UNIVERSITÀ DEGLI STUDI DI TORINO

(ANNEX 1)

Document updated on 31/05/2021.

Addenda and corrections are written in red.

CALL FOR PHD POSITIONS – 37th CYCLE

PHD PROGRAMME IN MOLECULAR MEDICINE

Coordinator	Prof. Francesco NOVELLI
Department	Department of Molecular Biotechnology and Health Sciences
Programme Length	4 years
Programme website	https://dott-mm.campusnet.unito.it/do/home.pl
Programme start date	1st November, 2021
Departments involved in the 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 Public Health and Pediatric Sciences

Positions offered by the PhD Programme[1]	
n.12 positions with scholarship, of which n. 1 reserved to candidates with international qualifications	of which: - n. 7 scholarships funded by the University of Torino; - n. 4 scholarships funded by Merck R.B.M. - n. 1 scholarships funded by AIL
n.1 position without scholarship	

[1] Any 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 Doctoral School website Partecipare al Bando/Submitting your application until the Call's deadline.

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ADMISSION PROCEDURE ***(qualifications, including research project + interview)***			
	Max	***Score***	***Information/Application documents***
QUALIFICATIONS		***max. 40***	
Final grade Graduates in Italy		*max. 10*	*Final grade of the degree giving access to PhD* *110L =10* *109-110 = 9* *106-108 = 8* *103-105 = 7* *100-102 = 6* *97-99 = 5* *94-96 = 4* *91-93 = 3* *90 = 2* *> 90 = 1*

Weighted average Graduands in Italy		*max. 10*	*Self-certification of exams taken – Laurea Triennale/Bachelor's Degree and weighted average* *Self-certification of exams taken – Laurea Magistrale/Master's Degree and weighted average* *30 e lode = 10* *30 = 9* *29= 8* *26-28 = 7* *23-25 = 6* *22-24 = 5* *21-23 = 4* *20-22 = 3* *19-21 = 2* *18=1*
CV Graduates in Italy Graduands in Italy		*max. 10*	*OTHER TRAINING = 3* *PREVIOUS RESEARCH AND PROFESSIONAL POSITION(S) / PARTICIPATION TO RESEARCH GROUPS = 3* *FELLOWSHIP(S) = 2* *AWARDS AND PRIZES = 2*

CV Graduates abroad Graduands abroad		*max. 20*	*OTHER TRAINING = 6* *PREVIOUS RESEARCH AND PROFESSIONAL POSITION(S) / PARTICIPATION TO RESEARCH GROUPS = 6* *FELLOWSHIP(S) = 4* *AWARDS AND PRIZES = 4*
Publications	**2**	*max. 5*	2.5 PT. INTERNATIONAL MAGAZINES 1 PT ON NATIONAL MAGAZINES 0.25 PT. CONFERENCE ABSTRACT
Reference letters *(optional)*	**2**	0	
Research Project		*max. 15*	*The research project must include: state of the art, objectives, expected developments and results, bibliography, and be up to 6000 characters long, spaces included and bibliography included* *The research project may contain the motivational letter*
Threshold to be admitted to the next examination		*20*	
INTERVIEW		***max. 60***	*Foreign candidates will face the interview in English*
Threshold to pass the interview (qualified for PhD)		*30*	

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Research topics

PhD Programme in Molecular Medicine

1) Exploiting host post-translational modifications, focusing on citrullination, to identify new compounds against human DNA viruses (Supervisor: Dott.ssa V. Dell'Oste)

2) Ruolo dei miR-214 e miR-148b nell'interazione tra cellule tumorali e stromali durante la progressione del melanoma e del tumore al seno/Role of miR-214 and miR-148b in tumor/stroma cell interactions in melanoma and breast cancer progression (Supervisor: Prof.ssa D. Taverna).

3) Valutazione del ruolo del condroitin solfato proteoglicano (CSPG)4 nella trasformazione oncogenica delle cellule staminali mesenchimali / Evaluation of the role of the chondroitin sulfate proteoglycan (CSPG)4 in the oncogenic transformation of mesenchymal stem cells (Supervisore: Prof.ssa Federica Cavallo)

4) Valutazione del ruolo di xCT, il sistema antiporto cistina/glutammato, nella risposta immunitaria e nella progressione del tumore al seno / Evaluation of the role of xCT, the antiporter system cystine/glutamate, in the immune system and in breast cancer progression (Supervisore: Prof.ssa Federica Cavallo).

5) Sviluppo di nuove combinazioni immunoterapiche per il tumore del pancreas basate sull'uso di antigeni associati al tumore e strategie per colpire il microambiente tumorale. / Development of novel combined immunotherapies FOR pancreatic cancer based on the targeting of Tumor Associated Antigens and Tumor Microenvironment (Supervisore: Prof.Francesco Novelli)

6) Ruolo dell'interleuchina 17A nel determinare la resistenza alla chemioterapia del tumore del pancreas/ Role of IL17A in determining the chemo-resistance of pancreatic cancer (Supervisore Prof.ssa Paola Cappello)

7) Validazione funzionale di nuovi bersagli terapeutici nel tumore mammario basal-like / Functional validation of novel therapeutic targets in basal-like breast cancer (Supervisore: Prof.ssa. V. Poli)

8) Identificazione di nuove sinergie farmacologiche attive nel mieloma multiplo/Exploiting synthetic lethal interactions to improve therapies in multiple myeloma (Supervisore: Prof. R. Piva)

9) Sviluppo di metodi innovativi per la determinazione di anticorpi-anti "drug" / Development of innovative Anti-Drug Antibody immunoassay methods (Supervisore: Prof.ssa F. Altruda)
10) Applicazione della tecnologia CRISPR/CAS9 per la modifica di cellule utilizzate per la produzione biofarmaceutica - Application of CRISPR/CAS9 technology for the modification of cells used for biopharmaceutical production (Supervisore: Prof.ssa F. Altruda)
11) Identificazione di metodi in-vitro per la rilevazione di pirogeni al fine di superare l'effetto di Low Endotoxin recovery (LER) in prodotti farmaceutici /"Design of in-vitro solutions to overcome Low Endotoxin Recovery (LER) effect and detect potential pyrogen contamination in pharmaceutical products. (Supervisore: Prof.ssa F. Altruda)
12) Cardiovascular investigations of new pharmaceuticals with application of non-invasive methods in non-rodent animal species: computerized electrocardiographic techniques, echocardiography, blood pressure and respiratory frequency measurements applied to pre-clinical trials.(Supervisore: Prof.ssa F. Altruda)
13) Caratterizzazione del ruolo delle proteine regolatrici del citoscheletro nei linfomi anaplastici a grandi cellule: nuovi target terapeutici? / Characterization of cytoskeleton regulators as novel oncogenic mechanisms in anaplastic large cell lymphoma: novel druggable vulnerabilities? (Supervisore: Dott.ssa Claudia Voena).

14) L'impatto dei prodotti nutraceutici nella progressione tumorale e nella risposta alle terapie antitumorali / The influence of nutraceuticals on tumor progression and response to anticancer therapies (Supervisore: Prof.ssa F. Di Nicolantonio)
15) L'impatto della restrizione calorica nella progressione tumorale e nella risposta alle terapie antitumorali / The influence of caloric restriction on tumor progression and response to anticancer therapies (Supervisore: Prof.ssa F. Di Nicolantonio)
16) Fisiologia e patologia dell'asse HGF-MET/Physiology and pathology of the HGF-MET pair. (Supervisore: Prof.ssa Tiziana Crepaldi)
17) Nuovi marker predittivi nello sviluppo e nelle metastasi del mesotelioma pleurico maligno: cross-talk tra stress ossidativo e Transizione Epitelio-Mesenchimale (EMT)./New predictive markers in malignant pleural mesothelioma development and metastasis: cross-talk between oxidative stress and Epithelial Mesenchymal Transition (EMT) (Supervisore: Prof.ssa E. Aldieri).
18) Analisi delle caratteristiche molecolari e metaboliche che influenzano l'efficacia degli inibitori di immuno-checkpoints nel carcinoma polmonare/Analaysis of the molecular and metabolic features that influence the efficacy of the immune checkpoint inhibitors in lung cancer (Supervisore: Prof.ssa C. Riganti)

19) Circuiti metabolici e molecolari legati al genere nella risposta alla chemioterapia ed all'immunoterapia/Gender-related metabolic and molecular circuitries modulating the response to chemotherapy and immunotherapy (Supervisore: Prof.ssa C. Riganti)

20) Caratterizzazione molecolare e biologica di cellule tumorali circolanti (staminali) da tumori di origine sconosciuta per identificare determinanti metastatici/Molecular and biological characterization of Circulating Tumor (stem) Cells from Cancer of Unknown Primary to uncover metastatic determinants (Supervisore: Prof.ssa C.Boccaccio)

21) Identification of mechanisms of resistance to targeted therapies./Individuazione dei meccanismi di resistenza alle terapie mirate. (Supervisore: Prof.ssa S.Giordano)

22) Superamento dei meccanismi di resistenza alle terapie mirate contro KRAS e HER2 nel carcinoma colorettale. /Overcoming KRAS and HER2 mediated resistance to targeted therapies in colorectal cancer (Supervisore: Prof. A. Bardelli)

23) Deregolazione delle vie di riparazione del DNA nei tumori del colon-retto./Deregulation of DNA repair pathways in colorectal tumors (Supervisore: Prof. A Bardelli)

24) Precision medicine in blood cancer: from phase I studies to next generation immunotherapy/Medicina di precisione nei tumori del sangue: dagli studi di fase I all'immunoterapia di seconda generazione (Supervisore: Prof. M.Massaia)

25) Le nuove frontiere dell'immunoterapia applicate alle neoplasie ematologiche / Next generation of targeted immunotherapy in hematological malignancies (Supervisore: Prof. M.Massaia)

26) Modelli animali per lo studio preclinico di patologie umane/Animal models for the preclinical study of human pathologies (Supervisore: Prof.ssa F. Altruda)