

PHD PROGRAMME TABLE 38TH CYCLE

Section “Available Positions and Scholarships” integrated on 18/05/2022

Section “Available Positions and Scholarships” integrated on 17/06/2022

PROGRAMME’S NAME	CHEMISTRY
DURATION	3 years
PROGRAMME START DATE	01/11/2022 (DD/MM/YYYY)
LANGUAGES	English
MANDATORY STAY ABROAD	6 months
COORDINATOR	Prof. Luca Prodi (luca.prodi@unibo.it)
CURRICULA	N/A
RESEARCH TOPICS	Detailed list at the bottom of the present document
PhD POSITIONS	15
ADMISSION PROCEDURE	Qualifications evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Positions 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	Co-funded by the University of Bologna general budget and the Department of Chemistry “G. Ciamician”	
5	PhD position without scholarship		Development of liquid chromatography – high resolution mass spectrometry (LC-HRMS) methods for untargeted targeted Metabolomics and Proteomics
6	PhD Scholarship	Totally funded by the University of Bologna general budget	
7	PhD Scholarship	Totally funded by the University of Bologna general budget	
8	PhD Scholarship	Funded by the Department of Chemistry “G. Ciamician”	
9	PhD Scholarship	Funded by the Department of Chemistry “G. Ciamician”	
10	PhD Scholarship	Funded by the Department of Chemistry “G. Ciamician”	
11	PhD Scholarship	Funded by the Department of Industrial Chemistry “Toso Montanari” with funds made available by the project PRIN 2020 - Cod. 2020X7XX2P_003 - CUP J35F22000670006 - GLUCOMFORT A noninvasive tattoo-based continuous GLUCOSE Monitoring electronic system FOR Type-1 diabetes individuals - Prof. Erika Scavetta	Development of tattoo-Based Wearable Electrochemical Devices for health status monitoring
12	PhD Scholarship	Funded by the Department of Industrial Chemistry “Toso Montanari” with funds made available by the project PRIN 2020 - 2020AEX4TA_001 - CUP J33C22000020006 - Natural products-assisted organic synthesis - Prof. Luca Bernardi	Natural products-assisted organic synthesis
13	PhD Scholarship	Funded by the Department of Chemistry “G. Ciamician” with funds made available by the project H2020 COMBINED suN-Driven Oxidation and CO2 Reduction for renewable energy	Photocatalysis and artificial photosynthesis

		storage (CONDOR) H2020_CONDOR_GA_N.101006839 (J39C20000160006)	
14	PhD Scholarship	Funded by the Department of Chemistry "G. Ciamician" with funds made available by the project HORIZON ECLIPSE ECL-based Infectious Pathogen (bio)Sensor (Cup J53C22001170006)	Development of electrochemiluminescent biosensors for the detection of infectious pathogens
15	PhD Scholarship	Funded by the Department of Chemistry "G. Ciamician" with funds made available by the project "CLEANDROP" Eurostars Call 3 CoD01 2021 (Prof. Melandri) - "Catalytic oxidation-driven water treatment reactors & AI supported real-time monitoring of PMTs - CLEANDROP" CUP J53C22001060001	Development of a chirped-pulse Fourier transform microwave spectroscopy method for real-time monitoring of persistent, mobile and toxic pollutants

Admission Exams

	DATE AND TIME	RESULTS
Qualifications evaluation	Applicants' participation is not required	Available from 21/06/2022**
Oral examination	Date: starting from 28/06/2022 - 9 a.m. CEST* Place: In presence, Aula V, Department of Chemistry "G. Ciamician", via Selmi 2, Bologna. Remotely, using Microsoft Teams	Available from 08/07/2022**

* 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 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 [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)
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)
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.
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	List of publications (i.e. monographs, articles on scientific journals), minor publications (conference papers, volume chapters, etc.) and abstracts and posters presented during academic conferences.

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 - Specialisation thesis abstract (3,000 characters max) - 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)
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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	5 point max
Consistency of the thesis topics, as described in the CV, with the research topics of the PhD programme	15 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 issues encompassed by the PhD Programme	45 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge of issues encompassed by the PhD Programme (see the list of [research topics](#) at the bottom of the present document).

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", at the bottom of the page in the section "Notices".

Research Topics

The research topics include all areas of chemistry, from computational chemistry (e.g., modelling of molecular materials, computational photochemistry and photophysics, spectroscopy), to physical chemistry (e.g. study of solid state and liquid crystals), electrochemistry (e.g. electrochemistry of molecular materials and for energy, electrochemical analysis techniques), photochemistry (e.g. systems for energy conversion, photoreactive materials, sensors and luminescent tracers), study of polymers (e.g. production of polymeric materials for biomedical applications), analytical sciences (e.g. analytical methods based on advanced separative techniques, bioanalytical, environmental and cultural heritage chemistry, biosensors), organic chemistry (e.g. chemistry of radicals and host-guest systems, organic synthesis, synthesis by enzymatic catalysis, development of materials and methods for "Green Chemistry"), structural and solid state chemistry (e.g. "Crystal Engineering", development of materials for biomedical applications, synthesis and characterization of nanostructured materials), and molecular spectroscopy (e.g. Raman, electron and rotational spectroscopy). For many topics, the research has important multidisciplinary implications, in particular as concerned nanotechnological and biomedical applications.