






CHEMICAL SCIENCES	
CYCLE	XLII
COORDINATOR	Prof Giovanni MAESTRI email: giovanni.maestri@unipr.it Department of Chemistry, Life Sciences and Environmental Sustainability
DURATION	3 years
START DATE	01/11/2026
POSITIONS AVAILABLE	10
ADMISSION PROCEDURES	Assessment of QUALIFICATIONS and Research Project Oral Exam in PRESENCE or REMOTELY
ADMISSION REQUIREMENTS	Regardless of age and citizenship, applicants may apply if they hold at least one of the following qualifications: <ul style="list-style-type: none">• a Master's degree (Laurea Magistrale or equivalent);• a degree awarded under the previous Italian system;• an equivalent academic qualification obtained abroad, recognized as suitable for admission to the PhD programme. Applicants who have not yet graduated may also apply, provided that they obtain their degree by 31 October 2026 .
TRAINING OBJECTIVES	
The program aims to equip PhD students in Chemical Sciences with the necessary skills to propose and manage research projects in the advanced fields of Analytical Chemistry, Inorganic Chemistry, Physical Chemistry, Industrial Chemistry, and Organic Chemistry. The PhD program in Chemical Sciences requires each student to work within one of the research groups within the Chemistry Units of the Department of Chemistry, Life Sciences and Environmental Sustainability (SCVSA). Students will also pursue specific training in their chosen field, including research periods at qualified centers both in Italy and abroad, in schools and national and international conferences, and through the publication of their scientific results in international journals. Interdisciplinary training activities are also planned, aimed at developing the abilities of PhD students to present, discuss, and disseminate the topics covered in their work in both academic and industrial settings, and more generally in society at large.	
RESEARCH AREAS	
<ul style="list-style-type: none">• Analytical Chemistry• General and Inorganic Chemistry• Physical Chemistry• Industrial Chemistry• Organic Chemistry	

Position with Scholarship		
N°	Funding entity	Research Topic or Areas
1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project FIS-2023-01733 "NHC-Ligated Boryl Radicals: New Frontiers in Halogen-Atom Transfer", CAPA_L_23_MUR_XAT2.0_01, CUP D53C25000690001). 	Development of innovative methodologies for radical synthesis



1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project FIS-2023-01733 “NHC-Ligated Boryl Radicals: New Frontiers in Halogen-Atom Transfer”, CAPA_L_23_MUR_XAT2.0_01, CUP D53C25000690001). 	Application of emerging technologies for the synthesis of high value added chemicals
1	funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project “Dipartimenti di Eccellenza”)	Synthesis and photo-physical characterization of organic π -conjugated small molecules for organic electronics
1	Partially funded by University and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project Fondazione Telethon-Fondazione Cariplo 2025 CODICE SANS_F_25_ASSPRIV_DARKLIGHT_01 CUP D53C26000570007)	Design, synthesis and characterization of saccharide-based molecules for the interaction with biomedically relevant enzymes and proteins
1	Partially funded by University and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project “Dipartimenti di Eccellenza”)	(Chiro)Optical spectroscopy of molecular functional materials
1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project MSCA20240000010, CUP D93C25000480007) 	Visible-light mediated enantioselective synthesis
1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability	Analytical strategies based on high-resolution mass spectrometry for untargeted analyses
1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability	Artificial proteins and peptides for biotechnological application
1	Partially funded by University (Ministerial funds) and Cariparma Foundation funds and co-funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (funds Project	Precipitation and selective extraction of rare-earth metals from end-of-life products
1	partially funded by University and Cariparma Foundation funds and co-funded by INRIM Istituto Nazionale di Ricerca Metrologica	Integration of advanced analytical platforms for the detection and characterization of micro- and nanoplastics

ADMISSION ASSESSMENT

Assessment of QUALIFICATIONS: up to 40 points
(a minimum score of 20 points shall be required to be admitted to the Oral Exam)
ORAL EXAM: up to 80 points
Minimum score for ELIGIBILITY: 70/120



ORAL EXAM PROGRAM

Applicants admitted to the ORAL EXAM can take it either in PRESENCE or REMOTELY in Audio and Video Teleconference (Applicants who intend to take the Oral Exam remotely must submit a formal request, using the form attached to the competition notice)

The ORAL EXAM includes the presentation of the research project and is intended to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course.

Foreign Language

the fluency of which shall be assessed during the Oral Exam

ENGLISH

The evaluation of the knowledge of this language will be oral and will consist in the discussion of part of the research topics in English.

SCHEDULE OF THE ADMISSION EXAMS

ASSESSMENT OF QUALIFICATIONS		It is the candidate's responsibility to verify the outcome of the evaluation of qualifications, which can be consulted in their reserved area by connecting to the page http://unipr.esse3.cineca.it/Home.do in the days preceding the date of the Oral Exam. Publication on the website constitutes official notification. No individual communication will be sent to candidates by email.		
ORAL EXAM	DATE	3 th September 2026 (with possible extension in the following days)		
	TIME	10:00 am (Italian Time)		
	PLACE	Department of Chemistry, Life Sciences and Environmental Sustainability CHEMISTRY BUILDING Parco Area delle Scienze, 17/A – Campus 43124 PARMA - ITALY		
FURTHER INFORMATION		<p>The choice of the Research Topic to be expressed in Annex A is not binding on the assignment of the research project, and it is intended to assess candidate's skills during the admission exam. <u>The PhD research topic will be assigned by the Academic Board.</u></p> <table border="1"> <tr> <td>THE INTERVIEW MAY BE HELD ALSO IN ENGLISH</td> <td>For foreign candidates it is possible to carry out the admission examination exclusively in English. For Italian candidates it will be possible to take the admission examination in Italian or in English at the candidate's choice</td> </tr> </table>	THE INTERVIEW MAY BE HELD ALSO IN ENGLISH	For foreign candidates it is possible to carry out the admission examination exclusively in English. For Italian candidates it will be possible to take the admission examination in Italian or in English at the candidate's choice
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LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT

MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION

ANNEX A	(art. 3.2 of the Competition notice)
Identification Document	Scanned Copy of a valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae et studiorum	No specific CV format is required (see art. 3.2 of the Competition notice)
Abstract of degree thesis	Abstract of the second cycle master's degree thesis. Undergraduate applicants must submit the draft of the thesis approved by their supervisor (abstract/draft of the thesis: 10.000 characters including spaces)



Academic Qualifications	Certificates and academic transcript of records for both Bachelor' and Master' degrees containing the following details for each degree held: (art. 3.2 of the Competition notice): University that granted the degree - Type of degree (first cycle/second cycle/single cycle) Name of the degree program - Date of graduation - Final mark - List of exams and corresponding scores (academic transcript of records) - Translation into Italian or English (only for degrees issued in languages other than Italian or English).	
Research Project	<p>Written in Italian or in English, according to the format attached to the competition notice. It will have to focus on an original research topic (unpublished, developed personally by the candidate, PENALTY NOT EVALUATION. It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project)</p> <p>In accordance with the Guidelines for the responsible use of Artificial Intelligence in education and research, the candidates must explicitly state whether they have used Generative Artificial Intelligence systems in the production of the research proposal attached to their application form, specifying which tools were used and for which parts of the document. During the oral examination, the Admission Board will assess the candidate's full mastery of the content included in the document and their ability to justify the methodological and scientific choices made in the project.</p> <p><u>The research proposal does not constitute a binding commitment for the subsequent choice of the PhD research topic, which will be assigned by the Academic Board</u></p> <p>Failure to submit the research proposal will result in exclusion from the selection procedure.</p>	
LIST OF EVALUABLE QUALIFICATIONS (only qualifications attested by a document drawn up in Italian or in English)		
Curriculum Vitae et studiorum	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. The marks of the exams and the graduation mark will be the most relevant element of the evaluation. Relevance of the academic career as well as postgraduate experiences and other research activities related to Chemical Sciences.	Up to 21 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics (briefly describe the topics in the curriculum vitae)	Up to 10 points
Research Project	Points relating to the research project shall be allocated on the basis of the following criteria: <ul style="list-style-type: none"> ○ Scientific value and originality of the proposal ○ description and structure of the proposal ○ proposal feasibility ○ consistency with the research themes of the PhD course 	Up to 2 points
Statement of Research Interest	Short text – maximum 1 page – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program; the description of specific research interests, with particular reference to the topics relating to the specific topics proposed; the skills possessed that can contribute to a research project in the field of Chemical Sciences.	Up to 3 points
Scientific Publications	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc Impact and relevance of the qualifications presented related to Chemical Sciences. <i>Only publications of which a copy has been included among the qualifications presented will be evaluated and not any publications cited exclusively in the curriculum and / or in the form of a list.</i>	Up to 4 points



EVALUATION ORAL EXAM		
Interview Program	Evaluation CRITERIA	POINTS
The ORAL EXAM includes the presentation of the research project and is intended to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course	<ul style="list-style-type: none">○ knowledge of the subject and skills of the candidate for the proposed research activities are assessed by a discussion on the qualifications submitted for evaluation○ knowledge of English is assessed by discussion of topics of research and by understanding of scientific texts.	Up to 80 points