



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

AREA
FORMAZIONE E DOTTORATO

PHD PROGRAMME TABLE 40TH CYCLE

Section "Available Positions and Scholarships" integrated on 27/05/2024

Section "Available Positions and Scholarships" integrated on 03/06/2024

Section "Available Positions and Scholarships" integrated on 13/06/2024

PROGRAMME'S NAME	FUTURE EARTH, CLIMATE CHANGE AND SOCIETAL CHALLENGES
DURATION	3 years
PROGRAMME START DATE	01/11/2024 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Silvana Di Sabatino (silvana.disabatino@unibo.it)
CURRICULA	<ol style="list-style-type: none">1. One Health2. The Earth System3. Impacts, Adaptation and Vulnerability4. Technological Innovations for a Decarbonized Society5. 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	Totally funded by the University of Bologna general budget	Artificial Intelligence for coastal ocean modelling
2	PhD scholarship	Totally funded by the University of Bologna general budget	Physics of the Solid Earth: all aspects of solid earth geophysics, such as seismology, physics of volcanism, geodesy, geodynamics, tsunamis
3	PhD scholarship	Funded by the University of Bologna general budget and by the Department of Physics and Astronomy	Geophysical methods for stratigraphic exploration purposes: new frontiers
4	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 Underlying models for the European Digital Twin Ocean - GA 101093293 (Ref. Prof. Pinardi) CUP J33C22003790006	Physics-informed machine learning for medium to long range ocean forecasting

5	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 "CASIA – CAIRT: Analisi e Sinergia con IASI-NG" - CUP F93C23000430001	Modelling of limb radiative transfer in presence of scattering layers: the CASIA project
6	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 "MC-FORUM - Meteo and Climate exploitation of FORUM" and by the project "The Scale-Aware Sea-Ice Project (SASIP)" EXTRAUE_2019_SASIP_CARRAS_N_02 - CUP: J33C22004130005 – Ref. Prof. Carrassi	Coupled data assimilation of far infrared measurements to improve subseasonal to seasonal predictions
7	PhD scholarship	Funded by the University of Bologna general budget and by the Department of Civil, Chemical, Environmental, and Materials Engineering	Smart and sustainable exploitation and management of the coastal and the ocean resources, in a changing climate
8	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 ALBATROSS - Advancing knowledge for Long-term Benefits and climate Adaptation ThRough hOlistic climate Services and nature-based Solutions – GA 101137895 - CUP J33C23003700006 Ref. Dr. Leo, by the Department of Chemistry "G. Ciamician" and by the Department of Statistical Sciences "P. Fortunati"	Development of climate services for nature-based adaptation strategies to climate change
9	PhD scholarship	Funded by the Department of Architecture with funds made available by IRCCS Azienda Ospedaliero-Universitaria di Bologna	User centered approaches in shaping an experience-driven fruition of hospital environment
10	PhD scholarship	Funded by the Department of Architecture with funds made available by IRCCS Azienda Ospedaliero-Universitaria di Bologna	Livable and sustainable hospital spaces. Service-driven design strategies to facilitate accessibility and wayfinding in common areas in hospital structures
11	PhD scholarship	Funded by the Department of Physics and Astronomy with funds made available by the project PRIN 2022 - D.D. 104/2022 uRban hEat and pollution iSlands inTerAction in Rome and possible miTigation strategies (RESTART) – cod. 2022KZ2AJE_002 – CUP J53D23002740006 and by the project I-CHANGE - Individual Change of HABits Needed for Green European transition - GA 101037193 CUP J35F21002990006	Interaction of Urban Heat Island and Urban Pollution Island
12	PhD scholarship	Funded by the Department of Physics and Astronomy with funds made available by the project TRIGGER - SoluTions foR mltiGatinG climate-induced hEalth tReaths – GA 101057739 CUP J33C22002420005 and by the project LAND4CLIMATE - Utilization of private land for mainstreaming nature-based solution in the systemic transformation towards a climate-resilient Europe – GA 101112781 CUP J33C23001070006	Downscaling techniques at different temporal scales including long term
13	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Generative AI-Powered Collaborative Coastal Monitoring

14	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Data-Driven Coastal Natural Disaster Prediction and Mitigation
15	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Communities and Citizen Science for Global Coastal Ocean Monitoring
16	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Innovative approaches for a sustainable and just water governance
17	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Enabling Transition and Transformation in Coastal Areas.
18	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	High-resolution Ensemble Ocean Forecasting and Data Assimilation at Coastal scale
19	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Integrate groundwaters and marine waters in a seamless modelling of a catchment-sea continuum
20	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Improving Seasonal Forecast of Extreme Precipitation
21	PhD scholarship	Funded by Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC)	Improving Regional Ocean Short-Term Forecasting: Optimizations and Innovations
22	PhD scholarship	Funded by Istituto Nazionale di Geofisica e Vulcanologia - INGV	A High-Performance Computing Approach to Physics-Based Seismic Hazard Analysis
23	Borsa di studio	Funded by Istituto Nazionale di Geofisica e Vulcanologia - INGV	Natural and Anthropogenic Ground Deformation study by Multiparametric Time Series Analysis
24	Borsa di studio	Funded by Istituto Nazionale di Geofisica e Vulcanologia - INGV	Analysis and modeling of geophysical monitoring data in areas for georesource production

The number of positions and scholarships may be incremented in case additional funding becomes available, notwithstanding the terms of the application process in the Call. Any amendment, update or integration of the Programme Table will be published on the University website, even after the Call for applications has expired. Any further PhD positions shall be integrated in the PhD Programme Table within ten days before the oral examination.

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.

Admission Exams

	DATE AND TIME	RESULTS
Qualifications evaluation	Applicants' participation is not required	Available from 25/06/2024
Oral examination	Date: starting from 15/07/2024 – 9.00 a.m. CEST Place: In presence, Aula IR-1°, Department of Physics and Astronomy “Augusto Righi”, Via Irnerio 46, Bologna. Remotely, using Microsoft Teams	Available from 29/07/2024

The results of the qualifications and research proposal evaluation shall 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) together with the oral examination detailed schedule. **No personal written communication will be sent to applicants concerning the examinations results.**

During the oral examination, applicants may express their interest in one or more positions linked to specific research topics.

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 . 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.
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".