

DOCTORAL SCHOOL IN ECOLOGY

Since its foundation in 2005, the doctoral school in Ecology has gradually developed to meet the objectives of post-normal science focused on the knowledge and management of nature and human society, organized in socio-ecological complexes hierarchized at different spatial and temporal scales.

Its mission is to fulfil multiple roles as:

- i) training of high-quality human resources;
- ii) performing fundamental and applied research;
- iii) the methodological and cognitive transfer of transdisciplinary knowledge toward the operational level to meet the requirements of sustainable development of the socio-ecological complexes.

The activities within the doctoral school are inter- and transdisciplinary. The teaching team involved has expertise in Systems Ecology and Sustainability's overall approach and the study of systems complexity at different spatial and temporal scales.

The development and evolution of the Doctoral School of Ecology to its current form took place in parallel with that of the Department of Systems Ecology and Sustainability (DESS) and was significantly influenced by the establishment in 1992, within DESS, of the Unesco-Cousteau Chair of Ecotechny. They were conceived as promoters of the reform of university education in Romania in the field of environmental sciences, inextricably linked to scientific research, in a framework based on a flexible structure, which allows the establishment of multi and interdisciplinary teams which include professors, Ph.D. and undergraduate students, and researchers.

The doctoral school is organized into seven subdomains:

- Ecosystem ecology: dynamics of the structure, role, and functions of populations/species within ecosystems
- Landscape/seascape ecology: composition, structure, processes, and functions of ecosystems and ecosystem complexes
- Coupled Human-Natural systems (socio-ecological systems): Ecology and society
- Mapping and assessment of ecosystems and their services
- Microbial ecology
- Urban ecology
- Indicators and indices for monitoring and evaluating the integrity of the natural capital components and the sustainability of the socio-ecological systems.

The doctoral programme comprises six semesters, and it involves research activities, data analysis, literature synthesis and the publication of two research papers. Research activities are based in the field and laboratory and are conducted for a minimum of two years. These activities are all supported by the infrastructure and the resources of the Center for Research in Systems Ecology and Sustainability (CCESS), the Research Center for Environmental Protection and Waste Recovery – PROTMED, and the Life, Environmental and Earth Science Division of the Research Institute of the University of

Bucharest. Two regional research stations in Braila and Sinaia are equipped with highly efficient monitoring equipment and primary, immediate processing equipment of samples taken from the field.

WHY CHOOSE

The potential and the high level of performance of the Ph.D. School in Ecology are proven by the implementation of research projects financed by European funds (PC4, PC5, PC6, SEE, Horizon2020), by recognition at a national and European level (Excellence center/CNCSISMEC/2001, AlterNet), and its integration in numerous university and research networks (i.e., ILTER, LifeWatch). Offering an intensive research programme, the Ph.D. School in Ecology attracts many talented Ph.D. students every year, including students from outside of Romania. Students from abroad have the opportunity of undertaking their Ph.D. studies in English, in thematic areas as the functional, ecosystem, landscape, urban and microbial ecology, including biogeochemical cycles of elements, biotic interactions between aquatic and terrestrial adjacent ecological systems, environmental policies, and dynamics of ecosystem functions.