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
Section "Available Positions and Scholarships" integrated on 15/06/2023
Section "Available Positions and Scholarships" integrated on 20/06/2023

PROGRAMME'S NAME	ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION TECHNOLOGIES ENGINEERING
DURATION	3 years
PROGRAMME START DATE	01/11/2023 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Aldo Romani (aldo.romani@unibo.it)
PhD POSITIONS	17
ADMISSION PROCEDURE	Qualifications and Research proposal evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Position linked to a specific research topic
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 PNRR ex M.D. 118/2023 - Public Administration*	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) - Public Administration	ICT for public policy objectives
5	*PhD Scholarship PNRR ex M.D. 118/2023 - Public Administration*	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) - Public Administration	ICT for public policy objectives
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	ICT for digitalization, innovation and competitivity

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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	ICT for digitalization, innovation and competitivity
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	ICT for digitalization, innovation and competitivity
9	*PhD Scholarship PNRR Partenariati Estesi*	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Project PNRR PE14, CODE PE00000001 CUP J33C22002880001	Extreme performance wireless networks
10	*PhD Scholarship PNRR Campioni Nazionali*	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) - Campioni Nazionali (CN HPC) - CUP J33C22001170001	Advanced technologies for sustainable and reliable high-performance computing and big-data
11	*Research Grant*	Provided by "Ercole De Castro" Advanced Research Center on Electonic System- ARCES with funds made available by the project HORIZON EUROPE - NeuroSoC (ref. Prof.ssa Eleonora Franchi Scarselli) - GA 101070634. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19,367 per year	Reconfigurable RISC-V Parallel Clusters for Near Sensor Analytic and AI Applications
12	*Research Grant*	Provided by "Ercole De Castro" Advanced Research Center on Electonic System- ARCES with funds made available by the project JU-KDT - ISOLDE (ref. Dott. Francesco Conti) GA 101112274. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19.367 per year	Methods and technologies for verifiable and private computing on the edge
13	*Research Grant*	Provided by the Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi" with funds made available by the project (ref. Dott. Andrea Bartolini) - CUP J33C22004230006 - GA 101092582. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19.367 per year	AI for efficient autonomous mobile robots
14	*Research Grant*	Provided by the Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi" with funds made available by the project HORIZON EUROPE - 6G NON TERRESTRIAL NETWORKS - 6G-NTN (ref. Prof. Alessandro Vanelli Coralli) - CUP J53C22004400006 - GA 101096479. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19,367 per year	Air Interface Solutions for 6G Non-Terrestrial Networks
15	*Research Grant*	Provided by "Ercole De Castro" Advanced Research Center on Electonic System- ARCES. The research grant will have a duration of 12 months,	Modeling and simulation of solid-state qubits

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16	*Research Grant*	renewable up to 36 months, and gross percipient amount of €19,367 per year	
		Provided by "Ercole De Castro" Advanced Research Center on Electonic System- ARCES. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19,367 per year	Numerical simulation of semiconductor spin qubits
17	*PhD Scholarship*	Funded by Consiglio Nazionale delle Ricerche - CNR	Integration of communication, localization and sensing for beyond 6G

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. <u>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.</u>

Admission Exams

	DATE AND TIME	RESULTS
Qualifications and research proposal evaluation	Applicants' participation is not required	Available from **05/07/2023****
Oral examination	**Date**: starting from **12/07/2023** – **9.00 a.m. CEST*** **Place**: Remotely, using Microsoft Teams	Available from **18/07/2023****

* 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 <u>Studenti Online</u> together with the results of the qualifications and research proposal 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 <u>Studenti Online</u> (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)
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: - it must **mention on the cover page the main research topic** 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);

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	- **it must include**: the state of the art; description of the proposal; expected results; articulation of the proposal and implementation times; outline of the proposed findings assessment criteria; references. 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.

SUPPORTING DOCUMENTS

Personal Statement	The statement shall 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).
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	- 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 - Work activity - Curricular and non-curricular training internships - 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, 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. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	12 points max
	Publications	5 points max
	Other evaluable documents	12 points max
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal	7 points max
	Structure of the proposal	7 points max
	Proposal feasibility	7 points max

2. Oral examination

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

English language proficiency	5 points max
Research proposal presentation	35 points max
General knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions	10 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.
The oral examination is carried out in English.
* Possible further evaluation criteria will be available on the <u>University website</u>, selecting the relevant PhD Programme > "More information".

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