



UNIONE EUROPEA
Fondo Sociale Europeo



Università degli Studi di Cagliari

<p>International PhD Programme in EARTH AND ENVIRONMENTAL SCIENCES AND TECHNOLOGIES in collaboration with - Universitat de Barcelona - Universitat de Girona</p> <p>Curriculum 1: GEOLOGICAL EVOLUTION OF THE TERRITORY Curriculum 2: APPLIED GEOLOGY AND ENVIRONMENTAL TECHNOLOGIES Curriculum 3: GEOSPHERE-BIOSPHERE INTERACTION</p>	
DISCIPLINARY SCIENTIFIC AREAS	04 – EARTH SCIENCES; 05 – BIOLOGICAL SCIENCES; 08b – CIVIL ENGINEERING; 03 – CHEMICAL SCIENCES; 07 – AGRICULTURAL AND VETERINARY SCIENCES
COORDINATOR	PROF. GIORGIO GHIGLIERI
HEAD DEPARTMENT	DEPARTMENT OF CHEMICAL AND GEOLOGICAL SCIENCES
DURATION	3 YEARS
LEARNING OUTCOMES AND RESEARCH TOPICS	<p>The qualifying cultural core of the training project is represented by an integrated, and interdisciplinary approach applied from molecular to ecosystem scale. It is aimed to the study of the territory as a physical and natural environment, with emphasis on the development and application of new technologies and approaches to environmental conservation. The wide range of topics covered by the programme include geological studies, geo-resources, management of the physical and biotic environment, of soils and subsoils, flora, habitats and plant ecosystems, solid and liquid wastes, contaminated environmental matrices, secondary raw materials. Connecting and integrating basic and applied, abiotic and biotic disciplines, is promoted throughout the entire doctoral programme in line with current international research trends.</p> <p>For the XXXVII Cycle, the PhD programme Board has identified the following topics as research priorities, though not exclusive:</p> <p>Curriculum 1 - GEOLOGICAL EVOLUTION OF THE TERRITORY</p> <ol style="list-style-type: none"> 1. Regional Geology; 2. Geomorphology; 3. Mineralogy; 4. Paleontology; 5. Petrology 6. Sedimentology; 7. Stratigraphy; 8. Tectonics; 9. Volcanology. <p>Curriculum 2 - APPLIED GEOLOGY AND ENVIRONMENTAL TECHNOLOGIES:</p> <ol style="list-style-type: none"> 1. Remediation of contaminated sites



	<p>2. Soil protection; 3. Desertification; 4. Hydrogeology and water resources; 5. Geoengineering 6. Geotechnics; 7. Waste, wastewater and gaseous emissions management and treatment.</p> <p>Curriculum 3 - GEOSPHERE-BIOSPHERE INTERACTION:</p> <p>1. Systematic and environmental botany, plant secondary metabolites; 2. Biogeochemical dynamics of soil-plant systems; 3. Ecophysiology and biominerals; 4. Paleo and archaeobotany</p> <p>The PhD programme includes short courses and seminars, internships and training stages in Italian and foreign research facilities and encourages participation in national and international conferences. The participation in these activities is considered essential to the education and training of the candidate. Acquiring independent research skills and sharing research results through publication of contributions in international, peer reviewed, ranked journals is also a primary learning outcome.</p> <p>The knowledge of the territory, environmental protection, promotion of environmental protection measures are considered priority topics at international and particularly at European Union level, with specific reference to the Mediterranean area and the Sardinian region. Environmental enhancement is a strategic aspect for both regional economy and sustainable development. Any region presents peculiar environmental criticalities, determined by its specific geological and geomorphological conformation, ecosystems and socio-economic activities, and the peculiarity of its climate. These criticalities cause heavy environmental and, consequently, socio-economic imbalance, reducing the potential for regional development. Addressing these issues requires expanding our knowledge on the evolution of the natural environment and the impact of human activities. The doctoral programme is also promoting the development of new technological and nature-based solutions as tools for monitoring of the natural environment, prevention and remediation of known or detected criticalities, recovery of secondary resources and rational exploitation of resources in a context of circular economy.</p> <p>After the successful completion of their PhD project, the candidates will have acquired a set of transferable skills and an advanced expertise, which will be of use not only to pursue an academic career but also for employment opportunities in higher research institutions from regional to international level (e.g., AGRIS, CNR, CRS4, ICRAM, Sardegna Ricerche), governmental bodies (e.g., ADIS, ARPAS, Forestry Agencies, LAORE), public administrations, natural parks and marine protected areas, as well as private companies and as freelancers. The professional profile of the successful candidate is also ideal to respond to the growing demand for environmental managers, dealing with remediation of the impact of anthropogenic activities and natural events as well as preservation and valorization of the natural environment.</p>
ELIGIBILITY AND OTHER	EVERY ITALIAN 2ND CYCLE DEGREE (LAUREA



<p>REQUIREMENTS FOR CANDIDATES (ART. 2 - NOTICE OF COMPETITION)</p>	<p>MAGISTRALE/SPECIALISTICA/VECCHIO ORDINAMENTO) AND EQUIVALENT AND SUITABLE FOREIGN ACADEMIC DEGREES Adequate knowledge of scientific English; basic computer skills (word processing programs, spreadsheets, databases and GIS)</p> <p>Foreign candidates: Degrees equivalent to those mentioned above; adequate knowledge of Italian or English and, in any case, scientific English; basic computer skills (word processing programs, spreadsheets, databases and GIS).</p>
<p>ADMISSION TESTS</p>	<p>ASSESSMENT OF QUALIFICATIONS AND CURRICULUM VITAE, AND VIDEO CONFERENCE INTERVIEW. The interview will be conducted by video conference with audio and video modality that allows the verification of the identity of the candidate. The interview will be aimed at verifying the candidate's ability to orient herself/himself on the main fields of study related to the Doctorate and to verify her/his analytical and communication skills. The interview will be conducted, at the request of the candidate, also in English. During the interview, the candidate will discuss his/her 3-year research project. The project (preferably written in English) must be uploaded along with the documents listed in art. 3 of the PhD notice of competition (<i>Annex A "Titoli valutabili e Curriculum Vitae"; Annex B "Dichiarazione sostitutiva di certificazioni del/i titolo/i di accesso con esami e voti"; two-sided coloured scanned copy of a valid ID, with a clear photo</i>), within the deadline (file name: <i>progetto_di_ricerca_surname_name</i> - formatting requirements: min. 8,000 max 16,000 characters including spaces - excluding title, schemes, charts and bibliographic references). The project will be evaluated during the interview exclusively and must include:</p> <ul style="list-style-type: none"> i) purpose of the proposed research project and the related curriculum - Geological evolution of the territory; Applied geology and environmental technologies; Geosphere-biosphere interaction - also specifying the disciplinary sector of reference; ii) state of the art of research; iii) detailed workplan; iv) expected results; v) motivation letter, i.e. max. 1,000 characters (including spaces) explaining the reasons prompting the candidate to apply for the PhD Programme. <p>During the interview, the candidate's language skills in English will be assessed by reading and translating a passage from a text proposed by the Evaluation Committee.</p>
<p>ADMISSION TESTS FOR FOREIGN CANDIDATES APPLYING FOR RESERVED POSITIONS SUPPORTED BY A SCHOLARSHIP</p>	<p>ASSESSMENT OF QUALIFICATIONS AND CV, VIDEO CONFERENCE INTERVIEW The candidates must upload, within the deadline indicated in the notice, the application material, that must include: the documents required in art. 3 of the notice of competition (<i>certificate attesting the award of a 2nd level foreign degree needed to access a PhD programme, including exams and marks, with a translation in Italian or English; certificate attesting the award of a 1st level foreign degree, including exams and marks, with a translation in Italian or English; signed Curriculum Vitae preferably in EU format, in English or Italian; up to 3 reference letter(s), in English or Italian, on institutional</i></p>



	<p><i>letterhead paper, dated and signed by a university professor or expert in the PhD scientific area(s), following the prescriptions of each annex; additional qualifications, certifications, publications (up to 5) and work experiences, detailed in English or in Italian; two-sided coloured scanned copy of a valid ID, with a clear photo), motivation letter, i.e. max. 1,000 characters (including spaces) explaining the reasons prompting the candidate to apply for the PhD Programme within the deadline (file name: personal_statement_surname_name).</i></p> <p>Up to 3 reference letters must be written in English, using the form available on the webpage https://unica.it/dottoraticerca (How to apply for PhD selection: Guidelines and forms- Annex C), by a university professor or an expert in the research fields of the PhD programme, on letterhead of their institution, dated and signed. Evaluators will send their letters directly to the email address phdcall_referenceletter@unica.it (object: surname and name of the candidate being evaluated and name of the PhD programme for which he/she is applying).</p> <p>The interview will be conducted by video conference with audio and video modality that allows the verification of the identity of the candidate. The interview will be <u>in English</u> and will:</p> <ul style="list-style-type: none"> - verify the candidate's capacity of orientating among the main study fields of the PhD programme; - assess the candidate's methodological knowledge and his/her analytical, elaboration and communicative skills; - discuss with the Selection Committee the content of a research project.
POSITIONS	5
SCHOLARSHIPS	<p>2 FUNDED BY MUR "2019-2020 PLANNING EX ART. 1 D.M. N. 435/2020 STATE UNIVERSITIES"</p> <p>2 FUNDED BY MUR PL, 1 OF WHICH RESERVED FOR FOREIGN CANDIDATES HOLDING A FOREIGN DEGREE</p>
POSITIONS WITHOUT SCHOLARSHIP	1
REFERENCE PERSON	<p>PROF. GIORGIO GHIGLIERI</p> <p>EMAIL: giglieri@unica.it - TEL. +39 070.6757717</p>
WEBSITE	http://dottorati.unica.it/stta/