PhD Programme Table - 38th cycle
NRRP "National Recovery and Resilience Plan" Call for Applications

Funded by the European Union
NextGenerationEU

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Section "Available Positions and Scholarships" integrated on 27/07/2022

PROGRAMME'S NAME	EARTH, LIFE AND ENVIRONMENTAL SCIENCES
DURATION	3 years
PROGRAMME START DATE	01/11/2022 (DD/MM/YYYY)
LANGUAGES	Italian, English
COORDINATOR	Prof. Maria Giovanna Belcastro (mariagiovanna.belcastro@unibo.it)
CURRICULA	1. Geology 2. Biology
RESEARCH TOPICS	Detailed list at the bottom of the present document
PhD POSITIONS	10
ADMISSION PROCEDURE	Qualifications evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Curriculum	Positions linked to research topics
1	***PhD Scholarship Ex M.D. 351/2022 - PA***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (MD 351/2022) – Public Administration	2	Definition and application of new tools for monitoring of toxinprducing phytoplankton in bivalve mollusc harvesting areas
2	***Executive PhD***	Position reserved for employees of NGB Genetics S.r.l.	2	Development of a pipeline for validation and standardization of microsatellites panels for conservation and forensic genetics of protected and endangered animal species
3	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by Class s.r.l	2	Use of innovative methods for air and surface quality assessment in door by developing a "mobile laboratory facility"
4	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by Hortus srl	1	Development of innovative monitoring techniques and early-warming procedures for landslide and debris flow hazard mitigation

5	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ROMAGNA ACQUE	2	Chemical and biological approach for the assessment of emerging contaminants in the inlet, outlet and some critical points of the treatment chain of Romagna drinking water treatment plants
6	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ITALFERR	1	Parameters for quantifying seismic hazard in railway design (analysis of statistical and probabilistic methods, temporal occurrence). Site effects related to seismic hazard and analysis of active faulting and related surface effects
7	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ITALFERR	1	Development of methods for spatial and temporal analysis of satellite interferometric data for studying and monitoring land disturbances to protect road and rail infrastructure
8	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ITALFERR	2	Identification of standardized methodological approaches aimed at assessing the impacts on biodiversity induced by the inclusion of a major railway infrastructure, as well as the CO2 balance
9	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ITALFERR	1	Development and calibration of protocols and methods for quantification of hydrogeological interference risk of large underground works in different geological settings
10	***PhD Scholarship Ex M.D. 352/2022***	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (MD 352/2022) and by ITALFERR	1	Multiscale susceptibility analysis and quantitative multiscale landslide hazard and risk assessment adaptable to linear infrastructure design using innovative methodologies and techniques. Evolutionary models for slope instability and prediction algorithms for designing railway works

Applicants awarded with Ex M.D. 351/2022 or Ex M.D. 352/2022 PhD scholarships shall have specific obligations (i.e. mandatory research periods abroad and/or in a firm) during their PhD programme. For detailed information, refer to the Call for Applications, articles 1.2 and 1.3, and to the text of the law.
For any other eventual PhD positions, a 3-month research period abroad is mandatory.

Admission Exams

The admission exams detailed schedule shall be published **starting from July 12th, 2022:**

- on the University website, selecting the relevant PhD Programme > "More information", at the bottom of the page in the section "Notices";
- on Studenti Online (select "summary of the requests in progress" > "see detail" and open the .pdf file at the bottom of the page). **No personal written communication will be sent to applicants**.

Required and Supporting Documents to be attached to the application

All the documents listed below **shall be drawn up in English or in Italian**. In case of documents originally issued in any other language (e.g. identity document, qualifications), an official translation is required.
Only qualifications obtained **during the last 5 calendar years** shall be taken into consideration, except for the University Degree. The Admission Board will assess the relevance of the supporting documents to the PhD Programme.

REQUIRED DOCUMENTS	
Identity document	Valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae	No specific CV format is required
Degrees	Documents attesting the awarding of the first and second cycle degrees, the exams taken and the marks obtained (see Art. 3 of the Call for Applications)
SUPPORTING DOCUMENTS	
Thesis abstract	Abstract of the **second cycle degree thesis.** Graduands applicants may submit the draft of the thesis. Abstracts cannot exceed 5,000 characters, including spaces and formula possibly used. The above figure does not include: the title of the thesis, the outline, references, and images such as graphs, diagrams, tables etc.
Reference letter/s	**No more than 2 reference letters** signed by Italian and international academics and professionals in the research field, which do not form part of the Admission Board, attesting the suitability of the applicant and his/her interest in the scientific research. Letters shall be uploaded following the procedure detailed in the Call for Applications (Art. 3.2).
Personal Statement	The statement shall include the reasons prompting the applicant to attend the PhD Programme and **those relevant experiences and research interests**, that make the applicant suitable for the specific PhD Programme (3000 characters maximum, including spaces).
Publications	Lists of publications (i.e. monographs, articles on scientific journals), minor publications (conference papers, etc.), abstracts and posters presented during national and international conferences, etc.
Other documents	- Postgraduate vocational programmes and/or specialisation programmes relevant to the PhD Programme - Specialisation thesis abstract (max 5,000 characters) - Teaching activity carried out at academic level - Research activity of any kind - whether basic, applied, translational, etc. - carried out in any capacity, including when covered by research grants, and as a staff member of research projects - Work activity - Curricular and non-curricular training internships - Documents attesting the applicant's foreign languages proficiency - Periods of study abroad, completed by applicants outside their countries of origin (e.g. Erasmus programme or other similar mobility programmes) - Other qualifications attesting the suitability of the applicants (scholarships, prizes, etc.)

Evaluation criteria*

Scores will be expressed in points out of 100, as follows.

1. Qualifications evaluation

Minimum score for admission to the oral examination: 30 points, Maximum score: 50 points

Second cycle degree (Master's) final mark. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	25 points max
Publications	5 points max
Personal statement	10 points max
Reference letter/s and other evaluable documents	10 points max

2. Oral examination

Minimum score for eligibility: 30 points, Maximum score 50 points

English language proficiency	10 points max
General knowledge of issues encompassed by the PhD Programme	40 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge of issues encompassed by the PhD Programme (see the list of research topics at the bottom of the present document).
During the oral examination, the applicant's English proficiency shall be assessed.
The oral examination is carried out in Italian or English.
* Possible further evaluation criteria will be available on the University website, selecting the relevant PhD Programme > "More information".

Research Topics

Curriculum 1: Geology

- Stratigraphy and structural geology
- Geosphere-biosphere interactions
- Geochemistry, magmatism and metamorphism
- Marine geology
- Environmental geology
- Geological hazards and natural resources
- Engineering geology, hydrogeology and geomorphology

Curriculum 2: Biology

- Molecular and cellular biodiversity
- Animal biodiversity and evolution
- Plant biodiversity and evolution
- Human biodiversity and evolution
- Population biology and ecology
- Environmental monitoring
- Marine biology
- Computational biology