

Fondo Sociale Europeo Plus 2021/2027

FSE+

Sportello 2025 P.S. 20/24

Sostegno alla realizzazione di dottorati di ricerca

With Decree No. 9526/GRFVG of February 28, 2025, the Friuli Venezia Giulia Region published the Notice regarding the submission of operations for Specific Program No. 20/24, which aims to support higher education through the realization of PhD programs.

Specific Programme 20/24, through the funding of doctoral scholarships, contributes to the achievement of the objectives of the Sustainable Smart Specialisation Strategy (S4). It supports the development or strengthening of integration with the regional production system and/or research organisations, through coordination and collaboration mechanisms with regional enterprises or research bodies, or by leveraging the potential for technology transfer of processes, products, applications, or, more broadly, research outcomes.

- Sportello 2025
- Ciclo 41
- CUP J93C25000640008
- Progetto 2025/6525/13

Dottorato in **Personalized Medicine and Innovative therapies**

“Profiling miRNAs contained in extracellular vesicles isolated from urine as biomarkers for early diagnosis of endometriosis in a pediatric and adolescent population”

The doctoral project aims to develop an innovative and non-invasive diagnostic approach for endometriosis, a chronic and multifactorial pathology often diagnosed late due to the lack of biomarkers and non-specific symptomatology, particularly in the pediatric age. A diagnostic delay entails the risk of chronic pain as well as infertility problems, and from this arises the importance of identifying patients in the early stages of the pathology. The proposal distinguishes itself through the use of cutting-edge technologies, a well-defined experimental plan, and a strong network of national and international collaborations. The doctoral project is placed within a context of translational medicine and will contribute to the development of personalized diagnostic solutions in the field of women's health, in line with the priorities of the Smart Specialization Strategy (S4) and with the evolution of nanomedicine and molecular diagnostics. The main objective is the isolation and characterization of extracellular vesicles (EVs), both small and large, from urinary samples of patients affected by endometriosis and from control subjects, with the aim of identifying specific RNA profiles – in particular miRNAs – as potential biomarkers of the pathology. Through NGS sequencing and bioinformatic analysis, molecular profiles will be mapped to be compared with a pediatric cohort, correlating the data with clinical and imaging investigations. Patients will be recruited through a structured network of internal units of the IRCCS Burlo Garofolo. The project is structured into distinct phases: sample collection, optimization of EV isolation techniques, RNA profiling, and clinical validation. Based on the results obtained during the doctorate, diagnostic assays on whole urine will be developed for a possible early screening in young people with dysmenorrhea.