



UNIVERSITÀ  
DEGLI STUDI  
DEL MOLISE

DIVISIONE RISORSE E SERVIZI  
AREA SERVIZI AGLI STUDENTI  
COORDINAMENTO SEGRETERIE STUDENTI  
SETTORE DOTTORATI DI RICERCA

## PhD Course in CLINICAL AND TRANSLATIONAL MEDICINE (DOT1439800)

<b>Coordinator</b>	Prof. Marco Sarchiapone e-mail: marco.sarchiapone@unimol.it	
<b>CUN Areas</b>	05 - Biological science 06 – Medical science 09 - Industrial and information engineering 13b - Economics and business sciences	
<b>S.S.D.</b>	MED/07, MED/09, MED/10, MED/11, MED/16, MED/25, MED/30, MED/33, MED/36, MED/37, MED/49, ING-IND/11, ING-INF/05, M-EDF/01, BIO/16, SECS-P/07	
<b>Short description</b>	The proposed PhD Course aims to form new highly professional profiles in the biomedical area, able to use advanced research technologies and interested in the implementation of research results. For this purpose, students will be provided with scientific methods and skills necessary to tackle innovative topics of a highly multidisciplinary and transversal nature, with a great impact on the basic research on the clinical management of the patient and his/her pathologies of interest, using an advanced therapeutic approach, with the support of mathematical models and the related computational analysis. In particular, a new approach to the medicine will be developed and consolidated, using "big data" analysis, through the use of Artificial Intelligence algorithms and designing new quantitative and formal methods in order to pursue a more precise and effective approach to pathogenesis of diseases. The learning outcomes are aimed at acquiring transversal skills in the medical, engineering and IT areas. Information on the organization of the PhD activities is available on the web page of the PhD Program: <a href="http://dipmedicina.unimol.it/dottoratodipmed/">http://dipmedicina.unimol.it/dottoratodipmed/</a>	
<b>Web Site</b>	<a href="http://dipmedicina.unimol.it/dottoratodipmed/">http://dipmedicina.unimol.it/dottoratodipmed/</a>	
<b>Course length</b>	01/12/2021 – 30/11/2024	
<b>Available positions MACROAREA INNOVATION (Action IV.4)</b>	<b><u>Position with scholarship with a restricted theme (INNOVATION)</u></b>  <i>"Innovative and formal technologies for the early diagnosis of Covid-19"</i> ➤ <u>Company: n. 9 months</u> at Datasound s.r.l. Spin-off dell'Università degli Studi del Molise C.da Fonte Lappone, snc – 86090 Pesche (IS).	<b>1</b>
	<b><u>Position with scholarship with a restricted theme (INNOVATION)</u></b>  <i>"Instrumental methods for the evaluation of the breech load in relation to the stimuli of the different postural receptors"</i> ➤ <u>Company: n.6 months</u> at Ortopedia Formisano SRL, viale Europa 122, Castellammare di Stabia (NA)	<b>1</b>
<b>Available positions MACROAREA GREEN (Action IV.5)</b>	<b><u>Position with scholarship with a restricted theme (GREEN)</u></b>  <i>"Study of multifunctional Nature-based solutions (NBS) for the improvement of urban sustainability"</i> ➤ <u>Company: n. 6 months</u> at Stress S.c.ar.l.- Vico II San Nicola alla Dogana n°9, 80133 - Napoli – Italia	<b>1</b>
	<b><u>Position with scholarship with a restricted theme (GREEN)</u></b>  <i>"Eco-sustainability in antibiotic resistance"</i> ➤ <u>Company: n. 6 months</u> at FB-Vision S.p.A., Via San Giovanni Scafa – San Benedetto del Tronto – 63074 (AP)– Italia.	<b>1</b>



<b>Admission requirements</b>	<p>A university degree obtained after 2-year specialization courses in:</p> <p>LM-6 Biology  LM-8 Industrial Biotechnology  LM-9 Medical, Pharmaceutical and Veterinary Biotechnologies  LM-13 Pharmacy and Industrial Pharmacy  LM-18 Computer Science  LM-21 Biomedical Engineering  LM-22 Chemical Engineering  LM-25 Automation Engineering  LM-29 Electronic Engineering  LM-30 Energy and Nuclear Engineering  LM-32 Computer Engineering  LM-33 Mechanical Engineering  LM-41 Medicine and Surgery  LM-51 Psychology  LM-53 Science and Materials Engineering  LM-61 Human Nutrition  LM-66 Cyber Security  LM-67 Sciences and Techniques of Preventive and Adapted Physical Activities  LM-77 Economic and business sciences  LM/SNT1 Nursing and Obstetrics  LM/SNT2 Rehabilitative Medicine  LM/SNT3 Technical Health Professionals  LM/SNT4 Preventive Health Professionals  LM-67 Sciences and techniques of preventive and adaptive motor activity  6/S Biology  9/S Medical, Pharmaceutical, and Veterinary Biotechnologies  14/S Pharmacy and Industrial Pharmacy  26/S Biomedical Engineering  27/S Chemical Engineering  33/S Energy and Nuclear Engineering  36/S Mechanical Engineering  46/S Medicine and Surgery  58/S Psychology  63/S Cognitive Sciences  69/S Human Nutrition  76/S Preventive and Adaptive Physical Activity  84/S Management Studies  SNT_SPEC/1 Nursing and Obstetrics  SNT_SPEC/2 Rehabilitative Medicine  SNT_SPEC/3 Technical Health Professionals  SNT_SPEC/4 Preventive Health Professionals</p> <p>For candidates who have acquired the qualification abroad, the latter must be equivalent with those indicated above.</p>
<b>Assessable qualifications and relative score</b>	<p><b>List of assessable qualifications</b> (score up to a maximum of <b>20/80</b>):</p> <ul style="list-style-type: none"> <li>• Final degree mark. If the candidate has not obtained the degree at the time of submission of the application, instead of the graduation mark, the weighted average of the marks of the exams will be taken into consideration (max 8 points)</li> <li>• Qualifications proving the candidate's training and skills (research activity at universities and research centres, scholarships, research grants, awards, study and research experiences abroad) (max 4 points)</li> <li>• Scientific publications on international/national journals with peer review (max 3 points)</li> <li>• Oral communications and posters to national/international conferences (max 2 points)</li> <li>• Other qualifications certified by higher educational institutions (second level degrees, specialization courses) (max 3 points)</li> </ul>
<p><b>In the evaluation of the applications and with particular reference to the project proposal submitted by the candidates, the Commissions will also take into account the criteria (art. 7 of the call), pursuant to art. 3 of D.M. 1061 of 10.08.2021.</b></p>	
<b>Examination themes and interview</b>	<p><b>Research project</b> (score up to a maximum of <b>20/80</b>)</p> <p>Candidates are required to prepare a research project proposal to be submitted along with the application must be dated and signed.</p>



	<p>Candidates are required to prepare a research project proposal opportunely dated and signed.</p> <p>This research proposal, consistent with second-level degree, should be focused on <b>one</b> of the following <b>innovation theme</b>:</p> <ol style="list-style-type: none"> <li>1. <i>"Innovative techniques for forest mapping and monitoring, aimed at studying the impacts of activities related to forest production and extreme events (INNOVATION THEME);"</i></li> <li>2. <i>"Instrumental methods for the evaluation of the breech load in relation to the stimuli of the different postural receptors" (INNOVATION THEME)</i></li> </ol> <p>This research proposal, consistent with second-level degree, should be focused on <b>one</b> of the following <b>Green theme</b>:</p> <ol style="list-style-type: none"> <li>1. <i>"Study of multifunctional Nature-based solutions (NBS) for the improvement of urban sustainability" (GREEN THEME)</i></li> <li>2. <i>"Eco-sustainability in antibiotic resistance" (GREEN THEME)</i></li> </ol> <p><b>Interview</b> (score up to a maximum of <b>40/80</b>)</p> <p>The oral exam will consist in the oral presentation of the research proposal and in a discussion of the technical and scientific topics related to it. Knowledge of the English language will also be checked. For this purpose, candidates can choose to make their presentation and related discussion in English.</p>
<b>Criteria for the evaluation</b>	<p>The evaluation of qualifications and the project proposal is a prerequisite for admission to the oral exam. The results of the first phase of evaluation will be published, as soon as they are available, on the University website at <a href="https://www2.unimol.it/dottorato/">https://www2.unimol.it/dottorato/</a></p> <p>To be admitted to the oral exam, the candidate must report a score of not less than <b>20/80</b> (given by the sum of the evaluation of assessable qualifications and the project proposal).</p> <p>The maximum score achievable by each candidate is 80/80, based on the following breakdown:</p> <ul style="list-style-type: none"> <li>• <i>20/80 assessable qualifications</i></li> <li>• <i>20/80 evaluation of the project attached to the application</i> <ul style="list-style-type: none"> <li>○ Consistency of the project proposal with the themes reported in the call (max 5 points)</li> <li>○ Originality of the project and the contribution to knowledge in the area (max 6 points)</li> <li>○ Clarity used to identify and describe the research objectives (max 3 points)</li> <li>○ Project structure and feasibility (max 3 points)</li> <li>○ Organization and synthesis (max 3 points)</li> </ul> </li> <li>• <i>40/80 oral presentation concerning the discussion of the presented project:</i> <ul style="list-style-type: none"> <li>○ Clarity and mastery of knowledge in the area of the project - state of the art (max 13 points)</li> <li>○ Clarity of the candidate to expose and describe the objectives, originality, expected results, contribution to the knowledge of the area and any application implications of the proposed research (max 15 points)</li> <li>○ Candidate's ability to discuss the structure of the project, including methods (max 12 points)</li> </ul> </li> </ul> <p>The results of the II phase of evaluation will be published, as soon as they are available, on the University website at the link: <a href="https://www2.unimol.it/dottorato/">https://www2.unimol.it/dottorato/</a></p>
<b>Ranking</b>	Candidates with an overall score of at least <b>40/80</b> points will be included in the overall merit ranking.
<b>Date of the Interview</b>	Date: 8 <sup>th</sup> November, 2021 at 10:00 a.m. (Rome Time); the agenda of the interviews will be defined by the Selection Committee depending on the number of candidates admitted



	to oral exam. Place: Google Meet – (link will be sent to candidates).
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