



DOCTORAL PROGRAM IN TRANSLATIONAL RESEARCH IN THE SCIENCES FOR HEALTH PROTECTION

Director prof. Romina Nassini

XLII cycle – academic year 2025/2026

BIOMEDICAL AREA	
ADMINISTRATIVE OFFICE	Department of Health Sciences
WEB	www.dss.unifi.it
CURRICULA	1. Development of Innovative Products, Preclinical Testing, and Pharmacotherapy 2. Clinical Research and Quality of Clinical Care 3. Promotion and Protection of the Right to Health 4. Psychological Well-Being, Mental Health, and Psychopathology
AVAILABLE POSITIONS: 6 Positions with Scholarship: 5 Positions without Scholarship: 1* <i>*standard ranking only</i>	
RANKING LIST FOR STANDARD POSITIONS SCHOLARSHIP AVAILABLE: 1	University of Florence
RANKING LISTS FOR POSITION WITH SPECIFIC RESEARCH TOPIC SCHOLARSHIPS AVAILABLE: 4	1 - University of Florence Thematic: “Integrated Approaches for Health Promotion and Precision Medicine in Chronic Diseases” 1 - Cofunded by University of Florence and Department of Health Sciences Thematic: “Advanced experimental strategies for molecular characterization and precision medicine in chronic diseases” 1 - Department of Health Sciences Thematic: “Bidirectional Integration Model between Clinical Trial Unit - 1 (CTU-1) and Palliative Care Unit: Humanizing Clinical Research and Enhancing Quality in Care Pathways” 1 - Bios-Therapy-Physiological Systems For Health S.P.A. Thematic: “Integrated Paediatric Metabolic Bone profiling: A One Health Approach to Genetic bone disorders in Paediatrics”

STUDY/RESEARCH PERIODS ABROAD	at least 3 months									
DOCUMENTS REQUIRED FOR THE ADMISSION	• Copy of the Identification Document • Self-certification for qualifications obtained in Italy (laurea triennale, specialistica o magistrale o ciclo unico) with list of exams taken, credits and related grade, title of the thesis and graduation mark (using this template or similar forms containing the required information) • Qualifications obtained abroad (Bachelor’s and Master’s Degrees or combined cycle Degree) with a list of all exams taken, credits and related grade, rating scale, title of the thesis and graduation mark <i>The same documentation except for the final mark must be submitted by those who will graduate within the 31/10/2026</i>									
DOCUMENTS REQUIRED FOR THE EVALUATION	MANDATORY • Curriculum Vitae et Studiorum (European Format) including all qualifications and publications of the candidate • Research Project in English language OPTIONAL • Publications submitted by the candidate for evaluation • Any additional qualification									
RESEARCH PROJECT	The research project, with a maximum length of 5 pages, must be written in English and must include an abstract, introduction, methodology, expected results, and bibliography. The project must be related to and make specific reference to one or more of the research topics listed in the “Topics” section. The candidate may submit the same research project for both the standard position and the thematic scholarships, or may submit separate projects, indicating for each one which ranking it is intended for.									
INTERVIEW MODE	In person In the application form candidates may ask to conduct the interview remotely									
FURTHER INFORMATION	The interview can be conducted in the English language. If taken in Italian, the interview also includes an assessment of the candidate’s knowledge of English. The interview consists of a discussion of the research project for the purpose of evaluating the candidate's research aptitude.									
EVALUATION MARKS	<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 rowspan="2">20/120</td><td rowspan="2">40/120</td></tr><tr><td>During the evaluation phase for admission to the oral interview, the consistency of the research project with the thematics of the PhD program,</td></tr></table>			parameter	minimum score	maximum score	Curriculum vitae, research project, publications and other qualification documents (if any)	20/120	40/120	During the evaluation phase for admission to the oral interview, the consistency of the research project with the thematics of the PhD program,
parameter	minimum score	maximum score								
Curriculum vitae, research project, publications and other qualification documents (if any)	20/120	40/120								
During the evaluation phase for admission to the oral interview, the consistency of the research project with the thematics of the PhD program,										

	as well as with the specific topics for which candidates have applied, will also be assessed		
	Applicants who obtain a mark of at least 40/120 in the evaluation of the above parameters will be admitted to the interview		
	Interview: discussion of the research project to assess applicant's aptitude for research	60/120	80/120
	Eligibility is achieved with a minimum score of 80/120		
THEMATICS	Curriculum #1: Development of Innovative Products, Preclinical Testing, and Pharmacotherapy This curriculum is structured into thematic modules including the development of the following areas: • Advanced molecular biology techniques, including gene editing, next-generation sequencing (NGS), and gene expression analysis. • State-of-the-art imaging, with a focus on confocal microscopy, molecular imaging, and 3D visualization systems for studying pathophysiology and therapeutic efficacy. • Bioinformatic analysis and data science approaches for interpreting omics data (genomic, transcriptomic, and proteomic) and applying predictive models in the development of new drugs and medical devices. • Pathological-molecular investigation techniques aimed at characterizing biomarkers and personalizing therapeutic strategies based on molecular and cellular evidence. • Integrated and comprehensive management of clinical trials, including regulatory, ethical, and organizational aspects for the proper conduct of clinical studies. • Development of new biomedical and therapeutic technologies, with potential applications in personalized medicine and innovative pharmacotherapy. • Technology transfer and patenting, promoting the practical application of research through the creation of patents with tangible impact in the biomedical field. Curriculum #2: Clinical Research and Quality of Clinical Care This curriculum is structured into thematic modules including the development of the following areas: • Epidemiological analyses, pathophysiological insights, and clinical trials in perioperative medicine, with a focus on multimodal prehabilitation in frail patients, intraoperative monitoring and precision medicine in anesthesia, metabolic stress response control, analgesic techniques and opioid-sparing strategies, prevention of postoperative complications, and enhanced recovery after surgery. • Epidemiological analyses, pathophysiological insights, and PK/PD evaluations in critical care medicine, focusing on extracorporeal organ support, infections and antibiotic therapy in critically ill patients, communication and end-of-life care in intensive care.		

- Epidemiological analyses, pathophysiological insights, qualitative analyses, and phenomenological explorations in palliative medicine, with focus on acute and chronic pain management, vascular access in oncology and non-oncology patients, basic and specialized palliative care, including simultaneous and end-of-life care.
- Epidemiological and pathophysiological characterization of major acute and chronic diseases in pediatric age. Cross-cutting studies in pediatric specialties such as immunoallergological diseases, congenital immune defects, autoimmune and autoinflammatory manifestations, allergological disorders, infectious diseases (community-acquired, mother-to-child transmission, nosocomial, immigrant/refugee/adopted/traveling children), and auxoendocrine diseases including immune-mediated, metabolic, genetic, and bone metabolism disorders.
- Development of preventive and diagnostic models and clinical trials in immunoallergology, infectious diseases, and auxoendocrinology. Special focus on advanced technologies for pediatric vaccinology, molecular surveillance for infectious diseases and antibiotic resistance, secondary prevention practices such as neonatal screening, scoring systems, early diagnostics for rare congenital diseases and socially impactful disorders like childhood obesity, developmental defects, and immune dysregulation.
- Optimization and innovation in pediatric care, focusing on equity, shared and personalized care, evaluation of new target therapies, implementation of non-invasive treatments to improve the quality of life of pediatric patients and their families.
- Epidemiological analysis of skin diseases and the development of innovative diagnostic-therapeutic approaches, including artificial intelligence models for chronic inflammatory skin diseases, autoinflammatory conditions, pigmented lesions, and skin carcinomas. AI developments will include: a) Diagnostic algorithms using generative techniques to enhance classification of pigmented lesions and skin cancers. b) Diagnostic algorithms based on severity scores, for testing, validating, and implementing personalized therapeutic plans in clinical practice for chronic inflammatory skin diseases.

Curriculum #3: Promotion and Protection of the Right to Health

This curriculum is structured into thematic modules including the development of the following areas:

- Health Literacy: improving access to, understanding and use of health-related information at both individual and community levels.
- Promotion of healthy lifestyles, health education, and prevention of communicable and non-communicable diseases, with a special focus on vaccine prevention. Emphasis on vaccines and vaccination strategies, epidemiological impact of immunization policies, and preventive communication and training, including digital tools for citizens and health professionals.
- Health Technology Assessment: analysis and development of clinical, epidemiological, and economic models supporting decision-making in healthcare, aiming for equitable access to care and personalized health protection.

	● Research on ethical, regulatory, and governance aspects related to patient safety, care relationships, communication and informed consent, professional and institutional responsibility, and risk management, including the use of AI-based systems. ● Development and practical implementation of innovative models for the identification, care, and protection of vulnerable individuals, persons with disabilities, abuse victims, and victims of gender and hate crimes. ● Innovative approaches in forensic disciplines (pathology, odontology, toxicology, psychopathology, and criminology) and in assessments related to the identification of living persons and human remains to safeguard human dignity and human rights. Curriculum #4: Psychological Well-being, Mental Health, and Psychopathology This curriculum is structured into thematic modules including the development of the following areas: ● The conditions of psychological vulnerability and their determinants, both internalizing (e.g., anxiety, depression, trauma) and externalizing (e.g., antisocial behavior). ● The psychological and neurobiological processes involved in the pathogenesis of mental suffering and in the maintenance of mental well-being. ● The role of personality studies, clinical phenomenology, and psychopathology in the development of various mental health conditions. ● In-depth analysis of mental disorders, with a particular focus on: eating disorders and their neuropsychological correlates; the intersection of gender and psychopathology; psychopathology of grief and trauma-related events, psychological adaptation processes; personality disorders and their impact on psychosocial functioning; behavioral addictions, substance use, and technology-related dependencies. ● Psychological and psychiatric interventions, with a focus on the phenomenological foundations of care and on the most innovative psychotherapeutic approaches, as well as their potential translational and pharmacological developments.
--	--

EXAMINATION SCHEDULE			
	DATE	TIME	PLACE
INTERVIEW	July 13 rd , 2026	09:30 a.m.	Complesso Didattico Morgagni, Viale Giovanni Battista Morgagni 40/44 - Firenze primo piano - Aula 103
The list of the candidates admitted to the interview and the final ranking will be published at the page PhD courses			

ENROLLMENT ROUNDS

Enrollment must be completed within the specified mandatory deadlines, under penalty of exclusion
(as per Art. 12 of the Call for Applications - Annex 1)

	Opening Date	Deadline for Enrollment
Enrollment (successful candidates)	Ranking's publication date (by July 31, 2026)	by 11.59 pm (CEST) on August 25th 2026 *
1st round (eligible candidates)	from 31st August 2026	by 11.59 pm (CEST) on September 7th 2026
2nd round (eligible candidates)	from 10th September 2026	by 11.59 pm (CEST) on September 17th 2026

** Please note that the University will be closed from August 8th to August 23th, 2026.*

Subsequent reassignment of vacant positions:

The reassignment of any residual positions after the first two rounds will be activated on **every Tuesday until October 27th**, with a mandatory enrollment deadline set for the following Friday (11:59 PM CEST). It is the sole responsibility of the candidate to check their personal reserved area

No personal communications will be sent to candidates.

Technical instructions for enrollment can be found [here](#)