



UNIVERSITÀ
DEGLI STUDI DI TRIESTE

Rettorato e Direzione Generale
Sezione Ricerca e Dottorati
Ripartizione Dottorati

ATTACHMENT 1

LAST REVISED 30/06/2015

**PhD IN
ENVIRONMENTAL LIFE SCIENCES
(under the agreement with the University of Udine)
OVERVIEW**

| IN BRIEF | |
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| Lines of research | <ol style="list-style-type: none"> 1 Ecology and ecophysiology of marine, fresh water, terrestrial and agricultural ecosystems 2 Global change biology and management of natural and agricultural systems 3 Biodiversity informatics, genetics and conservation 4 Ecotoxicology and bioremediation |
| Administrative location | University of Trieste |
| Organizing Department | Department of Life Sciences |
| Partner University | University of Udine |
| Partner University Department | Department of Agricultural and Environmental Sciences |
| Duration | 3 years |
| Maximum number of months to be spent abroad by each PhD student | 18 |
| Official language | Italian |
| Language (alternative to Italian) partially used in PhD activities | A relevant part of seminars will be in English. Several offered teaching courses will be in English. PhD students can present their partially and final results in English. They are encouraged to write their PhD thesis in English. |
| Subject Area | 05 BIOLOGY 07 AGRICULTURAL AND VETERINARY SCIENCES 03 CHEMISTRY |
| Macro Research Fields | 05/C ECOLOGY 05/A PLANT BIOLOGY 05/I GENETICS AND MICROBIOLOGY 05/G EXPERIMENTAL AND CLINICAL PHARMACOLOGY 05/B ANIMAL BIOLOGY AND ANTHROPOLOGY 07/B AGRICULTURAL AND FOREST SYSTEMS 07/C AGRICULTURAL, FOREST AND BIOSYSTEMS ENGINEERING 07/E AGRICULTURAL CHEMISTRY AND AGRICULTURAL GENETICS 03/A ANALYTICAL AND PHYSICAL CHEMISTRY |
| Scientific Disciplinary Sector | BIO/07 ECOLOGY BIO/01 GENERAL BOTANICS BIO/02 SYSTEMATIC BOTANICS BIO/04 VEGETAL PHYSIOLOGY BIO/14 PHARMACOLOGY BIO/15 PHARMACEUTIC BIOLOGY BIO/18 GENETICS BIO/05 ZOOLOGY |

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| | AGR/02 | AGRONOMY AND HERBACEOUS CULTIVATION |
| | AGR/05 | FORESTRY AND SILVICULTURE |
| | AGR/08 | AGRARIAN HYDRAULICS AND HYDRAULIC FOREST MANAGEMENT |
| | AGR/13 | AGRICULTURAL CHEMISTRY |
| | CHIM/03 | GENERAL AND INORGANIC CHEMISTRY |
| Domain European Research Council | LS | LIFE SCIENCES |
| ERC Panels | LS8 | EVOLUTIONARY, POPULATION AND ENVIRONMENTAL BIOLOGY: EVOLUTION, ECOLOGY, ANIMAL BEHAVIOUR, POPULATION BIOLOGY, BIODIVERSITY, BIOGEOGRAPHY, MARINE BIOLOGY, ECOTOXICOLOGY, PROKARYOTIC BIOLOGY |
| | LS9 | APPLIED LIFE SCIENCES AND BIOTECHNOLOGY: AGRICULTURAL, ANIMAL, FISHERY, FORESTRY AND FOOD SCIENCES; BIOTECHNOLOGY, CHEMICAL BIOLOGY, GENETIC ENGINEERING, SYNTHETIC BIOLOGY, INDUSTRIAL BIOSCIENCES; ENVIRONMENTAL BIOTECHNOLOGY AND REMEDIATION |
| | PE4 | PHYSICAL AND ANALYTICAL CHEMICAL SCIENCES: ANALYTICAL CHEMISTRY, CHEMICAL THEORY, PHYSICAL CHEMISTRY/CHEMICAL PHYSICS |
| Erasmus Subject Area Codes | 01.1 | AGRICULTURE |
| | 07.2 | ENVIRONMENTAL SCIENCES, ECOLOGY |
| | 07.4 | SOIL AND WATER SCIENCES |
| | 13.1 | BIOLOGY |
| | 13.3 | CHEMISTRY |
| | 13.4 | MICROBIOLOGY, BIOTECHNOLOGY |

| WHO'S WHO | |
|------------------------------------|--|
| Chair | Prof. Serena Fonda – Department of Life Science - University of Trieste – Via L. Giorgeri, 10 – phone N. 040.558.8829/2937; fax 040.558.2011; email s.fonda@units.it |
| Web site | http://www2.units.it/biomonitor/ |
| email | dottorato.ambientevita@units.it |
| Learning outcomes | <p>The PhD program, aims to train highly qualified personnel capable of analytically managing the implementation of national and European Union guidelines regarding the environmental analysis, deepen the methodological aspects related to these issues, and to independently design and carry out environmental researches in a multidisciplinary view. It is structured to increasingly focus the scientific training of the students from the general and theoretical to the experimental aspects.</p> <p>The name of the doctorate is closely linked to the research topics of the members of the teacher's council. They are linked to the following ERC areas:</p> <p>Terrestrial ecology, land cover change (PE10_4); Biogeochemistry, biogeochemical cycles, environmental chemistry (PE10_9); Ecology (LS8_1); Biodiversity, comparative biology (LS8_4); Conservation biology, ecology, genetics (LS8_5); Environmental and marine biology (LS8_8); Environmental toxicology (LS8_9), Prokaryotic biology (LS8_10). Agriculture related to animal husbandry, dairying, livestock raising (LS9_3); Agriculture related to crop production, soil biology and cultivation, applied plant biology (LS9_5), Genetics, Population biology, population dynamics, population genetics, plant-animal interactions (LS2/LS8_2), Genomics, transcriptomics, comparative genomics, functional genomics (LS2).</p> |
| Job placement opportunities | <p>Possible job placements are mainly in the environmental research field at national or international universities or research institutions, both in marine and terrestrial area of interest. The considerable interdisciplinary approach characteristic of this PhD course will allow the training of new and complete professional figures that will afford to multidisciplinary scientific issues. Methodologies learnt during the PhD course will apply to complex themes like: effects of global change on different natural ecosystems (from deep ocean to high mountains) or man managed ones (agro-ecosystems, forestry, and so on); the biodiversity role in maintaining</p> |

ecosystem efficiency and good and service production; the onset of new pollution sources, the appearance of new pollutants and their effects on organisms, the management of new productive close – loop systems, the digitalization of environmental data to spreading them to the public for stimulating a general increase in the ecological awareness.

Main cooperating international Universities and Research Institutions

- 1 Scripps Institution of Oceanography, University of California, San Diego, USA
- 2 College of Environmental and Natural Resources Sciences, Zhejiang University, Hangzhou, China
- 3 Tel Hai College, Upper Galilee, Israel
- 4 Institut of Botany, University of Innsbruck, Austria
- 5 Los Alamos National Laboratory, New Mexico USA