

PhD Programme Table - 39th cycle
Call for Applications for the admission to the PhD programmes (39th cycle) A.Y. 2023/2024
for scholarships funded by Next Generation EU – NRRP ex M.D. 117/2023 and M.D.
118/2023 and from other sources



Section “Available Positions and Scholarships” integrated on 09/06/2023

PROGRAMME’S NAME	ASTROPHYSICS
ASSOCIATED PARTNERS Pursuant to art. 3 para 2 lett. b) of the M.D. n. 226/2021	Istituto Nazionale di Fisica Nucleare - INFN
DURATION	3 years
PROGRAMME START DATE	01/11/2023 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Andrea Miglio (andrea.miglio@unibo.it)
PhD POSITIONS	19
ADMISSION PROCEDURE	Qualifications 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	Research topic must be selected among the subjects described in DIFA_Projects39.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage
2	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 PRIN 2017 - FERRARO	Searching for Fossil Fragments of the Galactic bulge formation process
3	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 7PQERCLEN - METCALF	Between Strong and Weak Gravitational Lensing in Cosmological Surveys
4	PhD Scholarship	Funded the Department of Physics and Astronomy with funds made available by the project RED CARDINAL GA 101076080 (Ref. Silvio Belli)	Spegnimento rapido dovuto a collisioni tra galassie
5	PhD Scholarship	finanziata dal Dipartimento di Fisica e Astronomia a valere su fondi del progetto RED CARDINAL GA 101076080 (Ref. Silvio Belli)	Studio di Galassie Quiescenti ad Alto Redshift con il Telescopio Spaziale James Webb
6	PhD Scholarship PNRR ex M.D. 118/2023 – PNRR 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 (M.D. 118/2023) – PNRR Research	Research topic must be selected among the subjects described in DIFA_Projects39.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage

7	PhD Scholarship PNRR ex M.D. 118/2023 – PNRR 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 (M.D. 118/2023) – PNRR Research	Research topic must be selected among the subjects described in DIFA_Projects39.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage
8	PhD Scholarship PNRR ex M.D. 118/2023 – PNRR 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 (M.D. 118/2023) – PNRR Research	Research topic must be selected among the subjects described in DIFA_Projects39.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage
9	PhD Scholarship PNRR ex M.D. 118/2023 – PNRR 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 (M.D. 118/2023) – PNRR Research	Research topic must be selected among the subjects described in DIFA_Projects39.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage
10	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica - INAF	Galaxies and cosmology, stars, stellar populations and the interstellar medium, relativistic and particle astrophysics, advanced technologies and instrumentation (research topic must be selected among the subjects described in INAF1.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage)
11	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica - INAF	Galaxies and cosmology, stars, stellar populations and the interstellar medium, relativistic and particle astrophysics, advanced technologies and instrumentation (research topic must be selected among the subjects described in INAF1.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage)
12	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica - INAF	Galaxies and cosmology, stars, stellar populations and the interstellar medium, relativistic and particle astrophysics, advanced technologies and instrumentation (research topic must be selected among the subjects described in INAF2.pdf , available at the webpage 2023 Call

			- available projects and in the section “Notices” of the PhD Programme on the University webpage)
13	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica – INAF OAS in the framework of the project IRO000034 – STILES - notice n.3264 of 28/12/2021 “Rafforzamento e creazione di IR nell’ambito del Piano Nazionale di Ripresa e Resilienza (PNRR)” – CUPC33C22000640006	Dwarf galaxies and millisecond pulsars with ELT and SKA ((research topic must be selected among the subjects described in INAF-STILES-IRA.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage))
14	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica – INAF OAS in the framework of the project IRO000034 – STILES - notice n.3264 of 28/12/2021 “Rafforzamento e creazione di IR nell’ambito del Piano Nazionale di Ripresa e Resilienza (PNRR)” – CUPC33C22000640006	Diffuse radio sources and radio galaxies in clusters, co-evolution of galaxies and AGN with SKA precursors and pathfinders (research topic must be selected among the subjects described in INAF-STILES-OAS.pdf , available at the webpage 2023 Call - available projects and in the section “Notices” of the PhD Programme on the University webpage)
15	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica – INAF IRA	The largescale structure of the Universe at ultralow radiofrequencis
16	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica – INAF IRA	From supermassive black holes to cosmic shocks with frontier radio telescopes
17	PhD Scholarship	Funded by Istituto Nazionale di Astrofisica – INAF IRA	A systematic search for ultra-bright high-z strongly lensed galaxies in Planck catalogues
18	PhD Scholarship	Funded the Department of Physics and Astronomy with funds made available by the project ERC - Sinergy - ECOGAL COMPRENDERE IL NOSTRO ECOSISTEMA GALATTICO (J33C19000040006) - Ref. Prof. Leonardo Testi	Formation and initial properties of exoplanetary systems
19	PhD Scholarship	Funded the Department of Physics and Astronomy with funds made available by the project ERC - Sinergy - ECOGAL COMPRENDERE IL NOSTRO ECOSISTEMA GALATTICO (J33C19000040006) - Ref. Prof. Leonardo Testi	The imprint of the initial conditions on planet formation

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. Moreover, applicants awarded with PhD scholarships funded by Next Generation EU shall fulfill specific obligations foreseen in the relevant funding scheme, in the relevant regulations and in the Call for Applications.

Admission Exams

	DATE AND TIME	RESULTS
Qualifications evaluation	Applicants’ participation is not required	Available from 27/06/2023**

Oral examination	Date: starting from 03/07/2023 – 9.00 a.m. CEST* Place: In presence, Department of Physics and Astronomy, Via Gobetti 93, Bologna. Remotely, using Microsoft Teams	Available from 11/07/2023**
-------------------------	---	------------------------------------

* In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral examination detailed schedule shall be made available on the webpage [Studenti Online](#) together with the results of the qualifications evaluation. **During the oral examination, applicants may express their interest in one or more positions linked to specific research topics.**

** The **results of the admission exams** will 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). **No personal written communication will be sent to applicants concerning the examinations results.**

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	
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 on Studenti Online , detailed in the Call for Applications (Art. 3.2).
Publications	Lists of publications (i.e. monographs, articles on scientific journals)
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 - Curricular and non-curricular training internships - Documents attesting the knowledge of foreign languages - 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 evaluation

Minimum score for admission to the oral examination: 30 points, Maximum score: 50 points

First (Bachelor's) and Second cycle degree (Master's) final mark. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	30 points max
Publications	2 points max
Curriculum Vitae evaluation (e.g. thesis abstract, reference letters, other qualifications)	18 points max

2. Oral examination

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

General knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions	50 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 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".