Allegato n. 9

PHD COURSE IN ENVIRONMENTAL PHENOMENA AND RISKS	
Total positions	**2 with funding from the Parthenope University (for subject and requisites see below)** **1 with funding ex DM 117/2023 (for subject and requisites see below)** **1 with funding ex DM 118/2023 PA (for subject and requisites see below)** **2 with funding ex DM 118/2023 PNRR (for subject and requisites see below, under headings A and B)** **3 with funding from CNR-IRET, CNR-ISMAR and DiST Uniparthenope (for subject and requisites see below, under headings C, D and E)** **1 without funding (for subject and requisites see below)**
Application deadline	**31 July 2023**
Duration of the PhD course	Three years
(Italian academic) Scientific Sectors	ICAR/01, ICAR/02, ICAR/06, ICAR/07, ICAR/08, ICAR/09, ICAR/19, GEO/01, GEO/02, GEO/04, GEO/12, ING-IND/01, ING-IND/02, ING-INF/03, INF/01.
Objectives of the PhD course	The theme of this PhD course is the study of a wide range of environmental phenomena, the potential risks associated with them and the methods for their mitigation. The topic is highly interdisciplinary and requires the convergence of tools and expertise from different scientific fields and disciplines. Starting from the climate, understood as a complex of phenomena at multiple scales that develop within atmosphere, hydrosphere, cryosphere, biosphere, lithosphere, it will focus on the effects of the phenomena in terms of individual potential negative fallout on people and production capacity, as well as on the hazard assessment, on the vulnerability of the elements at risk, on possible integrated strategies for mitigation. Topics of basic and applied research in the fields of oceanography, meteorology, climatology, geology, will therefore be considered, as well as their interactions in cases of environmental pollution, hydro-geological risk and similar issues; they will be joined by disciplines more directly related to the assessment and mitigation of risk, such as maritime and hydraulic engineering, geotechnical and structural engineering and geomatics, together with issues related to the methods of experimental investigation, monitoring and control of the territory .

	All above disciplines will provide the scientific and technical knowledge necessary to design actions to mitigate the most serious natural hazards, both with structural protection and soil conservation, and using non-structural measures for improving the security of land and of land-based activities. The PhD program is intended to train professionals capable of being competitive in research (universities, research institutes, public and private) and employment market (Public Administration, Science and Technology Parks, Research Consortia, National Agencies and Regional Authorities for the Environment, River Basin Authorities, small and medium-sized enterprises, etc ...) at national and international level. To ensure maximum adaptability to the variety of profiles required in the labor market we will promote the ability to work in teams, the knowledge of foreign languages, the ability to manage interdisciplinary knowledge, including environmental law.
Coordinator	Prof. Enrico Zambianchi
General application requisites	Possession, by Oct 31st 2023, of one of the following qualifications: - "laurea specialistica" or "laurea magistrale" awarded in accordance with DM 509/1999 and subsequent amendments and additions; - "laurea" or "diploma di laurea" awarded in earlier courses of study (whose legal course has a duration of at least four years); - An equivalent Batchelor's + Master's degree from a foreign university. In the latter case, if the title has not already been officially declared equivalent to the required Italian degree, the decision on admission is solely demanded to the Commission.
Additional requirements for the 2 positions funded by the Parthenope University	**SUBJECT:** *of the candidate's choice within any of the scientific-disciplinary sectors of the PhD course (see above)* Candidates who choose to compete for the scholarships funded by the Parthenope University must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad. Applicants must enclose with their application a certificate (or self-certification) of the examinations taken in their Bachelor's and Master's degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods

	- timetable of activities - expected results relevant bibliography
Additional requirements for the DM 117 grant application	**SUBJECT:** *Investigation of circulation in the stratosphere* Candidates who choose to compete for the reserved scholarship ex DM 117 must declare in their application that they are aware that this doctoral programme includes a study period of at least 6 (six) months abroad and at least 6 (six) in a company (CIRA: Italian Aerospace Research Centre). Applicants must enclose with their application a certificate (or self-certification) of the examinations taken in their Bachelor's and Master's degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the DM 118 PA grant application	**SUBJECT:** *Development of new methodologies for the integrated calculation (i.e. derivation, subsequent processing and scientific use) of wave and surface current parameters from high-frequency coastal radar data* Candidates who choose to apply for the grant reserved ex DM 118 PA must state in their application that they are aware that this doctoral course implies a study period of at least 6 (six) months abroad and at least 6 (six) in the host institution (ISPRA: Istituto Superiore per la Protezione e la Ricerca Ambientale). Applicants must enclose with their application a certificate (or self-certification) of the examinations taken in their Bachelor's and Master's degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the DM 118 “A” grant	**SUBJECT "A":** *Development of integrated procedures based on the use of innovative technologies for the estimation of the exposure and resilience of coastal areas to climate change in areas of high strategic and cultural naturalistic value.*

application	Applicants who choose to compete for the reserved scholarship ex DM 118 PA must declare in their application that they are aware that this doctoral programme implies a period of study of at least 6 (six) months abroad and at least 6 (six) in a company. Applicants must enclose with the application a certificate (or self-certification) of the examinations taken in the three-year degree and master's degree programmes and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the DM 118 "B" grant application	**SUBJECT "B":** *Hydraulic and Landslide Risk Mitigation* Candidates who choose to compete for the reserved scholarship ex DM 118 PA must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad and at least 6 (six) in a company. Applicants must enclose with their application a certificate (or self-certification) of the examinations taken in the three-year degree and master's degree programmes and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the CNR-DiST "C" grant application	**SUBJECT "C":** *Satellite ocean observation* Candidates who choose to apply for the reserved scholarship funded by IRET-CNR, ISMAR-CNR and DiST UniParthenope must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad. Applicants must enclose with the application a certificate (or self-certification) of the examinations taken in the three-year and five-year degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows

	- introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the CNR-DiST "D" grant application	**SUBJECT "D":** *Observation of the ocean from autonomous instrument data* Candidates who choose to apply for the reserved scholarship funded by IRET-CNR, ISMAR-CNR and DiST UniParthenope must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad. Applicants must enclose with the application a certificate (or self-certification) of the examinations taken in the three-year and five-year degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the CNR-DiST "E" grant application	**SUBJECT "E":** *Using artificial intelligence to reconstruct 4D fields in the ocean* Candidates who choose to apply for the reserved scholarship funded by IRET-CNR, ISMAR-CNR and DiST UniParthenope must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad. Applicants must enclose with the application a certificate (or self-certification) of the examinations taken in the three-year and five-year degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Additional requirements for the position without	**THEME:** *Statistical techniques for uncertainty assessment in climate forecasting* Candidates who choose to apply for the post without the scholarship

funding	must declare in their application that they are aware that this doctoral programme implies a study period of at least 6 (six) months abroad. Applicants must enclose with their application a certificate (or self-certification) of the examinations taken in their Bachelor's and Master's degrees and a short research project, in Italian or English, focusing on the above-mentioned subject. This project must not exceed 4 A4 pages including figures, and must be structured as follows - introduction/motivations - state of the art - materials and methods - timetable of activities - expected results - relevant bibliography
Curriculum and project evaluation	The admission committee will evaluate the following elements submitted by the candidate: - university curriculum - which will also be assessed on the basis of a certificate (or self-certification) of the examinations taken by the candidates in the Bachelor and Master degrees, which the candidates themselves must attach to the application - and scientific curriculum (up to 30 points altogether) - research project, which candidates must send with the application for participation in the selection, not binding for the purposes of the activity to be carried out by the doctoral candidate in the event of admission to the course (up to 30 points). Only candidates who achieve a score of no less than 35 during the assessment of qualifications and project will be admitted to the interview.
Oral test (interview)	The oral test is scheduled to take place on September 20th 2023, and will consist of an interview focusing on the curriculum presented by the candidates, their qualifications and any publications, as well as the research project submitted. The interview will also ascertain a good knowledge of English and, for foreign candidates, of the Italian language. The maximum mark for the interview is 40 points. Only those candidates who, having passed the assessment of qualifications, receive a score of no less than 25 during the oral interview will be included in the final ranking.