

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 13/07/2022

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

Section “Available Positions and Scholarships” integrated on 22/07/2022

Section “Available Positions and Scholarships” integrated on 27/07/2022

Section “Available Positions and Scholarships” integrated on 28/07/2022

PROGRAMME’S NAME	AGRICULTURAL, ENVIRONMENTAL AND FOOD SCIENCE AND TECHNOLOGY
DURATION	3 years
PROGRAMME START DATE	01/11/2022 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Massimiliano Petracci (m.petracci@unibo.it)
RESEARCH TOPICS	Detailed list at the bottom of the present document
PhD POSITIONS	25
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 - 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	Analysis of the new governance models, mechanisms and performance of the new Common Agricultural Policy (2023-2027)
2	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	Integrated strategies for innovation and sustainable development in agri-food production
3	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	Integrated strategies for innovation and sustainable development in agri-food production

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 CONSORZIO BESTACK	Development of an active bio-based coating for corrugated cardboard with waterproofing, antimicrobial and antiviral protection
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 FINAPP	Boosting irrigation scheduling and agricultural water management by means of new non invasive soil moisture sensors
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 CLAI - Cooperativa lavoratori Agricoli Imolesi	Use of non-thermal treatments to improve the quality, safety and shelf-life of products of animal origin
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 Cooperativa Edile Appennino SC	Improvement of the shelf life of processed products of animal origin through the application of non-thermal technologies Constructed wetlands systems for sustainable treatment and irrigation reuse of wastewater and agricultural drainage water
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 Consorzio di bonifica Canale Emiliano Romagnolo	Development and analyses of the impact of innovative solution for water reuse in agriculture
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 Jingold SPA	Agronomic and environmental effects on the quality of the fruit of new varieties of Actinidia
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 Germina S.r.l.	Development of cultivation technologies in a protected environment through the application of adaptive greenhouse technology, aimed at promoting sustainable horticulture practices also with reference to cultivation in an urban environment
11	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 Olitalia srl	Analysis of volatile substances on extra virgin olive oils and flavored oils, development of a predictive system for determining the shelf-life
12	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 Agribioenergia Società Cooperativa Agricola	Cultivation, drying and first transformation of officinal plants: industrialization of the supply chain

13	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 CNH Industrial Italia SPA	Application of optical sensors (RGB, multispectral and hyperspectral) mounted on agricultural machinery for the non-destructive evaluation of parameters associated with the management of vineyards
14	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 CNH Industrial Italia SPA	Data-driven methods to develop accelerated test profiles for agricultural tractor transmissions
15	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 Zespri International Ltd	Biostimulant use on yellow- and re-freshed kiwifruit (project GI23208);
16	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 Zespri International Ltd	Innovative tools to improve storage life of kiwifruit (project PH23200)
17	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 ENI SPA	Selection of oil seeds for energy crops
18	PhD Scholarship	Funded by the Department of Agricultural and Food Sciences with funds made available by the projects H2020 FoodE (G.A. 862663; Ref. Matteo Vittuari), H2020 Enfasys (G.A. 634179; Ref. Matteo Vittuari) and VFARM	Methods for the assessment of the sustainability of innovative urban food systems
19	Executive PhD	PhD position reserved for employees of ADA University	Sustainable and Precise Agriculture – Crop production/Animal production, Food Science and Technology, Food Safety, Food and Beverage Fermentation
20	Executive PhD	PhD position reserved for employees of ADA University	Sustainable and Precise Agriculture – Crop production/Animal production, Food Science and Technology, Food Safety, Food and Beverage Fermentation
21	Executive PhD	PhD position reserved for employees of ADA University	Sustainable and Precise Agriculture – Crop production/Animal production, Food Science and Technology, Food Safety, Food and Beverage Fermentation
22	Executive PhD	PhD position reserved for employees of ADA University	Sustainable and Precise Agriculture – Crop production/Animal production, Food Science and Technology, Food Safety, Food and Beverage Fermentation
23	Executive PhD	PhD position reserved for employees of ADA University	Sustainable and Precise Agriculture – Crop production/Animal production, Food Science and Technology, Food Safety, Food and Beverage Fermentation

24	PhD Scholarship	Funded by the Department of Agricultural and Food Sciences with funds made available by the project H2020 UNTWIST (G.A. 862524; Ref. Andrea Monti)	Uncover and promote tolerance to temperature and water stress in <i>Camelina sativa</i>
25	Executive PhD	Position reserved for the employees of Easy Lock	Development of technologies and protocols for the production of mulberry seedlings by means of hydroponic cultivation systems in controlled environment

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	The Curriculum Vitae shall contain on the first page a Summary , duly filled, 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 attaching the summary.
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)
Research proposal	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: <ul style="list-style-type: none"> - It must be written following the Research proposal Template, in Attachment 2 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) - It must mention on the cover page the specific research topic of the PhD Programme the applicant is interested in and that covers the research project proposal. The proposals written without following the template will receive 0 points; - it cannot exceed 20,000 characters, including spaces and formulas, if present. This figure does not include: the title, the outline, references and images (such as graphs, diagrams, tables etc - where present); - It must include: the state of the art and consistency with the applicant study and research path; description of the project; expected results articulation of the proposal and implementation times; outlining of the criteria meant to be used to assess the research results; references.

	The research proposal will not necessarily be the topic of the candidate's doctoral research, if admitted; the research project to be carried out during the PhD Programme will be agreed upon with the Supervisor and approved by the Academic Board.
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).
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 programmes and/or specialisation programmes relevant to the PhD Programme - 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 - Study periods completed by applicants outside their countries of origin (e.g. Erasmus programme or other similar mobility programmes)

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. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	14 points max
	Publications	3 points max
	Research activity, study periods abroad, reference letter/s, other evaluable documents	5 points max
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal	14 points max
	Consistency with the applicant's study path	4 points max
	Structure of the proposal	6 points max
	Proposal feasibility	4 points max

2. Oral examination

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

English language proficiency	10 points max
Research proposal presentation	10 points max
General knowledge of issues encompassed by the PhD Programme	20 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

1. Agronomy, Herbaceous Crops, Flowers and Vegetables Systems, Agricultural Genetics and Agricultural Chemistry
2. International Cooperation and Sustainable Development Policies
3. Microbial Ecology and Plant Pathology
4. Agricultural and Food Economics and Policy

5. Agricultural Entomology
6. Agricultural Engineering
7. Food Science and Biotechnology
8. Animal Science
9. Tree Production Systems, Fruit, Forest and Ornamental Trees and Grape
10. Water-Food-Energy-Sustainable Agriculture Nexus

Curriculum Vitae Summary

PhD Programme in Agricultural, Environmental and Food Science and Technology

Personal Information

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

University Education

Master

Official duration in 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 exam marks				
Title and topic of Master Thesis				

Research and Study Abroad Experiences

List periods of study abroad (Erasmus and/or others), and research periods at universities or public/private institutions (only the last 5 years will be considered)

<p>Scientific research of any kind (basic, oriented, translational, applied etc.)</p>
<p>Periods of study abroad (e.g. Erasmus)</p>

Other qualifications

List other experiences relevant to the PhD Programme (only the last 5 years will be considered)

University Master Courses (Master universitari di I e II livello) relevant to the PhD Programme
Postgraduate training programmes/specialization programmes relevant to the PhD Programme
Internships
University teaching at any level
Other qualifications attesting the applicant's skills and education (prizes, grants etc.)

Template for the Research Proposal

COVER PAGE

Name:

Surname:

Title of the project:

Indicate the specific research topic you would like to work on (the list of the available PhD positions linked to a specific research topic is in the PhD programme table, page 1):

NB: it must be not indicated the name of possible professors who will be responsible for the PhD candidate research activity and the thesis; a supervisor is appointed by the Academic Board only after enrollment.

PROPOSAL DESCRIPTION

The project description, with special emphasis on the activities to be completed during the first-year course, cannot exceed 20.000 characters, including spaces and formula possibly used. This figure does not include references and images (such as graphs, diagrams, tables etc - where present). It must contain the following elements:

- 1. State of the art.** Provide a brief survey of existing research efforts and scientific basis, preferably with references to scientific literature. If your project is a part of a larger research effort requiring coordination, explain specifically your planned contributions within the larger framework. Outline the essential elements showing consistency between the submitted research proposal and the applicant's training path and previous experiences
- 2. Description of the project.** Present the main objective and a brief summary, explaining how you intend to attain your goal. Describe how you are planning to use empirical, analytical or other methods for your research.
- 3. Expected results.** The description of expected results should address impact on science, technology and society, if appropriate.
- 4. Lead-time for implementation.** Outline a research plan for each year.
- 5. Proposed criteria to be used to assess the findings obtained.** The project timeline should contain measures of achievement.
- 6. References.** Please list applicable references.