



"Annex 4" updated on 22nd March 2019
(The updates are highlighted in red colour)

ANNEX 4

CALL FOR PHD POSITIONS – 35 cycle
PHD PROGRAMME IN MOLECULAR MEDICINE

PhD Programme Coordinator	Prof. Franco Novelli
Department	Molecular Biotechnology and Health Science
PhD Programme Length	4 years
PhD web site	http://dott-mm.campusnet.unito.it/cgi-bin/home.pl
Course start date	1 st November 2019
Departments involved in PhD programme	Department of Molecular Biotechnology and Health Sciences , Department of Surgical Sciences, Department of Oncology, Department of Clinical and Biological Sciences, Department of Chemistry, Department of Sciences of Public Health and Pediatrics.

Positions offered by the PhD Programme¹	
n. 7 positions with scholarship, of which n. 2 reserved to candidates with international qualifications	of which: - 7 scholarships funded by the University
n. 2 positions without financial support	

Titles of Research Projects / Research Fields

The list of research projects is available at the end of this PhD Programme's annex. This list may be updated until Call's deadline.

Calendar of entrance examinations

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> e <http://en.unito.it/research/phd/phd-programmes> until Call's deadline.



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The calendar with information on dates and venues of entrance examinations shall be published on the websites: <http://www.unito.it/ricerca/fare-ricerca-unito/dottorati-di-ricerca> and <http://en.unito.it/research/phd/phd-programmes> starting from **9th April 2019**.

Useful information for applicants

Application fee: €50.00 for each application submitted. Candidates with international qualifications are exempted from paying the application fee.

Application fee deadline: 16th April 2019 (mandatory deadline) Candidates who do not pay the application fee within the deadline will be excluded from the competition.

CALL FOR NOT-RESERVED (ORDINARY) POSITIONS	
Admission procedure for non-reserved (ordinary) positions	
Assessment of qualifications, written examination and interview	
Qualifications to be uploaded in the on-line application	
<ul style="list-style-type: none">• Application form (<i>duly signed and including identification document/passport</i>)• For applicants with international qualifications: submit on-line documentation as specified in Art. 4 of this Call;• For applicants under condition: provision of Bachelor's degree grade, certificate or self-certification with a complete list of academic transcripts concerning the 1st cycle degree (Laurea Triennale) and 2nd cycle degree (Laurea Magistrale) with marks, weighted average and credits. For applicants applying under condition, please also check Art. 5 of the Call.• Thesis Abstract• Publications• (The research project must be uploaded in the on-line application for the call for ordinary positions)	
Assessment criteria (for non-reserved positions)	maximum score 100 points
Assessment of qualifications:	maximum score 20 points
Final grade of Laurea/ second cycle degree (or list of examinations taken during the Laurea Magistrale/2 nd cycle degree and Laurea Triennale/ 1 st cycle degree for candidates applying under condition) 110L 5 points 110 4 points Da 106 a 109 3 points Da 103 a 105 2 points Da 100 a 102 1 point < 100 0 points	maximum score 5 points



<p>In absence of the final grade, the weighted average of the exams completed in the Laurea Magistrale/2nd cycle degree and Laurea Triennale/ 1st cycle Degree will be evaluated:</p> <ul style="list-style-type: none">• 30 5 points• 28-29 4 points• 27 3 points• 26 2 points• 24-25 1 point• <24 0 points <p>If the decimal part is ≥ 5, the average is rounded up, otherwise it is rounded down.</p>	
Thesis abstract of Master Degree	maximum score 8 points
<p>Publications and other scientific qualifications (up to 7 points)</p> <p>Publications</p> <ul style="list-style-type: none">- Publications will be assessed only if relevant to one of the research fields of the Programme and if their scientific dimension is recognised; not yet published papers will not be evaluated, as well as non-published Master Thesis or other non-published papers;- If meeting the above mentioned requirements, publications will be evaluated as follows:<ul style="list-style-type: none">• Publications with Impact Factor: up to 2 points each• Publications without Impact Factor or chapter of book/monography: up to 1 point each• Abstract or publications about conference papers: up to 0.2	maximum score 7 points



points each	
Other qualifications Titles or traineeships relating to merely professional skills will not be evaluated. If completed, the following will be evaluated: <ul style="list-style-type: none">- Second/additional Master degree: 1 point- Courses at least 5 days long: 0.5 points- Italian specialising master 1st and 2nd level degree if relevant: 1 point- PhD: 2 points- <i>Diploma di scuola di specializzazione</i> (equivalent to Italian specialising school diploma): 2 points- Scholarships / research grants / any other grant for attendance at Health Science Specialisation Schools: 1 point per year of attendance	
<i>Minimum threshold for admission to the written examination</i>	<i>10 points</i>
Written examination	Maximum score: 40 points
<i>Minimum threshold for admission to the interview</i>	<i>20 points</i>
Interview	Maximum score: 40 points
<i>Minimum threshold for passing the interview</i>	<i>20 points</i>
Further information on examinations: In the written examination candidates will have to analyse a scientific article about any of the subject areas covered by the research projects offered by the PhD Programme. They will also have to outline aims, scientific methods, results and conclusions. The interview will cover the qualifications and the publications of the candidates, their professional and studiorum curriculum, according to Europass CV template, and their scientific and cultural interests; it must assess the basic knowledge of the subject needed to successfully attend the programme. The Examination Board will focus on:	



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- The level of knowledge of the subject and how the candidate is able to summarise it;
- The knowledge of the research subject that the candidate chooses from those offered by the PhD Programme ;
- The originality of the research proposal, considering also its interdisciplinarity.

Knowledge of the **English** language is **compulsory**.

Applicants may, on request, take the examinations 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).

CALL FOR POSITIONS RESERVED TO APPLICANTS WITH INTERNATIONAL QUALIFICATIONS

Admission procedure for positions reserved to applicants with international qualifications

Assessment of qualifications and research project

Qualifications to be uploaded in the on-line application

- Application form (*duly signed and including identification document/passport*)
- For international qualifications: submit on-line documentation as specified in Art. 4 of this Call. For applicants applying under condition please check Art. 5
- Thesis Abstract
- Publications
- Research project (max 4000 words, bibliography included) written in English by the candidate choosing a title within those offered by the PhD Programme.

Assessment criteria for positions reserved to applicants with international qualifications	maximum score 100 points
Curriculum studiorum and vitae (as per information provided in the Application Form)	maximum score 5 points
Thesis abstract	maximum score 10 points
Publications and other scientific qualifications	maximum score 25 points
<p>Publications</p> <ul style="list-style-type: none"> - Publications will be assessed only if relevant to one of the research fields of the Programme and if their scientific dimension is recognised; not yet published papers will not be evaluated, as well as non-published Master Thesis or other non-published papers; - If meeting the above mentioned requirements, 	



<p>publications will be evaluated as follows:</p> <ul style="list-style-type: none">• Publications with Impact Factor: up to 2 points each• Publications without Impact Factor or chapter of book/monography: up to 1 point each• Abstract or publications about conference proceedings: up to 0.2 points each <p>Other qualifications</p> <p>Titles or traineeships relating to merely professional skills will not be evaluated.</p> <p>If completed, the following will be evaluated:</p> <ul style="list-style-type: none">- Second/additional Master degree: 1 point- Courses at least 5 days long: 0.5 points- Italian specialising master 1st and 2nd level degree if relevant: 1 point- PhD: 2 points- <i>Diploma di scuola di specializzazione</i> (pertinent Italian specialising school diploma): 2 points- Scholarships / research grants / any other grants for attendance at Health Science Specialisation Schools: 1 point per year of attendance	
Research project	maximum score 60 points
<i>Minimum threshold for admission</i>	<i>60 points</i>
<p>Further information on reserved positions</p> <p>The research project (max 4000 words, bibliography included) written in English, must be carried out by the candidates choosing a title from those offered by the PhD Programme.</p> <p>The examining board will evaluate the scientific dimension of the project, its feasibility related to the length of the PhD, the target setting, the scientific impact of outcomes.</p> <p>Courses are partially (95%) taught in foreign languages.</p>	



**Titoli progetti di ricerca
Dottorato di Ricerca in Medicina Molecolare**

**Titles of research projects
PhD Programme in Molecular Medicine**

1. Dal trapianto allogenico alle T cell therapies: stato dell'arte / From allografting to T cell therapies: state of the art (Supervisore: Prof. Benedetto Bruno)
2. Identificazione e caratterizzazione di modificazioni post-traduzionali come bersaglio di nuovi farmaci antivirali verso gli Herpesvirus umani / Exploiting host post-translational modifications to identify new compounds against human Herpesvirus replication (Supervisore: Prof. Santo Landolfo)
3. Caratterizzazione funzionale della risposta immunitaria adattativa nel tumore pancreatico / Functional characterization of adaptive immune response in pancreatic cancer. (Supervisore: Prof. Francesco Novelli)
4. Meccanismi di morte cellulare nelle malattie neurodegenerative / Cell death mechanisms in neurodegenerative diseases (Supervisore: Prof.ssa Tiziana Crepaldi)
5. Meccanismi di morte cellulare nelle malattie cardiache / Cell death mechanisms in heart disease (Supervisore: Prof.ssa Tiziana Crepaldi)
6. Sintesi e sviluppo pre-clinico di nanomateriali compositi per applicazioni teragnostiche / Synthesis and pre-clinical development of nanocomposites for theranostic applications (Supervisore: Prof.ssa Ivana Fenoglio)
7. Regolazione molecolare dei trasportatori ABC coinvolti nella chemio- ed immuno-resistenza / Molecular regulation of ABC transporters involved in chemo- and immune-resistance (Supervisore: Prof.ssa Chiara Riganti)
8. Regolazione metabolica del metiloma nei tumori dell'apparato digerente / Metabolic regulation of DNA methylation in digestive cancers (Supervisore: Prof.ssa Federica Di Nicolantonio)
9. Studio dei meccanismi di rilascio attivo di DNA da parte delle cellule tumorali con applicazioni in biopsia liquida / The molecular bases of liquid biopsy: dissecting mechanisms of active DNA release in cancer (Supervisore: Prof.ssa Federica Di Nicolantonio)



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10. Caratterizzazione del ruolo dei linfociti B e granulociti nella progressione del tumore pancreatico / Characterisation of the role of B cells and granulocytes in the progression of pancreatic cancer (Supervisore: Dr Paola Cappello)
11. Meccanismi molecolari di controllo della proliferazione, sopravvivenza e differenziamento cellulare in condizioni fisiologiche e patologiche / Molecular mechanisms of cell proliferation, survival and differentiation in physiologic and pathologic conditions (Supervisore: Prof.ssa Defilippi)
12. Studio delle basi molecolari della progressione tumorale / Study the molecular basis of tumor progression (Supervisore: Prof.ssa M. Brancaccio)
13. Meccanismi di adattamento allo stress in cellule normali e tumorali / Mechanisms of stress adaptation in normal- and cancer cells (Supervisore: Prof. V. Calautti)
14. miR-214 come bersaglio terapeutico durante la progressione delle neoplasie / miR-214 as a target for therapy in tumor progression (Supervisore: Prof.ssa Daniela Taverna)
15. Meccanismi molecolari coinvolti nei processi neurodegenerativi / molecular mechanisms of neurodegeneration (Supervisore: Prof. Giorgio Merlo)
16. Approcci di letalità sintetica per migliorare l'efficacia terapeutica degli inibitori del proteasoma / Exploiting synthetic lethal interactions to improve the therapeutic efficacy of proteasome inhibitors (Supervisore: Prof. Roberto Piva)
17. Modelli murini di linfomagenesi delle cellule B mature / Mouse modeling of mature B-cell lymphomagenesis (Supervisore: Prof. Roberto Piva)
18. Terapie genomiche e immunitarie nei tumori del colon-retto / Genomic-driven and immune-mediated therapies in colorectal cancers (Supervisore Prof. Alberto Bardelli)
19. Identificazione e validazione di nuovi bersagli nel tumore gastrico. Identification and validation of new targets in Gastric cancer (Supervisore Prof. Silvia Giordano)
20. Teneurina 4 come possibile bersaglio e biomarcatore in oncologia / Teneurin 4 as potential target and biomarker in oncology (Supervisore: Prof.ssa E. Quaglino)
21. **Ruolo dell'eme nei processi di adattamento metabolico in condizioni fisiopatologiche / Heme impact on metabolic adaptation in physiopathologic conditions (Tutor: Fiorella Altruda)**



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22. Inibizione di pathways immunometabolici per il miglioramento dell'esito di patologie oncologiche e cardiovascolari in combinazione con terapie convenzionali /Tackling immunometabolism to improve the outcome of cancer and cardiovascular disorders in combination with standard therapies (Tutor: Fiorella Altruda)