

UÉVORA Summer School'21

Molecular approaches in Conservation Ecology

PROGRAMME

Day 1 19th of july

Management and Diversity Conservation of Coastal and Marine Ecosystems

Helena Adão (MARE-UE)

14:00-15:30 Ecology of estuarine and marine ecosystems: Species and habitat diversity

15:30-16:00 Benefits of marine biodiversity

16:00-16:30 Break

16:30-17:00 Legal instruments to evaluate “Good Environmental Status” of coastal and marine ecosystems

17:00-18:00 Management tools and evaluation of “Good Environmental Status” - new methodological tools

Day 2 20th of july

Introduction to Molecular Biology and Phylogeny

Margarida Espada (MED-UE)

14:00-15:00 Sampling and extraction of DNA from plants, animals or microorganisms

15:00-16:00 Genetic variation: tools for analysis (e.g. microsatellites, SNPs)

16:00-16:30 Break

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16:30-17:00 Principles of PCR amplification of genes and genetic markers

17:00-18:00 Common methods for phylogenetics analysis

Day 3 21st of july

Meta-studies - part I: DNA metabarcoding of communities

Margarida Espada (MED-UE), Cláudia Vicente (MED-UE), Soraia Vieira (MARE-UE)

14:00-15:00 DNA metabarcoding of communities - basic concepts and applications

15:15-15:30 Break

15:30-18:00 *Hands-on* (Nematology Lab, MED-UE):

- DNA extraction, PCR amplification e Eletroforeses
- *In silico* analysis of DNA sequences and Bioinformatic tools
- Interpretation of results

Day 4 22nd of july

Meta-studies - part II: Microbiome of communities

Cláudia Vicente (MED-UE)

14:00-15:00 Introduction to Microbiome Analysis - Metagenomics approaches

15:00-16:00 Basic analysis workflow and bioinformatic tools

16:00-16:30 Break

16:30-18:00 *Hands-on*:

- Microbiome analysis with QIIME2 tutorial