



UNIVERSITÀ
DEGLI STUDI DI TRIESTE

Rettorato e Direzione Generale
Sezione Ricerca e Dottorati
Ripartizione Dottorati

LAST REVISED 29/01/2015

**PhD IN
CHEMISTRY
(under the agreement with the University Ca' Foscari Venezia)**

NOTE: This attachment provides only partial information. Exhaustive information, including how to register for the selection, is published in the Admission Announcement posted in the web page <http://www2.units.it/dott/en/> >> Admission Announcement.

The duration of the course is 36 months. The starting date will be decided when the research contract is signed.

Deadline for online application	17 February 2015 11:30 a.m. (ITALIAN TIME)
Deadline for paying the exam registration (application) fee	17 February 2015
Deadline for submitting qualifications and publications plus the form <i>Integration to the Application</i>	17 February 2015 11:30 a.m. (ITALIAN TIME)
Deadline for completion of the degree required for admission	31 October 2014
Oral examination/interview	Either in video conference: 23 February 2015 beginning at 10:00 a.m. (ITALIAN TIME) you must request an appointment or in person: 23 February 2015 at 10:00 a.m. (ITALIAN TIME)
Documents required <i>(for further details see below "Weighting of the qualifications")</i>	<ol style="list-style-type: none">1. Form "Integration to the application"2. The following documents:<ol style="list-style-type: none">a. detailed curriculum vitae et studiorum, with a special focus on pre-PhD activities,plus<ol style="list-style-type: none">a.1 for Italian degrees: a self-certification of the degree (1st and 2nd level) with final mark as well as a list of exams taken and marks

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	<p>obtained</p> <p>a.2 for non Italian degrees: an official transcript of records in English (BSc and MSc)</p> <p>b. degree thesis (if any)</p> <p>c. publications (if any)</p> <p>d. letters of reference (if any)</p> <p>e. research project connected to the doctoral thesis chosen by the candidate. The "Research Project (Doctoral Course in Chemistry)" form must be downloaded from http://www.units.it >> Ricerca >> Research Doctorate >> Admission Announcement >> Application Forms and filled. If the candidate does not submit the research project, s/he will not be admitted to the oral examination.</p>
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IN BRIEF

Lines of research

- 1 Biocrystallography
- 2 Pharmaceutical biology
- 3 Inorganic, bio-inorganic and organometallic chemistry
- 4 Organic and bio-organic chemistry
- 5 Homogeneous and heterogeneous catalysis and bio-catalysis
- 6 Supramolecular chemistry and catalysis
- 7 Theoretical and computational chemistry
- 8 Medicinal chemistry
- 9 Analytical and environmental chemistry
- 10 Chemistry for Cultural Heritage
- 11 Electrochemistry and sensors
- 12 Green and sustainable chemistry
- 13 Chemical engineering
- 14 Advanced materials and thin films

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	15	Nanosciences and nanotechnologies
	16	Molecular spectroscopy
	17	Pharmaceutical Technologies
<i>Administrative location</i>		University of Trieste
<i>Organizing Department</i>		Department of Chemical and Pharmaceutical Sciences
<i>Participating Departments</i>		Department of Engineering and Architecture
		Department of Life Sciences
<i>Partner University</i>		University of Ca' Foscari Venezia
<i>Partner University Department</i>		Department of Molecular Sciences and Nanosystems
<i>Duration</i>		3 years
<i>Maximum number of months to be spent abroad by each PhD student</i>		18
<i>Official language</i>		Italian
<i>Language (alternative to Italian) partially used in PhD activities</i>		Some seminars and courses are held in English. If non Italian speaking students are admitted to the PhD, all courses are may be held in English.
<i>Subject Area</i>	<i>main</i>	03
	<i>others</i>	05; 09
<i>Macro Research Fields</i>	<i>main</i>	03/A
	<i>others</i>	03/B, 03/C, 03/D; 05/G, 09/D
<i>Scientific Disciplinary Sector</i>	<i>main</i>	
	<i>others</i>	CHIM/01, CHIM/02, CHIM/03, CHIM/04, CHIM/06, CHIM/08, CHIM/12, BIO/15, ING-IND/24
<i>Domain European Research Council</i>	<i>main</i>	PE
	<i>others</i>	
<i>ERC Panels</i>	<i>main</i>	
	<i>others</i>	PE4; PE5, PE8; LS9
<i>Erasmus Subject Area Codes</i>	<i>main</i>	
	<i>others</i>	06.3, 13.1, 13.3
Information on the codes can be found online at: http://www2.units.it/dott/en/?file=DottBandi.inc >> Admission Announcement and relative attachments (...) >> "Labelling" (file.xls)		

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PLACES, SCHOLARSHIPS, RESEARCH GRANTS AVAILABLE

Total number of places available (excluding R/2 R/3 – see below) 2

with scholarship/research grant 0

without scholarship/research grant 2

Note: Research grants will be allocated in merit list order

Scholarships/Research grants available with indication of the code, total number and funding body

RESEARCH GRANT:

Funded by the Dipartimento di Scienze Chimiche e Farmaceutiche (CUP J96D1500000006) with resources provided by the "IPCOS" **Imprinted polymers as coffee sensors** (Grant Agreement no. 642014 – Call identifier H202-MSCA-ITN-2014) programme within the H2020 EU framework programme.

Duration of the grant: 36 months

The grant is paid monthly for a total annual amount of € 53.020,44 (including the family amounting to € 6,000.00) if the grant holder is married, otherwise it amounts to € 47,020.44, gross of national insurance contributions to be paid by the grant holder, and it covers mobility expenses.

NOTE: applicants have to comply with EU Marie Curie actions requirements, namely:

- 1 at the deadline date for applications candidates must prove that they have not spent more than twelve months in Italy either as residents or for work or study reasons in the previous three years;
- 2 candidates must be in the first four year after the degree, and must have carried out research activity on a full-time basis or equivalent for no more than four years after degree conferment.
3. candidates must not already have a PhD title.

D/16 1 **Title of the research project 1:** Coumaroylquinic acids in coffee manufacturing: sensing systems and profiling.

Full description of project 1: the project is focussed on:

- i. the development of synthetic methodologies for coumaroylquinic acids.
- ii. Enhancing the knowledge of chlorogenic acid transformations during coffee manufacturing.
- iii. Obtainment of a molecularly imprinted polymer for fluorimetric analysis of chlorogenic acids, and of a prototype optical sensor.

Scientific Disciplinary Sector/ i.e. subject area: CHIM/06

Scientific Director/Supervisor: Prof. Cristina Forzato

Duration of the grant: 36 months

D/17 1 **Title of the research project 2:** Sensing systems for coffee terpenes.

Full description of project 2: the project is focussed on the optimization of extraction and purification protocols for coffee terpenes, on the synthesis of covalent derivatives of cafestol and 16-O-Methyl-cafestol, on the development of molecularly imprinted polymers and electrochemical sensors for cafestol and

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16-O-Methyl-cafestol.

Scientific Disciplinary Sector/ i.e. subject area: CHIM/06

Scientific Director/Supervisor: Prof. Federico Berti

Duration of the grant: 36 months

<i>Reserved places with scholarships/research grants available for graduates at universities abroad [R/1] with indication of the code, total number and funding body</i>	R/1	0	--
<i>Reserved places with no PhD scholarship provided</i>	R/2	0	Scholarships funded by foreign Countries
	R/3	0	Scholarships funded by international mobility programmes
<i>PhD students from foreign universities may be admitted with a joint supervision of their thesis</i>			Yes
<i>Erasmus Mundus PhD students from foreign universities may be admitted on a joint supervision of their thesis</i>			No
<i>Erasmus Mundus PhD students from foreign universities may be admitted on international mobility programmes</i>			No

THE SELECTION PROCEDURE

<i>Academic qualification required: see Announcement: see Announcement (art. 2 - Requirements)</i>	Italian Master's Degree "Laurea Specialistica/Magistrale" or Degree awarded prior to approval of Ministerial Decree D.M. n. 509 of 3 November 1999, updated with D.M. n. 270 of 22 October 2004, n. 270, (or a qualification corresponding to a Master's -second level- degree) An equivalent foreign academic qualification awarded abroad An academic qualification awarded abroad which is considered to be equivalent to the Italian degree that allows the holder to undertake PhD studies for duration, level and area of study
<i>Deadline for completion of the Degree required for admission</i>	31 October 2014
<i>Assessment criteria</i>	qualifications + oral examination/interview
<i>Maximum final score (the final score is based on the sum total of marks obtained in the interview plus the points given for qualifications and publications)</i>	100/100
<i>Minimum final score required for eligibility</i>	60/100
<i>Maximum score awarded for qualifications+publications</i>	60/60
<i>Minimum score required for qualifications+publications</i>	36/60

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<p><i>Weighting of the qualifications</i> Unless the form “Integration to application” is presented, qualifications and publications cannot be assessed by the Examining Board. The form is available at: http://www2.units.it/dott/en/?file=DottBandi.inc&cod=1010</p>		detailed <i>curriculum vitae et studiorum</i> , with a special focus on pre-PhD activities, plus	
	a	a.1 self-certification of the 1 st and 2 nd level degree (if awarded in Italy)	40/60
		a.2 an official transcript of records in English (BSc and MSc) (for non-Italian degrees)	
		b degree thesis (if any)	
		c publications (if any)	
	d letters of reference (if any)		
	e	research project connected to the doctoral thesis chosen by the candidate. The “Research Project (Doctoral Course in Chemistry)” form must be downloaded from http://www.units.it >> Ricerca >> Research Doctorate >> Admission Announcement >> Application Forms and filled. If the candidate does not submit the research project, s/he will not be admitted to the oral examination.	20/60
If the degree score is not out of 110 it will be converted. Undergraduates will be assigned a score out of 110 based on the average of their exams (provided they submit an official transcript)			
<i>Oral examination/interview score out of – maximum score</i>			40/40
<i>Oral examination/interview score out of – minimum score</i>			24/40
<i>Deadline for submitting qualifications and publications</i>		17 February 2015	
<i>Qualifications and publications shall be submitted:</i> <i>(art. 5.1.4 of the PhD Announcement)</i>		as an attachment to the online admission application (upload), 11:30 a.m. Italian time	
	<i>Oral examination/interview</i>	Either in video conference: 23 February 2015 from 10:00 a.m. to 6:00 pm (ITALIAN TIME – The Board of examiners will contact the candidates who are eligible for the oral examination and have requested the videoconference interview to agree the schedule of the connection before 20 February. The Board of examiners will gather in any case at University of Trieste – Dep. of Chemical and Pharmaceutical Sciences – Building C11 – “Sala del Consiglio” – 1° floor – Via L. Giorgieri, 1 – TRIESTE	
	<i>Language(s) of the interview</i>	Or in person: 23 February 2015 2at 10:00 a.m. (ITALIAN TIME) at University of Trieste – Dep. of Chemical and Pharmaceutical Sciences – Building C11 – “Sala del Consiglio” – 1. floor – Via L. Giorgieri, 1 – TRIESTE	
		Italian or English	

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<i>Language(s) tested in the oral examination/interview</i>	English
<i>CEFR (Common European Framework of Reference for Languages)</i>	--
<i>Videoconference interview</i>	Upon request from the candidate, the interview may be carried out through videoconference, with the same schedule (check 6.2 Admission Announcement)

WHO'S WHO	
under the agreement with the University Ca' Foscari Venezia	
<i>Chair</i>	Prof Mauro Stener – Department of Chemical and Pharmaceutical Sciences - Università degli Studi di Trieste – Via L. Giorgeri, 1 - tel. 040/558.3949 fax 040/558.3903 e-mail stener@units.it
<i>Vice</i>	Prof. Maurizio SELVA – Department of Molecular Sciences and Nanosystems - Università Ca' Foscari Venezia - tel. 041/234.8687 – tel. Lab. 041/234.8982 e-mail selva@unive.it
<i>Web site</i>	http://web.units.it/dottorato/chimica/en
<i>Learning outcomes</i>	The primary goal of the Ph.D course in chemistry is the training in order to obtain proper skills in the chemistry field, to carry on an independent and autonomous research activity. Such skills will be important to be spent in many different situations and institutions, in particular public research institutions (like Universities and Research Institutes) or private companies. In this respect Ph.D students will be trained with a continuous and intense experimental research activity as well as specific high level courses, in order to be competitive at the international level. The future PhD will be trained with all experimental and theoretical tools necessary to manage general problems which will be encountered when developing new chemical compounds or processes, as well as their industrial implications. Special care will be devoted to the international mobility opportunities and to the ability to present and rationalize the results in an effective manner.
<i>Job placement opportunities</i>	The job placement opportunities of a future PhD will be rather wide. First the most adequate job opportunity would be that of a researcher in public institutions or private companies. In particular the PhD title would be important when special need to manage and carry on research or complex problems solving are necessary to be performed in an independent, autonomous and creative way. Also special responsibility positions in industries or large companies would be suitable for PhD.
<i>Main cooperating international Universities and Research Institutions</i>	<ol style="list-style-type: none">1 University of Castilla La Mancha, Spagna2 University of Sidney, Australia3 University of Bordeaux, Francia4 University of Madrid, Spagna5 University of Zürich, Svizzera

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