



UNIONE EUROPEA



Università degli Studi di Cagliari

**PhD Course in MOLECULAR AND TRANSLATIONAL MEDICINE**

Curriculum 1: Molecular Oncology and Pathology

Curriculum 2: Nutritional and Metabolic Sciences

DISCIPLINARY SCIENTIFIC AREA	06 - MEDICAL SCIENCES; 05 - BIOLOGICAL SCIENCES; 03 - CHEMICAL SCIENCES
COORDINATOR	PROF. AMEDEO COLUMBANO
HEAD DEPARTMENT	DEPARTMENT OF BIOMEDICAL SCIENCES
DURATION	3 YEARS
EDUCATIONAL OBJECTIVES AND RESEARCH TOPICS	<p>The three-year program in Molecular and Translational Medicine at UniCA offers an interdisciplinary training of study and research that provides students with the knowledge and research skills required for a successful research career in biomedical sciences. The Program has two research tracks, molecular oncology and pathology, and nutritional and metabolic sciences, which together encompass interdisciplinary research and graduate training program suited for training young scientists for future appointments in academic institutions, research centers, or the biotech industry. The faculty comprises over 30 high rank Italian and international scientists, whose scientific interests cover a wide range of biomedical topics highly relevant to human health. PhD students in the molecular oncology and pathology track investigate genetic/epigenetic alterations and molecular epidemiology of solid and hematologic cancers, cancer biomarkers of diagnostic and prognostic value, genes involved in the pathogenesis of rare genetic diseases, molecular mechanisms of neurodegeneration, molecular pathogenesis of infectious diseases and interactions of pathogens with the host. PhD students in the nutritional and metabolic sciences track investigate molecular mechanisms of neuronal and endocrine systems, consequences of deficiencies of specific nutrients or supplements on the functionality of peripheral systems and CNS, impact of dietary habits and of physical activity in terms of neoplastic diseases and neurological, endocrine, gastroenterological, gynecological and cardiological disorders.</p>
ELIGIBILITY AND OTHER REQUIREMENTS FOR CANDIDATES	<p>LM-6 Biologia            LM-9 Biotecnologie mediche, veterinarie e farmaceutiche            LM-13 Farmacia e farmacia industriale            LM-41 Medicina e chirurgia            LM-61 Scienze della nutrizione umana            LM-70 Scienze e tecnologie alimentari            6/S (specialistiche in biologia)            9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche)            14/S (specialistiche in farmacia e farmacia industriale)            46/S (specialistiche in medicina e chirurgia)            69/S (specialistiche in scienze della nutrizione umana)            78/S (specialistiche in scienze e tecnologie agroalimentari)            and all the equivalent degrees awarded according to the old Italian Regulations.</p> <p>Academic qualification issued by a foreign university, comparable in duration and content to the Italian titles requested and providing access to PhD courses in the country of achievement, recognized as equivalent degrees in Medicine, Biology, Pharmacy, Biotechnology; Pharmaceutical</p>



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	Chemistry, Human nutrition.
ADMISSION TESTS	ASSESSMENT OF QUALIFICATIONS, CURRICULUM VITAE, WRITTEN TEST AND INTERVIEW. The written exam and the interview can be performed in English.
ADMISSION TESTS FOR FOREIGN CANDIDATES APPLYING FOR RESERVED POSITIONS SUPPORTED BY A SCHOLARSHIP	EVALUATION OF THE CURRICULUM VITAE, REFERENCE LETTERS AND INTERVIEW. The interview can be performed by teleconference (skype) with audio and video modality that allows the verification of the identity of the candidate. The curriculum vitae and letters of reference must be written in English. The assessment of the language skill of the candidate will be performed by a short discussion in English
TOPICS OF WRITTEN TEST	<ul style="list-style-type: none"> <li>- Cell cycle and its alterations in cancer development</li> <li>- Genetic/epigenetic modifications in cancer development</li> <li>- Prognostic/diagnostic tumor markers associated and cell tumor biology</li> <li>- Genes and pathogenesis of rare genetic diseases.</li> <li>- Cellular and molecular interactions between host and pathogens</li> <li>- Immunological, metabolic and/or redox changes in pathological processes</li> <li>- Nutrition and pathophysiology of nervous, endocrine, gastroenterological and cardiovascular system</li> <li>- Effect of dysmetabolic and nutritional changes on adverse effects of therapy</li> </ul>
POSITIONS	8
SCHOLARSHIPS	5 UNIVERSITY OF CAGLIARI (1 RESERVED FOR FOREIGN CANDIDATES); 1 CRS4, PROGETTO DI RICERCA "Understanding cancer evolution by Next Generation Sequencing". It will be awarded to a candidate successfully positioned in the ranking list, obtaining the best score and a positive evaluation on the adequacy of his/her CV in carrying out the specific research topic connected to this scholarship.
POSITIONS WITHOUT SCHOLARSHIP	2
REFERENCE PERSON	PROF. AMEDEO COLUMBANO - EMAIL: columbano@unica.it - TEL. +390706758345 - +390706758346; PROF. ANDREA RINALDI - EMAIL: rinaldi@unica.it - TEL. +390706754521 FAX: 0706754527
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