



UNIVERSITÀ DEGLI STUDI DI TORINO

“Annex 1” updated on 28th August 2019

(The updates and the corrections are highlighted in red colour)

(ANNEX 1)

CALL FOR PHD POSITIONS – 35 CYCLE July's session

PHD PROGRAMME IN IN CHEMICAL AND MATERIAL SCIENCES

PhD Programme Coordinator	Prof. Mario Chiesa
Department	Chemistry
PhD Programme Length	3 years
PhD web site	http://dott-scm.campusnet.unito.it
Course start date	November 1 st , 2019
Departments involved in PhD programme	Department of Chemistry, Department of Molecular Biotechnology and Health Science, Department of Physics

Positions offered ¹	
n. 5 positions with scholarship	of which: - n. 5 scholarships funded bt Dipartimento di Chimica
n. 4 positions in apprenticeship	of which: - n. 1 apprenticeship contract at Exenia Group S.r.l.; - n. 1 apprenticeship contract at ECOPACK SpA - n. 2 apprenticeship contracts HUVEPHARMA
n. 2 position reserved to students selected within specific international mobility programmes or within specific agreements in which the University of Torino is involved: H2020-MSCA-ITN-2019 861145 BeMagic	
n. 1 position without financial support	

¹ All additional scholarships and apprenticeship contracts (Legislative Decree no. 81/2015 art.45), which may become available after the publication of this Call, will be announced on the University websites <http://www.unito.it/ricerca/fare-ricerca-unito/dottorati-di-ricerca> and <http://en.unito.it/research/phd/phd-programmes> until Call's deadline.



CALL FOR POSITIONS	
Admission procedure	
Assessment of qualifications and interview	
Documents to be uploaded in the on-line application	
<ul style="list-style-type: none"> • Research project (max 2 pages - spaces and bibliography included) written in English by the candidate choosing a title within those offered by the PhD Programme • Publications (max 4) 	
Assessment criteria	maximum score 100 points
Assessment of qualifications	maximum score 15 points
Final grade of Laurea (Laurea Ciclo Unico) or Degree of Laurea Magistrale (60%) and Degree of Laurea Triennale (40%) <ul style="list-style-type: none"> • 110 L 6 _____ points • 106-110 5 _____ points • 100-105 4 _____ points • ≤99 1 _____ point <p><i>For candidates applying under condition:</i> Weighted average of list of examinations taken during the Laurea Magistrale (60%) and Laurea Triennale (40%) weighted by the following coefficients: $w = 1$ if $CFU_{\text{acquired}}/120 \geq 0.6$; $w = 0.5$ if $0.4 \leq CFU_{\text{acquired}}/120 < 0.6$; $w = 0.1$ if $CFU_{\text{acquired}}/120 < 0.4$ or weighted average of list of examination of Laurea a Ciclo unico with $w = (CFU_{\text{acquired}} - 180)/120$:</p> <ul style="list-style-type: none"> • 29/30: _____ $w \times 6$ points • between 27 and 29/30 _____ $w \times 5$ points • between 25 and 27/30 _____ $w \times 4$ points • ≤25/30 _____ $w \times 1$ point 	maximum score 6 points
Publications 1 point per publication (Publications will be assessed only if relevant to the programme and if their scientific dimension is well recognised; yet-to-be-published papers,	maximum score 4 points



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non-published thesis or any other kind of non-published work will not be evaluated. A maximum of 4 already published publications will be assessed.)	
Other qualifications Each relevant title with recognized scientific value will be awarded with 1 point max, up to 5 points total. Any strictly professional qualification or traineeship will not be evaluated.	Maximum score 5 points
Research Project	<i>Maximum score 15 points</i>
<i>Minimum threshold for admission to the oral interview</i>	15 points
Oral interview	Maximum score: 70 points
<i>Minimum threshold for passing the interview</i>	<i>50 points</i>
Further information on examinations: The interview will cover the presentation and the defence of the research project, the discussion of the master thesis as well as general knowledge of chemistry and of material science. The Board will focus on: level of knowledge of the subject and communicating skills related to it; level of knowledge of the subject of the research project; originality and interdisciplinarity of the research proposal. The Research Project (max 2 pages - spaces and bibliography included – written in English) carried out by the candidate choosing the title among those offered by the PhD, focusing on the following points: a) state of the art of the chosen subject; b) targets of the project; c) research plan over 3 years. Knowledge of scientific English language is compulsory and will be assessed during the interview which will be partly in English. The interview, on request of the candidate and duly authorised by the Examining Board, may be taken via Skype (Art. 8 of the Call).	

**Titoli progetti di ricerca
Dottorato di Ricerca in Scienze Chimiche e dei Materiali**

**Titles of research project
PhD Programme in Chemical and Materials Sciences**

1. Isolation of high-added value products by extraction in supercritical CO₂ and relative characterization and micronization. (*titolo di progetto abbinato al posto in apprendistato presso / research project linked to the apprenticeship at Exenia Group S.r.l.*)



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2. Sviluppo di coating a base di biopolimeri innovativi e biocompostabili per il packaging alimentare a base di cellulose. *(titolo di progetto abbinato al posto in apprendistato presso / research project linked to the apprenticeship contract at ECOPACK S.p.A.)*
3. Chromium catalysis: from fundamental understanding to functional aliphatic polymers *(referente scientifico Prof. E. Groppo) (titolo di progetto a borsa di studio finanziata al Dipartimento di Chimica)*
4. Synthesis of NIR sensitizers and colorless redox couples and their optimization in Dye-sensitized solar cells. *(Prof. C. Barolo) (titolo di progetto a borsa di studio finanziata al Dipartimento di Chimica)*
5. Innovative materials for Li-ion cells. *(Prof. M. Baricco, Prof. C. Nervi) (titolo di progetto a borsa di studio finanziata al Dipartimento di Chimica)*
6. Thermal CO₂ reduction to make fuels and chemicals through methanol. *(prof. S. Bordiga) (titolo di progetto a borsa di studio finanziata al Dipartimento di Chimica)*
7. Cutting-edge X-ray methods and models for the understanding of surface site reactivity in heterogeneous catalysts and sensors. *(referente scientifico Prof. G. Ricchiardi) (titolo di progetto a borsa di studio finanziata al Dipartimento di Chimica)*
8. **Nuovi processi enzimatici non convenzionali per migliorare l'efficienza di produzione. *(titolo di progetto abbinato a posto in apprendistato presso / research project linked to the apprenticeship contract at HUVEPHARMA)***
9. **Nuovi processi sintetici per l'ottimizzazione del sistema produttivo: eliminazione i solventi pericolosi ad alto impatto ambientale. *(titolo di progetto abbinato a posto in apprendistato presso / research project linked to the apprenticeship contract at HUVEPHARMA)***
10. **Design, synthesis and characterization of novel artificial emitters for sustainable WLED *(tutor: Prof. Claudia Barolo)***