

PhD Programme Table - 38th cycle
Call for Applications for further PhD positions funded by Next Generation EU - NRRP
“National Recovery and Resilience Plan” and from other sources



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NextGenerationEU



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Section “Available Positions and Scholarships” integrated on 29/11/2022

PROGRAMME'S NAME	MECHANICS AND ADVANCED ENGINEERING SCIENCES (DIMSAI)
DURATION	3 years
PROGRAMME START DATE	01/03/2023 (DD/MM/YYYY)
LANGUAGES	Italian, English
MANDATORY STAY ABROAD	3 months
COORDINATOR	Prof. Lorenzo Donati (l.donati@unibo.it)
CURRICULA	<ol style="list-style-type: none"> 1. Engineering and Industrial Design, Machine Construction, Metallurgy, and Manufacturing Technologies 2. Fluid Machinery, Energy Systems, Mechanics of Machines, and Industrial Mechanical Plants 3. Thermal Physics, HVAC Systems, Acoustics, Nuclear Technologies and Industrial Applications of Plasmas
PHD POSITIONS	7
ADMISSION PROCEDURE	Qualifications and research proposal evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Curriculum	Positions linked to a specific research topic
1	PhD Scholarship NRRP PE	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Partenariati Estesi (PE10 - ONFOOD) - CUP J33C22002860001	3	Innovative and sustainable plasma assisted technologies for antimicrobial agri-food processing
2	PhD Scholarship NRRP CN	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Campioni Nazionali (CN HPC) - CUP J33C22001170001	3	Development and simulation of the HPC multi-scale multi-physics platform Salome-OpenFoam-FEMus
3	PhD Scholarship NRRP CN	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Campioni Nazionali (CN AGRITECH) - CUP J33C22001150008	2	Development of robotic systems for the automated harvesting of fruits
4	PhD Scholarship NRRP PE	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) -	2	Reconfigurable robotic systems for large-scale automatized operations

		Partenariati Estesi (PE11 - 3A-ITALY) - CUP J33C22002950001		
5	PhD Scholarship NRRP PE	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Partenariati Estesi (PE11 - 3A-ITALY) - CUP J33C22002950001	2	Artificial intelligence (AI)-based methods and models for improving the resilience of production plans and supply chains, including through increased visibility, risk management, production capacity and its Maintenance
6	Research Grant	Provided by the Department of Industrial Engineering with funds made available by the projects H2020ONTOTRANS_DIN - H2020 OntoTRANS "Ontology driven Open Translation Environment" – G.A. 862136 – CUP J54I20001000006 + project H2020_OPENMODEL_DIN - H2020 OpenModel - Integrated Open Access Materials Modelling Innovation Platform for Europe - G.A. n. 953167 - CUP J59C21000610006 + project H2020_DOME4.0 - H2020 DOME 4.0 "Digital Open Marketplace Ecosystem 4.0" - G.A. 953163 - CUP J59C20000610006 – Ref. Prof. Emanuele Ghedini. The research grant will have a duration of 36 months and gross percipient amount of €72,961.14	3	Digital Technologies and Knowledge Representation for Engineering and Applied Sciences Applications
7	Research Grant	Provided by the Department of Industrial Engineering with funds made available by the projects H2020ONTOTRANS_DIN - H2020 OntoTRANS "Ontology driven Open Translation Environment" – G.A. 862136 – CUP J54I20001000006 + project H2020_OPENMODEL_DIN - H2020 OpenModel - Integrated Open Access Materials Modelling Innovation Platform for Europe - G.A. n. 953167 - CUP J59C21000610006 + project H2020_DOME4.0 - H2020 DOME 4.0 "Digital Open Marketplace Ecosystem 4.0" - G.A. 953163 - CUP J59C20000610006 – Ref. Prof. Emanuele Ghedini. L The research grant will have a duration of 36 months and gross percipient amount of €72,961.14	3	Digital Technologies and Knowledge Representation for Engineering and Applied Sciences Applications

Applicants awarded with PhD scholarships funded by Next Generation EU shall fulfil specific obligations foreseen in the relevant funding scheme and in the relevant regulations.

Admission Exams

The admission exams detailed schedule shall be published **starting from December 1st, 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 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)
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 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; references.
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.
Publications	Lists of publications (i.e. monographs, articles on scientific journals) and minor publications (conference papers, etc.)
Other documents	<ul style="list-style-type: none"> - 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 - 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, vocational programmes, 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	First (Bachelor's) and second cycle (Master's) degrees final marks. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	20 points max
	Publications and other qualifications attesting the applicant's training and skills	5 points max
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal	15 points max
	Structure of the proposal	5 points max
	Proposal feasibility	5 points max

2. Oral examination

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

English language proficiency	5 points max
Applicant's suitability for academic research and knowledge of the topics connected to the research proposal	30 points max
General knowledge of issues encompassed by the Master's degree thesis	15 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge 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 in English.

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