



## **Visiting Professor Program Academic Year 2024/2025**

**TEACHING COMMITMENT:** 24 hours

**COURSE TITLE**

**Modelling Animal Movement and Habitat Selection for Sustainability Analysis of Conservation Programs**

**TEACHING PERIOD**

2nd term

**SCIENTIFIC AREA**

Zoology

**LANGUAGE USED TO TEACH**

English

**COURSE SUMMARY**

The course aims to provide students with the tools to interpret and create their own statistical models of the spatial and temporal distribution of living organisms as applied to ecology and conservation.

**LEARNING OBJECTIVES**

Knowledge and understanding skills:

Knowledge and understanding of the main methods used for modeling living organisms in space and time;

Understanding of the theoretical basis of the models learned;

Ability to apply knowledge and understanding;

Ability to model ecological data appropriately;

Autonomy of judgment;

Ability to independently evaluate the best modeling approach for the problem addressed;

Communication skills:

Ability to produce and present a scientific poster with the results of a model conducted independently.

### **OTHER ACTIVITIES BESIDES THE COURSE**

Two seminars for the Bachelor students and one addressed to PhD students and research fellows.

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### **VISITING PROFESSOR PROFILE**

We look for a strong profile in the field of statistical models for ecology and conservation, including knowledge of what a model is, basic concepts of statistical modeling applied to ecology and conservation, models for data collected on individuals that cannot be individually recognized:

Introduction to species distribution models (SDM) and environmental suitability models;

SDM models for presence-absence data;

SDM models for presence-only data (MaxEnt);

The problem of 'imperfect detection';

Single-season occupancy models;

Dynamic occupancy models;

Introduction to abundance models (Royle Nichols and N-Mixture models);

Distance sampling;

The course should conclude with a workshop on the creation of a scientific poster as an aid to preparation for the final examination.

### **CONTACT REFERENT**

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