UNIVERSITÀ DI PARMA

CHEMICAL SCIENCES	
Cycle	**XXXV**
Coordinator	Prof. Roberto CORRADINI Department of Chemistry, Life Sciences and Environmental Sustainability email: roberto.corradini@unipr.it
Duration	3 years
Starting date of the PhD program	01/11/2019

Research Topics

a) Supramolecular approach for the synthesis of working devices and molecular machines
b) Bio-inorganic strategies for the development of metalloenzyme inhibitors and compounds with anticancer activity
c) Eco-sustainable nanomaterials derived from cellulose for technological applications in the fields of environment, health and cultural heritage
d) Diastereoselective polycyclization cascades promoted by visible light
e) Optical spectroscopy of functional molecular materials: from experimental complexity to models
f) Synthesis of macrocyclic compounds for the interaction with biomacromolecules (within the project PRIN2017 "BacHounds: Supramolecular nanostructures for bacteria detection", Prot. 2017E44A9P)
g) Development of analytical methods for food quality and safety assessment (within the project PRIN2017 2017YER72K "Development of novel DNA-based analytical platforms for the rapid, point-of-use quantification of multiple hidden allergens in food samples")

Training Objectives

The training program aims to provide the PhD in Chemical Sciences the necessary skills to propose and manage research projects in the advanced fields of Analytical Chemistry, General and Inorganic Chemistry, Physical Chemistry, Industrial Chemistry, and Organic Chemistry . The PhD course in Chemical Sciences requires each student to work within one of the research groups active at the Chemistry Unit of the Department of Chemistry, Life Sciences and Environmental Sustainability (SCVSA), and to follow a specific training pathway in the chosen sector; this is achieved also through: participation in research activities at qualified centers both in Italy and abroad, participation to national and international schools and conferences, and through the publication of scientific results in inernational journals. Interdisciplinary training activities, aimed at developing PhD students the ability to exhibit, discuss and disseminate the subjects of their work both in the academic and industrial context and even more generally in society, are also part of the program.

Admission requirements

Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission:
- Laurea specialistica or Laurea magistrale (second cycle master's degree)
- Laurea Vecchio Ordinamento (degree obtained under the previous Italian regulations);
- Second cycle Master's degree obtained abroad, equivalent to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral programs

Undergraduate applicants may also submit applications with the obligation of getting their degree by **October 31st 2019.**

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POSITIONS PUT OUT TO COMPETITION	
With Scholarship	7
TOTAL	**7**

Positions with University Scholarship

N°	*Funding entity*	*Research Topic*
4	Scholarship Ministerial funds	• see topics at points a) – e) above
1	Scholarship co-funded by Fondazione Cariparma	• see topics at points a) – e) above
1	Funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (for co-financing Project PRIN2017, 2017E44A9P and Departments of Excellence program)	• topic f): " Synthesis of macrocyclic compounds for the interaction with biomacromolecules"
1	Funded by the Department of Chemistry, Life Sciences and Environmental Sustainability (for co-financing Project PRIN2017, 2017YER72K and Departments of Excellence program)	• topic g): " Development of analytical methods for food quality and safety assessment"

ADMISSION PROCEDURES

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

Foreign Language	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 be evaluated at the level of discussion of research topics and / or understanding of scientific texts.

Possibility of videoconference for candidates residing or temporarily abroad **YES**
(the relevant request shall be submitted using the form attached to the competitive examination announcement)

THE INTERVIEW MAY BE HELD ALSO IN ENGLISH

LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT

Mandatory documents to be attached to the on-line application

- **ANNEX A** (art. 5 of the Call for Applications)
- Scanned Copy of a **valid identification document** with photo
- **Curriculum Vitae et studiorum** (art. 4 of the Call for Applications)
- **Summary of the second cycle master's degree thesis.** Undergraduate applicants may submit the summary of the thesis work approved by their supervisor (about 10,000 characters including spaces)
- **Certificates and academic transcript of records for both Bachelor' and Master' degrees** containing the following details for each degree held: (art. 4 of the Call for Applications):
  - University that granted the degree
  - Type of degree (first cycle/second cycle/single cycle)
  - Name of the degree programme
  - 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)

- **Statement of Research Interest**: Short text – maximum 2 pages – in Italian or in English, aimed at: 1) explaining the candidate's reasons to attend the PhD programme; 2) research interests, with particular reference to topics of interest in the specific topics proposed; 3) skills that can contribute to a research project in the field of Chemical Sciences

Further qualifications that may be attached to the application, if in possession of the applicant
(only qualifications attested by a document drawn up in Italian or in English)

- **Scientific Publications:** Articles on scientific journals with referees, communications presented at conferences or symposia, book chapters etc.;
- **Participation in Schools or training courses** related to Chemical Sciences
- **Any awards** received related to Chemical Sciences

EVALUATION CRITERIA

QUALIFICATION	EVALUTATION CRITERIA	POINTS
Curriculum Vitae et studiorum	Relevance of the academic career as well as postgraduate experiences and other research activities in the chemical field	**Up to 15 points**
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral programme research topics	**Up to 15 points**
Statement of Research Interest	Motivation and competence proved in the text presented	**Up to 5 points**
Scientific publications and other qualifications	Impact and relevance of the qualifications presented relevant to the Chemical Sciences	**Up to 5 points**
ORAL EXAMINATION	**EVALUATION CRITERIA**	**POINTS**
The ORAL EXAM takes place in Italian or in English for foreign candidates. It includes a discussion of the qualifications presented by the candidate and an assessment of his scientific preparation and of his design skills.	○ knowledge of the subject and preparation of the candidate for the proposed research activities. ○ knowledge of English is assessed at the level of discussion of topics of research and understanding of scientific texts.	**Up to 80 points**

SCHEDULE OF THE ADMISSION EXAMS

ORAL EXAM	**DATE**	16 September 2019
	TIME	10.00 am
	PLACE	ROOM A - Chemistry Building Department of Chemistry, Life Sciences and Environmental Sustainability Parco Area delle Scienze, 17/A – 43124 PARMA - ITALY
OTHER INFORMATIONS		The admission examinations may be held in English at the candidate's choice.