

PhD Programme Table - 39th cycle
Call for Applications for the admission to the PhD programmes (39th cycle) A.Y. 2023/2024
for scholarships funded by Next Generation EU – NRRP ex M.D. 117/2023 and M.D.
118/2023 and from other sources



Section “Available Positions and Scholarships” integrated on 09/06/2023

PROGRAMME'S NAME	FUTURE EARTH, CLIMATE CHANGE AND SOCIETAL CHALLENGES
DURATION	3 years
PROGRAMME START DATE	01/11/2023 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Silvana Di Sabatino (silvana.disabatino@unibo.it)
CURRICULA	<ol style="list-style-type: none"> 1. One Health 2. The Earth System 3. Impacts, Adaptation and Vulnerability 4. Technological Innovations for a Decarbonized Society 5. Socio-economic and Legal Studies for Mitigation of Climate Change
PhD POSITIONS	24
ADMISSION PROCEDURE	Qualifications and research proposal evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Positions linked to research topics
1	PhD Scholarship	Funded by the University of Bologna general budget and by the Department of Physics and Astronomy with funds made available by the project EDITO-Model Lab - GA 101093293 - CUP J33C22003790006 (Ref. Prof. Pinardi)	Limited Area Modeling of the global coastal ocean for climate forecasting and impactful events
2	PhD Scholarship	Funded by the University of Bologna general budget and by the Department of Physics and Astronomy with funds made available by the project The Scale-Aware Sea-Ice Project (SASIP) EXTRAUE_2019_SASIP_CARRAS_N_02 CUP: J33C22004130005 Prof. Carrassi	Studying the atmospheric convection as an intermittent dynamical process. Discovery of the predictors of the convection onset and their use in data assimilation and machine learning to improve the early warning of intense weathers
3	PhD Scholarship	Funded by the University of Bologna general budget and by the Department of Industrial Chemistry "Toso Montanari"	Electrochemical carbon dioxide conversion from fundamental understanding to CO2 valorization
4	PhD Scholarship	Funded by the Department of Physics and Astronomy with funds made available by the project PNRR Terabit network for Research and Academic Big data in Italy (TeRABIT, CUP: I53C21000370006), in partnership with Istituto	Hierarchies of models and optimization methods for the study of 'tipping points' in the climate system

		Nazionale di Oceanografia e di Geofisica Sperimentale (OGS) e CNR ISAC	
5	PhD Scholarship PNRR ex M.D. 118/2023 - Public Administration	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (M.D. 118/2023) - Public Administration	Integration of the Classyfarm information system for public health control with the assessment of the environmental impact of farms
6	PhD Scholarship PNRR ex M.D. 118/2023 - Public Administration	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (M.D. 118/2023) - Public Administration	Unpacking the governance of coastal resilience: actors, institutions and policies
7	PhD Scholarship PNRR ex M.D. 118/2023 - Green and digital transitions	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 3.4 (M.D. 118/2023) – Green and digital transitions	Analyses of urban microclimate and its impacts using forecasting numerical tools
8	PhD Scholarship PNRR ex M.D. 118/2023 - PNRR Research	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (M.D. 118/2023) – PNRR Research	All aspects of solid earth geophysics, such as seismology, physics of volcanism, geodesy, quantitative geodynamics, including tsunامي
9	PhD Scholarship PNRR ex M.D. 118/2023 - PNRR Research	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (M.D. 118/2023) – PNRR Research	Study of frequency variations of stratigraphic resonances: seasonality and earthquakes
10	PhD Scholarship PNRR ex M.D. 118/2023 - PNRR Research	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 1, Investment 4.1 (M.D. 118/2023) – PNRR Research	Coupling marine biogeochemistry in the global coastal ocean with high resolution models
11	PhD Scholarship	Funded by CNR ISMAR - Istituto di Scienze Marine	Historical ocean reconstructions combining numerical models and Earth observations for long-term climate change studies
12	PhD Scholarship	Funded by CNR ISMAR - Istituto di Scienze Marine	Next-generation geophysical and climate data assimilation: develop coupled and probabilistic algorithms
13	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	The double ITCZ in coupled models and its impacts on teleconnections
14	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Modelling the ecosystem response to the impact of extreme hazards on marine plankton
15	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	New ocean model generation for coastal climate variability
16	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Coastal earth system climate modeling
17	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Enhancing the users' experience of ocean web applications
18	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Global Coastal Ocean Modelling on Unstructured Meshes
19	PhD Scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Innovative governance approaches to resolve social

			conflicts associated with Sea level Rise in Europe
20	PhD Scholarship	finanziata dalla Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) a valere su fondi PNRR (Spoke 4 del CN-HPC del PNRR – CUP C83C22000560007)	Interdependent role of radiative forcing, land-use and land management on present and future climate scenarios
21	PhD Scholarship	Funded by Agenzia Nazionale per la Meteorologia e Climatologia "ITALIAMETEO"	Modelling and data assimilation for meteorological forecasting
22	PhD Scholarship	Funded by CNR ISAC with funds made available by the project "EMM - EARTH-MOON-MARS" (IR0000038) WP 1500.5 - NRRP – Component 2 Mission 4 Investment 3.1 "Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione" - CUP: C53C22000870006	Energy balance, radiation and climate feedbacks in Earth System models
23	PhD Scholarship	Funded by CNR ISAC with funds made available by the project "EMM - EARTH-MOON-MARS" (IR0000038) WP 1500.7 - NRRP –Component 2 Mission 4 Investment 3.1 "Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione" - CUP: C53C22000870006	Passive remote sensing measurements for the investigation of atmospheric components and satellite validation
24	PhD Scholarship	Funded by CNR ISAC with funds made available by the project "EMM - EARTH-MOON-MARS" (IR0000038) WP 1500.8 - NRRP –Component 2 Mission 4 Investment 3.1 "Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione" - CUP: C53C22000870006	Radiative transfer codes for the study of terrestrial and extraterrestrial atmospheres

All PhD positions winners shall fulfill the learning and research obligations decided by the Academic Board and the obligations foreseen in the relevant regulations, funding schemes and eventual agreements, and in the Call for Applications. Moreover, applicants awarded with PhD scholarships funded by Next Generation EU shall fulfill specific obligations foreseen in the relevant funding scheme, in the relevant regulations and in the Call for Applications.

Admission Exams

	DATE AND TIME	RESULTS
Qualifications evaluation	Applicants' participation is not required	Available from 29/06/2023**
Oral examination	Date: starting from 10/07/2023 – 9.00 a.m. CEST* Place: In presence, Sala Riunioni BP-2B, Department of Physics and Astronomy, Viale Berti-Pichat 6/2, Bologna. Remotely, using Microsoft Teams	Available from 14/07/2023**

* In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral examination detailed schedule shall be made available on the webpage [Studenti Online](#) together with the results of the qualifications evaluation. **During the oral examination, applicants may express their interest in one or more positions linked to specific research topics.**

** The **results of the admission exams** will be available on the webpage [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 concerning the examinations results.**

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	
Research proposal	<p>Multi-annual research proposal, with special emphasis on the activities to be completed during the first-year course. The proposal must meet the following requirements:</p> <ul style="list-style-type: none"> - it must mention on the cover page the Curriculum and the main research topic/s the applicant is interested to and the proposal is about; - it cannot exceed 20,000 characters, including spaces and formula possibly used. This figure does not include: the title of proposal, the outline, references and images (such as graphs, diagrams, tables, etc. - if present); - it must include: the state of the art; description of the proposal; expected results; articulation of the proposal and implementation times; outline of the proposed findings assessment criteria; references. <p>The research proposal that successful applicants shall carry out during their PhD career may possibly differ from the one proposed at the application stage. This shall be defined together with the supervisor and approved by the Academic Board.</p>
Thesis abstract	Abstract of the second cycle degree thesis . Graduated 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.
Personal statement	This must 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 (3,000 characters maximum, including spaces).
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).
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	<ul style="list-style-type: none"> - Postgraduate vocational training programmes and/or specialisation programmes relevant to the PhD Programme main research topics - Specialisation thesis - 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 activities - Documents attesting the applicant's foreign languages proficiency - Study periods 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 and research proposal 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)	9 points max
Thesis abstract	8 points max
Research Proposal	8 points max
Reference letter/s	6 points max
Publications	4 points max
Personal Statement	5 points max
Postgraduate programmes, Teaching and Work activity	4 points max
Foreign languages proficiency and study period abroad	4 points max
Other evaluable documents	2 points max

2. Oral examination

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

English language proficiency	5 points max
General knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions	45 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions. **During the oral examination, the applicant's English language 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".