DOCTORAL PROGRAM
IN
CLINICAL SCIENCES

Director prof. Gian Maria Rossolini

XXXIX cycle – academic year 2023/2024

BIOMEDICAL AREA	
ADMINISTRATIVE OFFICE	Department of Experimental and Clinical Medicine
CURRICULA	**1.** Clinical Pathophysiology and Pathophysiology of Aging, Emergency Medicine, and Nursing Sciences **2.** Clinical and Experimental Medicine and Radiology **3.** Clinical Pathology, in Musculoskeletal Diseases and Calcified Tissues **4.** Anesthesiology, Pain Therapy and Surgical Sciences **5.** Psychology **6.** Global Health, Occupational Health, and International Cooperation on Moving Populations
	AVAILABLE POSITIONS: 9 Positions with Scholarship: 7 Position without Scholarship: 2* ** standard ranking only*
RANKING LIST FOR STANDARD POSITIONS SCHOLARSHIPS AVAILABLE: 6	University of Florence
RANKING LISTS FOR POSITION WITH SPECIFIC RESEARCH TOPIC SCHOLARSHIP AVAILABLE: 1	**NRRP –** European Union – NextGenerationEU **Thematic:** "International REgistry of COnservative or Radical Treatment of Localized Kidney Tumors - the i-RECORd project" Missione 4 "Istruzione e Ricerca" - Componente 2 "Dalla ricerca all'impresa" Ecosistemi dell'Innovazione – THE Tuscany Healthcare Ecosystem CUP: B83C22003920001, cofunded by Department of Experimental and Clinical Medicine by project CARMKONP19+20100_M8189
STUDY/RESEARCH PERIODS ABROAD	1-3 months
DOCUMENTS REQUIRED FOR THE ADMISSION (under penalty of exclusion)	• Copy of the Identification Document • Self-declaration for qualifications obtained in Italy (laurea Triennale, Specialistica o Magistrale o ciclo unico) with a list of all exams taken and their marks, title of the thesis and graduation mark

<table>
<tr><td></td><td>(download the form here make sure you fill in in all the fields)

• Qualifications obtained abroad (Bachelor’s and Master Degrees or combined cycle Degree) with a list of all exams taken and their marks, title of the thesis and graduation mark.

The same documentation except for the final mark must be submitted by those who will graduate by 31/10/2023</td></tr>
<tr><td>DOCUMENTS REQUIRED FOR THE EVALUATION</td><td>MANDATORY
• Curriculum Vitae et Studiorum (European Format)
• Research Project
• Copy of the M.Sc. Thesis (or equivalent)

OPTIONAL
• Publications and qualification documents (if any)</td></tr>
<tr><td>RESEARCH PROJECT</td><td>The Research Project must be written in English in a document containing a maximum of 12,000 characters, including spaces and notes, it must include abstract, introduction, methods, expected results, and references. The Project must refer, in a specific way, to at least one of the topics listed in the "Thematics" section.
The candidate can either submit the same research project for the standard positions and for the position with specific research topic or submit several separate projects. The application must, however, clearly specify to which position refers each project.</td></tr>
<tr><td>INTERVIEW MODE</td><td>Remotely (videocall)

The interview can be conducted in English language.</td></tr>
<tr><td>INFORMATION ABOUT THE INTERVIEW</td><td>The interview consists of a discussion of the research project for the purpose of evaluating the candidate's research aptitude.</td></tr>
<tr><td>EVALUATION MARKS</td><td>
<table>
<tr><th>parameter</th><th>minimum score</th><th>maximum score</th></tr>
<tr><td>Curriculum vitae, research project, publications and other qualification documents (if any)</td><td>40/120</td><td>60/120</td></tr>
<tr><td colspan="3">Applicants who obtain a mark of at least 40/120 in the evaluation of the above parameters will be admitted to the interview</td></tr>
<tr><td>Interview: discussion of the research project to assess applicant’s aptitude for research</td><td>40/120</td><td>60/120</td></tr>
<tr><td colspan="3">Eligibility is achieved with a minimum score of 80/120</td></tr>
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</td></tr>
<tr><td>THEMATICS</td><td>Curriculum in Clinical Pathophysiology and Pathophysiology of Aging, Emergency Medicine, and Nursing Sciences

<u>Nursing area</u>
1. Organ donation in nursing sciences.
2. Clinical risk in nursing sciences.
3. Nursing Management of signs and symptoms.</td></tr>
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Medical Area

1. Study of the pathogenetic, clinical and therapeutic mechanisms and of the microbiota and its modulation in rare immunovascular, autoinflammatory and metabolic diseases of adults
2. Pathophysiology, risk factors and antithrombotic therapies of atherothrombosis
3. Pathophysiology, risk factors and antithrombotic therapies of venous thromboembolic disease.
4. Geriatric pathophysiology and epidemiology
5. Pathophysiology and clinical epidemiology fragility and geriatric syndromes
6. Aging of the vascular system and age-related diseases (cardiological, neurological, vascular): pathophysiology, clinic and rehabilitation.
7. Neurodegenerative diseases of the elderly: pathophysiology, clinic and rehabilitation
8. Innovative socio-health approaches for the treatment of the elderly and of geriatric syndromes
9. Innovative organizational models in Emergency Medicine
10. Development of new methodologies of advanced simulation to improve efficiency/efficacy of trauma team

Curriculum in Clinical and Experimental Medicine and Radiology

1. Biological basis (cellular, molecular, genetic, metabolic, microbiologic, hormonal) of immune dysregulation and of related diseases (chronic inflammatory diseases, immunodeficiencies, autoimmunity, cancer).
2. Biomarkers, phenotyping, sex and precision therapies in immune dysregulatory diseases.
3. The role of the new MRI (Diffusion, Perfusion) and CT parameters (Perfusion with techniques of reduction of the dose in MultiSlice–CT and ConeBeam–CT) in the pre and post therapy evaluation of the different anatomic areas (neuro and head, heart and chest, abdomen and pelvis).
4. New Imaging techniques in the evaluation of microcirculation of fibrosing autoimmune diseases (skin, lung, musculoskeletal system).
5. Radiomics.
6. Genetic basis and clinical/laboratory stratification of common variable of immunodeficiency as prototype of immune dysregulation diseases: infections, autoimmunity, and tumors.
7. Predisposing factors, physiopathology, organ involvement and innovative therapeutic approaches to autoimmunity.
8. Predisposing factors, physiopathology, and innovative therapeutic approaches in allergic diseases.
9. Predisposing factors, physiopathology, and innovative therapeutic approaches in systemic fibrosing autoimmune diseases.
10. Study of the relationships between the immune system and the microbiota in the genesis of chronic inflammatory diseases and neoplasia.
11. Study of the intratumor and peripheral immune response in solid tumors.
12. Translational aspects of chronic hepatopathies and primitive tumors of liver.
13. Cancer immunotherapy: strategies of treatment implementation and personalization.
14. Oncogenesis and biomarkers of neoplastic evolution secondary to hepatic viruses.
15. Crioglobulinemic syndromes and lymphoproliferative disorders in the

	infections hepatitis virus-related. **16.** Immunotherapy in autoimmunity and rare immune mediated diseases. **17.** New classification and organ involvement in rheumatic diseases. **Curriculum in Clinical Pathology of Musculoskeletal diseases and calcified tissues** **1.** Innovative technologies of assisted orthopedic surgery. **2.** New biomaterials for orthopedic and trauma surgery. **3.** Analysis and evaluation of the interaction between biomaterials and bone in prosthetic and trauma surgery. **4.** Mineral and bone metabolism in clinical models of calcified tissue diseases. **5.** Technology-based protocols and outcome measures for rehabilitation in musculoskeletal settings. **6.** Tumoral and pseudotumoral pathologies of the musculoskeletal system **7.** New technologies in osteoarticular reconstructions in orthopedic surgery **Curriculum in Anesthesiology, Pain Therapy and Surgical Sciences** **1.** New techniques and technologies in the field of general, urological, thoracic, cardiac, pediatric, and vascular surgery **2.** Molecular precision medicine in the field of oncological pathology of surgical interest **3.** Optimization of the surgical procedure in the pre-, intra- and post-operative phases **4.** Simulation in learning new surgical techniques **5.** Development of transplantation: from immunotherapy to surgery **6.** Molecular basis of inflammatory, neuropathic, and oncological pain **Curriculum in Psychology** **1.** Psychological and/or psychosocial mechanisms underlying the onset or maintenance of psychological distress, psychiatric disorders, and organic diseases. **2.** Research methods in clinical and health psychology. **3.** Psychological interventions in psychological distress, psychiatric disorders, and organic diseases. **Curriculum in Global Health, Occupational Health, and International Cooperation on Moving Populations** **1.** Epidemiology and clinics of emergent and re-emergent infections in countries with a medium and low income and in moving (or migrant) populations. **2.** Diagnostic approach of emergent and re-emergent infections in countries with a medium and low income and in moving (or migrant) populations. **3.** Parasitosis and host response in developing countries and in moving populations. **4.** Tuberculosis and Helicobacter pylori host response in developing and in moving populations. **5.** Allergic diseases and bronchial asthma in moving populations. **6.** Emerging and re-emerging occupational risks: innovative strategies for health and safety protection of workers. **7.** Workplace Health Promotion (WHP): from Evidence-Based Medicine to practice.

Further information available at the following web page:
https://www.dmsc.unifi.it/vp-26-dottorati-di-ricerca.html

EXAMINATION SCHEDULE		
	DATA	**ORA**
INTERVIEW	July 12th 2023	9:00 a.m.
The list of candidates admitted to the interview and the final ranking will be published at the following web page: https://www.unifi.it/p12341.html		