

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 2025/6525/10

Dottorato in Nanotechnology

“Digital Discovery of Metal-Organic Frameworks for Next-Generation Therapies”

The project focuses on the design and optimization of metal-organic cages (MOCs) as advanced nanocarriers for drug delivery. Thanks to modular architecture and physicochemical properties, MOCs are particularly promising for the selective transport of drugs. The objective is to develop a computational platform that integrates molecular modeling and machine learning (ML) to explore broad chemical spaces efficiently and reliably, overcoming the traditional trial-and-error approach and generating MOCs with target properties defined “by design.” The structural and physicochemical properties and the complexation capacity for specific classes of drugs of a large set of MOCs will converge in the construction of a FAIR database, made accessible at the end of the project. The database will serve both as a guide for an informed design and as a training set for ML and deep learning algorithms, allowing the prediction of the properties of MOCs of interest to the user.