

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



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European Union**
NextGenerationEU



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Section “Available Positions and Scholarships” integrated on 19/07/2022

PROGRAMME’S NAME	BIOTECHNOLOGICAL, BIOCOMPUTATIONAL, PHARMACEUTICAL AND PHARMACOLOGICAL SCIENCES
DURATION	3 years
PROGRAMME START DATE	01/11/2022 (DD/MM/YYYY)
LANGUAGES	Italian,
COORDINATOR	Prof.ssa Maria Laura Bolognesi (marialaura.bolognesi@unibo.it)
RESEARCH TOPICS	Vedi dettaglio nell’ultima parte della presente scheda
PhD POSITIONS	4
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 Ex M.D. 351/2022 - NRRP 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 (MD 351/2022) – NRRP Research	Innovative Biotechnological, Biocomputational, Pharmaceutical or Pharmacological Strategies
2	Executive PhD	Position reserved for employees of NGB Genetics S.r.l.	Predictive medicine approaches based on phylogenetic and functional profiles of gut microbiome
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 Indena S.p.A.	Study of the role of inhibition of the mevalonate pathway in the regulation of CoQ10 and cholesterol levels in cultured cells
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 Indena S.p.A.	Plant extract nutraceutical ingredients as modulators of the gut microbiome: insights into their mechanisms of action from a prophylactic and therapeutic perspective

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 6-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)
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)
Curriculum Vitae	<p>The Curriculum Vitae must be drawn up using exclusively the Curriculum Vitae form, in Attachment 1 to the present PhD programme table and downloadable in .docx from the University Website (select the PhD Programme → “More information”, then check “Notices” at the bottom of the page). A 5 points penalty on the total qualification evaluation score shall be applied to applicants not using the attached form. The curriculum vitae must contain the following pieces of information, subject to evaluation:</p> <ul style="list-style-type: none">- Name and final mark of the awarded second cycle degree, name of the awarding institution, thesis title and supervisor- Lists of publications (i.e. monographs, articles on scientific journals), minor publications (i.e. contributions in proceedings of national and international conferences, book chapters) and abstracts and posters presented during academic conferences- Research activity (please, indicate the kind and lengths of the research period; include research activities covered by research grants, and as a staff member of research units)- Periods of study abroad, outside the country of origin (e.g. Erasmus programme or other similar mobility programmes)- Chosen position/s linked to a specific research topic (max n. 2)
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 be drawn up in English;- it must mention on the cover page the topic-specific position/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; outlining of the criteria meant to be used to assess the research results; 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>
SUPPORTING DOCUMENTS	
Publications	<ul style="list-style-type: none">- Full text publications (i.e. monographs, articles on scientific journals)- Full text minor publications (conference papers, abstracts and posters presented during national and international conferences, 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

Qualifications evaluation	Second cycle degree (Master's) final mark.	10 points max distributed as follows: (in brackets the points awarded to applicants holding a non-Italian degree, calculated according to the percentage with respect to the maximum score) <ul style="list-style-type: none"> - 10 points - 110 e lode (maximum score with honour) - 8 points - from 109 to 110 included (98-100% with respect to the maximum score) - 6 points - from 105 to 108 included (95-97% with respect to the maximum score) - 4 points from 101 to 104 included (90-94% with respect to the maximum score) - 3 points from 95 to 100 included - (89-90% with respect to the maximum score)
	(for graduands only) Weighted Average Mark (WAM)	8 point max (in brackets the points awarded to applicants holding a non-Italian degree, calculated according to the percentage with respect to the maximum score) <ul style="list-style-type: none"> - 8 points - from 29 to 30 included (98-100% with respect to the maximum WAM score) - 6 points da 27 a 28 included (95-97% with respect to the maximum WAM score) - 4 points da 25 a 26 included (90-94% with respect to the maximum WAM score) - 3 points da 23 a 24 included (89-90% with respect to the maximum WAM score)
	Publications	7 points max <ul style="list-style-type: none"> - 3 points for each publication on an internationally renowned scientific journal - up to 1 point for minor publications, posters and other evaluable publications
	Other qualifications (research activities, period of study or training, in Italy or abroad for no less than 1 continuative month)	3 points max <ul style="list-style-type: none"> - up to 1 point per month, for postgraduate experiences - up to 0,5 per month for Erasmus or other curricular experiences
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal	7 points max
	Structure of the proposal	7 points max
	Consistency of the proposal with the PhD programme main topics	12 points max
	Proposal feasibility and potential impact	4 points max

2. Oral examination

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

English language proficiency	5 points max
Research proposal presentation	20 points max
General knowledge of issues encompassed by the PhD Programme	25 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 applicants English language proficiency shall be assessed.

The oral examination is carried out in Italian or in English.

* Possible further evaluation criteria will be available on the [University website](#), selecting the relevant PhD Programme > “More information”.

Research topics

The doctoral course develops research themes related to the discovery of new therapeutic targets as well as of new drugs (small molecules or biologics) with improved efficacy and safety. The discovery of novel drug targets contributing to a specific disease and/or its progression, in fact, is usually followed by the identification and characterization of new drugs up to the development of the medicinal product.

An integrated and multidisciplinary research training, which spans all the drug development pipeline, is proposed. This will be instrumental for PhD students' future employment in pharmaceutical and biotechnology companies.

The topics are mainly focused on:

- studies of biological systems at cellular and molecular level, to elucidate complex biological and biochemical processes
- biocomputational approaches to study new therapeutic targets and characterize drug-ligand interactions
- design, synthesis, characterization, analysis, delivery of new drugs, including those obtained through biotechnology
- development of pharmacological and toxicological studies on the mechanism of action and toxicological aspects of bioactive molecules
- studies of genetic and epigenetic profiles in response to drug treatments, evaluation of drug effectiveness and safety, and identification of risk factors associated with chronic/degenerative diseases
- development of suitable animal models of diseases for the evaluation of new drugs.

Curriculum Vitae

PhD Programme in Biotechnological, Biocomputational, Pharmaceutical and Pharmacological Sciences

Personal information

First name(s) / Surname(s)	
Nationality	
Date of birth [day, month, year]	
Gender	

University Education

Master (2-years)

Dates (start -end or planned end)				
Awarding institution	<i>(e.g. University of Bologna - Italy)</i>			
Title of qualification awarded	<i>(e.g. MSc in Biology)</i>			
Marks	YOUR mark	Minimum PASS mark	Maximum mark	ECTS conversion (if available)
Final grade (if available)				
Weighted average of the exams (if you are yet to obtain your degree)				
Title and topic of the Master's Thesis				

Master (5-years / Single cycle)

Dates (start -end or planned end)				
Awarding institution	<i>(e.g. University of Bologna - Italy)</i>			
Title of qualification awarded	<i>(e.g. MSc in Pharmacy)</i>			
Marks	YOUR mark	Minimum PASS mark	Maximum mark	ECTS conversion (if available)
Final grade (if available)				
Weighted average of the exams (if you are yet to obtain your degree)				
Title and topic of the Master's Thesis				

Employment

Currently employed	<input type="checkbox"/> Yes <input type="checkbox"/> No
Summary of current employment	
Past employment record and skills obtained	

Publications

Please, list:

- *Publications of the last five years (considering the last day of the call)*
- *Only papers accepted or published at the last day of the call will be considered - Submitted papers will be excluded*
- *Abstracts/posters to conferences already held at the last day of the call*

ALL PAPERS/ABSTRACT MUST BE UPLOADED (or they will not be evaluated)

Abstract/poster presented in national and international conferences
Publication on national and international journals
Chapters in books

Research Experiences

Please, list scholarships, fellowships and research periods at Universities or in public/private institutions occurred after getting the Master's degree.

- *Periods of time are calculated at the date of closure of the call*
- *Periods must be within the last 5 years excluding the calendar year of this call.*

Please, list scholarships, fellowships and research periods at foreign Universities or in public/private institutions occurred during your Master's degree (including Erasmus periods of study abroad, “Tesi all'estero”, etc.).

- *Periods of time are calculated at the date of closure of the call*
- *Periods must be within the last 5 years excluding the calendar year of this call*

Research topic selection

Please, list which research topic/s you are applying for (the list of the positions and the related topic is on the PhD Programme Table)