

## TRASLATIONAL MEDICAL AND SURGICAL SCIENCES

<b>CYCLE</b>	<b>XL</b>
<b>COORDINATOR</b>	Prof. Nicola SVERZELLATI email: <a href="mailto:nicola.sverzellati@unipr.it">nicola.sverzellati@unipr.it</a> Department of Medicine and Surgery
<b>DURATION</b>	3 years
<b>STARTING DATE OF THE PHD PROGRAM</b>	01/11/2024
<b>POSITIONS PUT OUT TO COMPETITION</b>	<b>11</b>
<b>ADMISSION PROCEDURES</b>	Assessment of QUALIFICATIONS and Research Project Oral Exam in PRESENCE
<b>ADMISSION REQUIREMENTS</b>	Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission: <ul style="list-style-type: none"> <li>– Laurea specialistica or Laurea magistrale (second cycle master's degree)</li> <li>– Laurea Vecchio Ordinamento (degree obtained under the previous Italian regulations);</li> <li>– Second cycle Master's degree obtained abroad, equivalent to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral program</li> </ul> Undergraduates can also apply for admission to the selection, with the obligation to obtain the degree <b>by 31.10.2024</b>
<b>TRAINING OBJECTIVES</b>	
<p>The PhD Program in Translational Medical and Surgical Sciences is a multidisciplinary program, in which the common denominator of the various research activities conducted by the PhD students is represented by the application of the acquired knowledge to clinical practice. In fact, the close link between preclinical and clinical research will allow discoveries and methodological skills acquired through experimental studies to be transferred into medical practice. Such a link will enable PhD students to deal with real problems, ranging from diagnosis to therapy and from prevention to rehabilitation, all of which deeply connected with human diseases and patient care.</p> <p>The bidirectional exchange between lab and clinical research will bring back to the lab the results of clinical and epidemiological observations, and at the same time it will anchor experimental research to issues that originate from real-world inputs and tests carried out directly on humans.</p> <p>Therefore, the final goal of the PhD Program in Translational Medical and Surgical Sciences is to provide a highly qualifying training to the PhD students, offering them opportunities, skills and technological resources necessary to practice translational research at a high level in either public or private Institutions, national or international, including, but not limited to, Universities, Research Institutes and PharmaMed Industries.</p>	
<b>RESEARCH AREAS</b>	
<ol style="list-style-type: none"> <li>1. Stem cells in the diagnosis and treatment of neoplasms, chronic and degenerative disorders, cardiovascular diseases and musculoskeletal diseases;</li> <li>2. Translational medicine and immunologic dysregulation of gastrointestinal, respiratory, infective, haematological, oncological, endocrinological, nephrological and dermatological diseases, and of vasculitis;</li> <li>3. Plasticity, function and diagnostic-therapeutic use of genomic, transcriptomic, proteomic and metabolomic platforms of cells, organs and tissues to prevent or treat neoplasms, infections, chronic and degenerative diseases, metabolic dysfunctions, obstetrics and neonatal diseases as well as in response to environmental factors, lifestyles and drugs;</li> <li>4. Development and “theragnostic” function of imaging and technologically advanced phenotyping platforms to prevent or treat neoplasms, infections, chronic and degenerative diseases, metabolic dysfunctions, obstetrics and neonatal diseases as well as in response to environmental factors, lifestyles and drugs;</li> <li>5. Development and application of technologically advanced devices (i.e. biological devices), to measure and support and/or replace the function of cells, tissues or organs in medical and/or surgical diseases;</li> </ol>	

6. Advanced and innovative strategies for recovery and functional rehabilitation to prevent or treat neoplasms, infections, chronic and degenerative diseases, metabolic dysfunctions, obstetrics and neonatal diseases as well as in response to environmental factors, lifestyles and drugs;
7. Role of governance and organization of healthcare systems and services in the prevention and care of disorders with a potentially high social and economic impact, including, but not limited to, environmental and professional diseases;
8. Role of microbiota and microbiome in translational medicine and surgery;
9. Retrieval and role of “big data” in translational medicine and surgery;
10. Role of advanced technologies, including robotics, in translational surgery;
11. Role of qualitative and quantitative imaging in the diagnosis of neoplasms, infections and chronic degenerative diseases.

Position with Scholarship		
N°	Funding entity	Research Topic, if any
3	Scholarship funded by University of Parma (Ministerial funds)	

Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 6 of the Competition notice)		
N°	Funding entity	BOUND RESEARCH TOPIC
2	Scholarship funded by Department of Medicine and Surgery (funds Project Human Technopole Foundation Convention – ECF)	<ul style="list-style-type: none"> <li>• Molecular characterisation of interaction partners of distal cholesterol biosynthesis genes</li> <li>• Identification of interaction partners of cholesterol biosynthesis intermediates with data mining and machine learning approaches</li> </ul>
1	Scholarship partly financed with UNIVERSITY funds and co-financed by the Department of Medicine and Surgery (funds Project “MFAG AIRC Storti”)	Study of the bone microenvironment in monoclonal gammopathies progression
1	Scholarship partly financed with UNIVERSITY funds and co-financed by the Department of Medicine and Surgery (funds Project “POS-T3-AN_5”)	Functional Chemogenomics for Malignant Neoplasia Personalized Therapies
1	Scholarship co-financed with funds under the PNRR - Mission 4 component 2 (Ministerial Decree 630/2024) and co-financed by the Company ViroStatics S.r.l. CUP D92J24000350004	Effects of myrteclitib, a cycline-dependent kinases inhibitor, in malignant pleural mesothelioma models

POSITION RESERVED	
Reserved to <b>Holders of SCHOLARSHIP FUNDED BY FOREIGN STATES (Germany)</b>	1
Reserved to <b>Holders of RESEARCH GRANT</b> within the Project MARIE SKŁODOWSKA-CURIE ACTIONS – COFUND “Training Future Big Data Experts for Europe (FutureData4EU)”	2

ADMISSION PROCEDURES	
<b>Assessment of QUALIFICATIONS:</b> up to 45points <b>ORAL EXAM:</b> up to 75 points <b>Minimum score for ELIGIBILITY:</b> 70/120	
<b>ADMISSION PROCEDURES for positions reserved to holders of scholarship funded by foreign States</b>	<b>Assessment of QUALIFICATIONS: up to 120 points</b> <b>Minimum score for ELIGIBILITY: 70/120</b>

ORAL EXAM PROGRAM		
<b>THE ORAL EXAM TAKES IN PRESENCE</b> and with the possibility of carrying out the interview <b>REMOTELY</b> only for candidates unable to take the exam in person for valid personal and/or health reasons. To this end, candidates must submit a <b>motivated REQUEST</b> as per the model attached to the competition announcement)		
The ORAL test involves the presentation and discussion of the research project by the candidate and is aimed at verifying the candidate's aptitude for scientific research and his general preparation on topics related to the research topics of the doctoral course		
<b>Foreign Language</b> the fluency of which shall be assessed during the Oral Exam	<b>ENGLISH</b>	The knowledge of the English language will be assessed orally and will consist in reading and translating a scientific text

SCHEDULE OF THE ADMISSION EXAMS		
<b>ASSESSMENT OF QUALIFICATIONS</b>	It is the candidate's responsibility to verify the outcome of the evaluation of qualifications, which can be consulted in their reserved area by connecting to the page <a href="http://unipr.esse3.cineca.it/Home.do">http://unipr.esse3.cineca.it/Home.do</a> in the days preceding the date of the Oral Exam	
<b>ORAL EXAM</b>	<b>DATE</b>	29 <sup>th</sup> August 2024 (with possible extension to the following day)
	<b>TIME</b>	09:00 am (Italian Time)
	<b>PLACE</b>	ROOM A (ROOM B in case of extension to August 30 <sup>th</sup> ) INTEGRATED BIOTECHNOLOGICAL PLEXUS Via Volturno, 39 – 43125 PARMA - ITALY
<b>FURTHER INFORMATION</b>	<b>The choice of the Research Topic to be expressed in Annex A is not binding on the assignment of the research project, and it is intended to assess candidates skills during the admission exam. <u>The PhD research topic will be assigned by the Academic Board.</u></b>	
	<b>THE INTERVIEW MAY BE HELD ALSO IN ENGLISH</b>	

LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT	
MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION	
<b>ANNEX A</b>	(art. 3.2 of the Competition notice)

<b>Identification Document</b>	Scanned Copy of a valid identity document with photo (i.e. identity card, passport)	
<b>Curriculum Vitae et studiorum</b>	No specific CV format is required (see art. 3.2 of the Competition notice)	
<b>Abstract of degree thesis</b>	Abstract of the second cycle master's degree thesis. Undergraduate applicants must submit the draft of the thesis approved by their supervisor (abstract/draft of the thesis: 10.000 characters including spaces)	
<b>Academic Qualifications</b>	<b>Certificates and academic transcript of records for both Bachelor' and Master' degrees</b> containing the following details for each degree held: (art. 3.2 of the Competition notice): University that granted the degree - Type of degree (first cycle/second cycle/single cycle) Name of the degree program - Date of graduation - Final mark - List of exams and corresponding scores (academic transcript of records) - Translation into Italian or English (only for degrees issued in languages other than Italian or English).	
<b>Research Project</b>	Written in Italian or in English, according to the format attached to the competition notice It will have to focus on an original research topic ( <b>unpublished, developed personally by the candidate, PENALTY NOT EVALUATION. It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project</b> ) <u>It does not represent a constraint with respect to the following choice of the doctoral thesis, which will be assigned by the Academic Board</u>	
<b>LIST OF EVALUABLE QUALIFICATIONS</b> (only qualifications attested by a document drawn up in Italian or in English)		
<b>Curriculum Vitae et studiorum</b>	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. The marks of the exams and the graduation mark will be the most relevant element of the evaluation.	<b>Up to 9 points</b>
<b>Graduation mark</b>	Score assignable for the final mark: - 110 with honours (magna cum laude): 5 points - 110: 3 points - From 106 to 109: 2 points - From 102 to 105: 1 point	<b>Up to 5 points</b>
<b>Average of the exam marks</b> (if the applicant will attain the degree no later than 31 <sup>st</sup> October 2024)	Score assignable for the average of the exam marks: - 30/30: 5 points - From 28/30 to 29/30: 3 points - From 26/30 to 27/30: 2 points - From 24/30 to 25/30: 1 point	<b>Up to 5 points</b>
<b>Graduation thesis</b>	Congruence with the research topics of the PhD course and quality of the research methodology	<b>Up to 2 points</b>
<b>Research Project</b>	Score assignable for the research project: <ul style="list-style-type: none"> <li>○ Scientific value and ground-breaking nature of the proposal: max 8 points</li> <li>○ Description and structure of the proposal: max 2 points</li> <li>○ Proposal feasibility: 1 point</li> <li>○ Congruence with the training objectives of the PhD program: 1 point</li> </ul>	<b>Up to 10 points</b>
<b>Statement of Research Interest</b>	Short text – maximum 1 page – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program and at describing her/his specific research interests	<b>Up to 1 point</b>
<b>Scientific Publications</b>	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.	<b>Up to 9 points</b>

<b>Reference Letters</b>	A maximum of 2 letters, written by Professors or Researchers from the applicant's University or from other Universities or from experts in the research field working in public or private research facilities. The reference letters must be produced on the letterhead of the University/Operating Unit/Structure of the Referee and attached to the online application by the applicant.	<b>Up to 3 points</b>
<b>Other Academic qualifications</b>	<ul style="list-style-type: none"> <li>• Second level Master's degree and Specialization: 3 points</li> <li>• First level Master's degree and/or Advanced training and/or specialization and/or Higher Education course: 1 point</li> </ul>	<b>Up to 3 points</b>
<b>Other experiences (training, work, research, teaching, etc.)</b>	<ul style="list-style-type: none"> <li>• Research activities (basic, applied, translational, etc.) carried out in any way, including those covered by research grant, and conducted as a staff member of research units</li> <li>• Working activity</li> <li>• Activities at accredited laboratories</li> <li>• Professional and/or training internship</li> <li>• Language proficiency certificates</li> <li>• Periods of study abroad, outside the country of origin (e.g. Erasmus or similar programmes)</li> </ul> <p>Other qualifications attesting the suitability of the applicants (scholarships, awards, etc.)</p>	<b>Up to 3 points</b>
<b>LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT</b> <b>Positions reserved to holders of scholarship funded by Foreign States</b>		
<b>Curriculum Vitae et studiorum</b>	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. o specific CV format is required	<b>Up to 20 points</b>
<b>Graduation thesis</b>	Congruence with the research topics of the PhD course and quality of the research methodology	<b>Up to 8 points</b>
<b>Research Project</b>	<p>Written in Italian or in English, according to the format attached to the competition notice</p> <p>It will have to focus on an original research topic (<b>unpublished, developed personally by the candidate, PENALTY NOT EVALUATION. It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project</b>)</p> <p><u>It does not represent a constraint with respect to the following choice of the doctoral thesis</u>, which will be assigned by the Academic Board.</p> <p>Score assignable for the research project:</p> <ul style="list-style-type: none"> <li>o Scientific value and ground-breaking nature of the proposal: 30 points</li> <li>o Description and structure of the proposal: 20 points</li> <li>o Proposal feasibility: 10 points</li> </ul>	<b>Up to 60 points</b>
<b>Statement of Research Interest</b>	Short text – maximum 1 page – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program and at describing her/his specific research interests	<b>Up to 4 points</b>
<b>Scientific Publications</b>	Articles and/or reviews published on peer-reviewed scientific journals, abstracts of papers or posters presented at conventions or meetings; book chapters, etc.	<b>Up to 10 points</b>
<b>Reference Letters</b>	A maximum of 2 letters, written by Professors or Researchers from the applicant's University or from other Universities or from experts in the research field working in public or private research facilities.	<b>Up to 6 points</b>

	The reference letters must be produced on the letterhead of the University/Operating Unit/Structure of the Referee and attached to the online application by the applicant.	
<b>Other Academic qualifications</b>	First or second level Master's degree obtained in Italy and/or specialization degree in subjects consistent with the research topics of this PhD program	<b>Up to 6 points</b>
<b>Other experiences</b>	<ul style="list-style-type: none"> <li>• Research activities (basic, applied, translational, etc.) carried out in any way, including those covered by research grant, and conducted as a staff member of research units</li> <li>• Working activity</li> <li>• Activities at accredited laboratories</li> <li>• Professional and/or training internship</li> <li>• Language proficiency certificates</li> <li>• Periods of study abroad, outside the country of origin (e.g. Erasmus or similar programmes)</li> <li>• Other qualifications attesting the suitability of the applicants (scholarships, awards, etc.)</li> </ul>	<b>Up to 6 points</b>
<b>EVALUATION ORAL EXAM</b>		
<b>Interview Program</b>	<b>Evaluation CRITERIA</b>	<b>POINTS</b>
The ORAL EXAM includes the presentation of the research project and is intended to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course	<ul style="list-style-type: none"> <li>○ Ability to argument the project proposal: up to 28 points</li> <li>○ Discussion of the critical points of the project: up to 18 points</li> <li>○ Ability to provide an adequate scientific context to the project proposal: up to 12 points</li> <li>○ Ability to mitigate risks deriving from unexpected results: up to 10 points</li> <li>○ Knowledge of the English language: up to 7 points</li> </ul>	<b>Up to 75 points</b>