

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

PROGRAMME'S NAME	INDUSTRIAL CHEMISTRY
DURATION	3 years
PROGRAMME START DATE	01/11/2023 (DD/MM/YYYY)
LANGUAGES	English
COORDINATOR	Prof. Fabrizio Cavani (fabrizio.cavani@unibo.it)
PHD POSITIONS	17
ADMISSION PROCEDURE	Qualifications evaluation Oral examination

Available Positions and Scholarships

Post o n.	Sostegno finanziario	Descrizione	Posizioni a tema vincolato
1	<i>PhD Scholarship</i>	Totally funded by the University of Bologna general budget under the Progetti di Sviluppo Strategico dei Dipartimenti (PSSD) initiative	
2	<i>PhD Scholarship</i>	funded by the University of Bologna general budget under the Progetti di Sviluppo Strategico dei Dipartimenti (PSSD) initiative and by the Department of Industrial Chemistry "Toso Montanari"	
3	<i>PhD Scholarship</i>	Totally funded by the University of Bologna general budget	Structural and spectroscopic properties of hybrid organic-inorganic materials
4	<i>PhD Scholarship</i>	Totally funded by the University of Bologna general budget	Advanced sensor applications based on organic electrochemical transistors
5	<i>PhD Scholarship</i>	Totally funded by the University of Bologna general budget under the "Dipartimenti di Eccellenza" initiative	Mechanochromic polymeric materials and composites for advanced applications
6	<i>PhD Scholarship PNRR ex M.D. 118/2023 - PNRR Research</i>	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	Nanofibrous systems for structural and functional modification of composite materials for lightweighting, performance and safety improvement
7	<i>PhD Scholarship PNRR ex M.D. 118/2023 - PNRR Research</i>	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	High temperature catalytic membrane for hydrogen separation, thermal water splitting and related processes

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	Synthesis of molecular carbonyl nanoclusters and their possible applications in catalysis
9	PhD Scholarship PNRR ex M.D. 117/2023	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 117/2023) and by Sacmi Imola S.C.	Systems development to modify natural fibers' properties in the production of products packaging using innovative dry compression methods
10	PhD Scholarship PNRR ex M.D. 117/2023	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 117/2023) and by Versalis S.p.A.	In-situ generation of initiators for the ion polymerization of diene and vinlarene monomers
11	PhD Scholarship	Funded by the Department of Industrial Chemistry "Toso Montanari" with funds made available by the project Horizon Europe 2022 PHIRE "Photoacoustic imaging and artificial intelligence-based theranostic approach for cancer" - G.A n. 101113193 - Prof. Mauro Comes Franchini – CUP J33C23000720006	Gold Nanorods synthesis and scale-up for photoacoustic theranostic nanomedicine approach against bladder cancer
12	PhD Scholarship	Funded by Ferrari S.p.A.	Characterisation of electrode materials and interfaces and post-mortem analysis of batteries
13	Research grant	Funded by the Department of Industrial Chemistry "Toso Montanari" with funds made available by the project HORIZON-CL5-2021- D2-01 STORMING - Structured unconventional reactors for CO2-free Methane catalytic cracking – Project: 101069690 – CUP J33C22002170006 - Tutor Prof. Patricia Benito Martin. The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €19,367 per year	Electrification of the production of fuels and chemicals
14	Research grant	Funded by erogato dal Centro Interdipartimentale per la ricerca Industriale Fonti Rinnovabili, Ambiente, Mare ed Energia (CIRI FRAME) with funds made available by Laboratorio congiunto CIRI FRAME - ENI S.p.A and partly on funds made available by the Department of Industrial Chemistry "Toso Montanari". The research grant will have a duration of 12 months, renewable up to 36 months, and gross percipient amount of €20,267 per year	Development of catalytic materials for the production of methanol and fuels from CO2 valorisation
15	PhD Scholarship	Funded by ENEA Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Sostenibile with funds made available by the projects H201 e H202, MiTE – ENEA programme agreement for the regulation of relationships in relation to the performance of research activities in the framework of the National Recovery and Resilience Plan (NRRP) – Mission 2 – Component 2 – Investment 3.5, funded by Next Generation Eu, Research Operational Plan "Research and development of technologies for the hydrogen supply chain"	Utilisation, modification, upgrading and characterisation of catalytic materials for the purification and conditioning of syngas produced from gasification of biomass and biogenic fractions

16	PhD Scholarship	Funded by ENEA Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Sostenibile with funds made available by the projects H201 e H202, MiTE – ENEA programme agreement for the regulation of relationships in relation to the performance of research activities in the framework of the National Recovery and Resilience Plan (NRRP) – Mission 2 – Component 2 – Investment 3.5, funded by Next Generation Eu, Research Operational Plan “Research and development of technologies for the hydrogen supply chain”	Development of electrocatalyst/membrane systems using electrospray technology for increasing the operating pressure and performance of AEM cells
17	PhD Scholarship	Funded by ENEA Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Sostenibile with funds made available by the projects H201 e H202, MiTE – ENEA programme agreement for the regulation of relationships in relation to the performance of research activities in the framework of the National Recovery and Resilience Plan (NRRP) – Mission 2 – Component 2 – Investment 3.5, funded by Next Generation Eu, Research Operational Plan “Research and development of technologies for the hydrogen supply chain”	Development of electrocatalysts and gas diffusion electrodes and their application in optimised AEM for high performance cell

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 30/06/2023**
Oral examination	Date: starting from 04/07/2023 – 9.00 a.m. CEST* Place: In presence, Aula 4, Department of Industrial Chemistry, Viale Risorgimento 4, Bologna. Remotely, using Microsoft Teams	Available from 14/07/2023**

* 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	In the Curriculum Vitae a brief description of the topics researched in the second cycle degree final thesis is required. The Curriculum Vitae must be drawn up according to the “EuroPass” standard.
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). Please, note that the correct completion of the fields relating to the qualifications on the application procedure on Studenti Online is required (declarations about “Degree - Second or single cycle degree” e “Degree – First cycle degree”). A 10 points penalty on the total qualification evaluation score shall be applied to applicants not filling correctly the said fields.
Thesis abstract	Abstract of the second cycle degree thesis . Graduands applicants may submit the draft of the thesis. Abstracts cannot exceed 3,000 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.
SUPPORTING DOCUMENTS	
Personal statement	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 (3,000 characters maximum, including spaces).
Publications	<ul style="list-style-type: none"> - List of publications (i.e. monographs, articles on scientific journals) - max 2 – information required: author(s)’s name, title of article, name of the journal, year of publication, first page number-last page number, journal’s IF, article/publication’s DOI number - List of presentations at academic conferences - max 3 – the presentation will be evaluated only if the candidate is the presenting author. Required information: presentation type (oral or poster), national or international relevance of the conference. Abstract required.
Other documents	<ul style="list-style-type: none"> - Postgraduate vocational training programmes and/or specialisation programmes relevant to the PhD Programme - Teaching activities carried out at academic level - Research activity - whether basic, applied, translational, etc. - carried out in any capacity, including when covered by research grants, and as a staff member of research units - Work activity - Curricular and non-curricular professional internships - Periods of study abroad, outside the country 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 and Second cycle degree final mark. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	20 points max
Publications	3 point max
Consistency of the thesis topics, as described in the abstract, with the research topics of the PhD programme	17 points max
Personal statement	5 points max
Other supporting documents	5 points max

2. Oral examination

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

English language proficiency	5 points max
General knowledge of the PhD programme’s main research topics and of the research topics linked to the available PhD positions	45 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”.