciences, UC

9:00 – 10:00 Concepts of hydromorphology and hydrometry. *João Pedroso de Lima, U. Coimbra*

10:15 – 11:15 Concepts of ecosystem services and ecological integrity. *Maria João Feio, U. Coimbra*

11:30 – 12:30 Functional indicators of ecological integrity. *Verónica Ferreira, U. Coimbra*

Vale das Flores stream

14:00 – 15:00 Field session: Ecosystem services provided by urban rivers. *Maria João Feio, U. Coimbra*

15:15 – 17:00 Field session: River ecological quality assessment using macroinvertebrates as indicators - sampling and classification. *Ana Raquel Calapez, U. Coimbra*

DAY 3

Department of Life Sciences, UC

9:00 – 10:00 Trait definition(s); types of traits and what do they reflect. *Sónia Serra, U. Coimbra*

10:30 – 12:30 Advances in standardizing trait data; How traits can be quantified (real vs. potential traits). *Sónia Serra, U. Coimbra*

14:30 – 17:00 Practical session: Traits in ecology – univariate and multivariate approaches using R software (package ade4 – analysis of ecological data) to analyze and visually represent traits. *Sónia Serra, U. Coimbra*

DAY 4

Department of Life Sciences, UC

9:00 – 10:00 Molecular approaches in biodiversity assessment and evolution, particularly fish. *Carla Sousa Santos, ISPA*

10:15 – 11:15 The power and limitations of environmental DNA metagenomics. *Manuel Curto, U. Lisboa*

11:30 – 12:30 Molecular approaches to biomonitoring, particularly macroinvertebrates and diatoms. *Maria João Feio, U. Coimbra*

14:30 – 17:00 Theoretical/practical session: Safeguarding freshwaters: could molecular biodiversity be an appropriate tool? An example with fungi. *Seena Sahadevan, U. Coimbra*

DAY 5

Department of Life Sciences, UC

9:00 – 12:30 & 14:30 – 16:50 Theoretical/practical session: Meta-analysis in ecology. *Verónica Ferreira, U. Coimbra*

17:00 Closure