

MATEMATICS

Section “PhD Positions and scholarships” integrated on 29/05/2019

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Starting date of the PhD Programme	01/11/2020
Duration	3 calendar years
Language of the PhD Programme	Italian
Mandatory stay abroad	Yes (3 months)

Research topics

- Partial differential equations
- Calculus of variations
- Harmonic analysis
- Probability theory
- Algebraic geometry
- Commutative algebra
- Complex analysis
- Algebraic topology
- Combinatorics
- Group theory
- Continuum mechanics
- Electromagnetic theory
- Statistical Mechanics and Quantum mechanics
- Dynamical systems and ergodic theory
- Numerical methods for the solutions of large linear and nonlinear systems
- Mathematical finance
- Numerical models and methods for inverse problems and image processing
- Mathematical neuroscience
- Data analysis

PhD positions and scholarships

Position n.	Financial support	Description	Positions linked to research subjects
1	PhD Scholarship	Totally funded by the University of Bologna general budget	
2	PhD Scholarship	Totally funded by the University of Bologna general budget	
3	PhD Scholarship	Totally funded by the University of Bologna general budget	
4	PhD Scholarship	Totally funded by the University of Bologna general budget	
5	PhD Scholarship	Totally funded by the University of Bologna general budget	
6	PhD Scholarship	Funded by the University of Bologna general budget and co-funded by the Department of Mathematics	
7	PhD Scholarship	Totally funded by the University of Bologna general budget under the “Progetti di Sviluppo Strategico dei Dipartimenti (PSSD)” initiative	Mathematical models for life sciences, cognitive neurosciences, data analysis, social sciences and finance
8	PhD Scholarship	Funded by Fondazione Carisbo	

Positions linked to specific research subjects: during the oral exam, applicants may express their interest in the position linked to a specific research subject. Considering the expressions of interest above, the Admission Board will establish if the applicants can be considered eligible for the allocation of the scholarship linked to a specific research subject, taking into account their specific skills, experience and aptitude.

The position with scholarship linked to a specific research subject will be awarded on the basis of the eligibility stated by the Admission Board. Should this position remain vacant, eligible applicants from the general ranking list may be contacted.

Admission requirements		
Please, see art. 2 of the Call for applications		
Mandatory documents to be attached to the application		
Please, see art. 3 of the Call for applications		
Further qualifications that may be attached to the application, if in possession of the applicant (only qualifications attested by documents drawn up in Italian, English, French, German and Spanish shall be considered as valid and assessed by the Admission Board)		
<ul style="list-style-type: none"> - Abstract of the master's degrees dissertation thesis. Undergraduate applicants may submit the draft of the thesis approved by their supervisor. - At least one and no more than 3 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 for the scientific research. <u>Please, note that the above letters cannot be uploaded by applicants. When filling the online application form on http://studenti.unibo.it, applicants will be only allowed to provide the email accounts of the requested academic/professional. The latter shall receive an email from the University of Bologna providing for the instructions for uploading. Only letters in pdf format submitted before the expiry date and time of the Call shall be accepted.</u> - Motivation letter. 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 (3000 characters maximum, including spaces). - List of the publications (monographs, articles published on scientific journals, book's chapters) . - List of the minor publications (conference papers, etc.). - List of the abstracts and posters presented during national and international conferences, etc. - Professional Master courses completed in Italy (1st or 2nd level) relevant to the PhD Programme. - Postgraduate vocational training programmes/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 students 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). 		
Admission exams (art. 4 of the call for applications)		
Examination type	Schedule (please, note that applicants shall not receive any communication concerning the exams schedule)	Examination results publication (please, note that applicants shall not receive any communication concerning the publication of results)
Qualifications evaluation	Non-presential.	The results of the evaluation of qualifications shall be available online starting from the 28/05/2020 at the page http://studenti.unibo.it (please, select "summary of the requests in progress" - "see detail" and open the pdf file "risultati valutazione titoli")
Oral examination	Date	04/06/2020 In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral exam schedule shall be made available at the webpage http://studenti.unibo.it together with the results of the evaluation of qualifications
	Time	9:00 a.m.(local time)
Applicants shall take the exam remotely. For further details please refer to the relevant provision laid down in art. 4 of the Call for applications.		

Evaluation criteria

Points will be allocated to applications out of a total of 100 on the basis of the following weighting:

1. Qualifications

- Minimum for admission to the oral exam: 30 points
- Maximum: 50 points

Only qualifications relating to the last 5 calendar years prior to the calendar year of publication of the Call for applications shall be taken into consideration, with the exception of the University Degree (Diploma di laurea). Please, note that qualifications must be consistent with the PhD Programme.

Points relating to qualifications shall be allocated on the basis of the following criteria:

- Both graduation final marks (first and second cycle degree). Second cycle undergraduates shall be evaluated on the basis of the Weighted Average Mark (WAM): max 12 points
- Publications: max 4 points
- Reference letters: max 14 points
- Curriculum and Motivation letter: max 20 points

2. Oral examination

- Minimum for inclusion in the final ranking list :30 points
- Maximum: 50 points

Oral examination is intended to assess the suitability of the applicant in respect of the pursuing of scientific research as well as the general knowledge of issues connected to the PhD Programme.

During the oral examination, knowledge of English language shall be assessed.

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

Points relating to the oral examination shall be allocated on the basis of the following criteria:

- Knowledge of the English language: max 2 points
- General knowledge of issues connected to the PhD Programme: max 48 points

Possible evaluation sub-criteria will be available on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

Final ranking list and enrolment (arts.6 and 7 of the call for applications)

After the publication of the results of the oral exam, the final ranking list will be available on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

Following the publication of the final ranking list, successful applicants must enrol on <http://studenti.unibo.it> by the deadline indicated on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information”.