2 PhD Fellowships in Enzyme Design & Biotechnology

Department of Biotechnology and Biosciences – University of Milano-Bicocca

Two full PhD fellowships (3 years) are available to join the "Converging Technologies for Biomolecular Systems (TECSBI)" PhD program within Dr. Marco Mangiagalli's research group at the Department of Biotechnology and Biosciences, University of Milano-Bicocca. These fellowships are funded by the "Fondo Italiano per la Scienza (FIS2) Starting Grant" awarded by the Italian Ministry of University and Research, with Dr. Mangiagalli as the principal investigator.

About the Project: The project, "Uncovering the hidden aspects of temperature adaptation by resurrecting ancestral enzymes: from evolutionary history to biotechnology", aims to investigate the molecular mechanisms of enzyme temperature adaptation. We combine ancestral sequence reconstruction with deep-learning enzyme design to engineer synthetic enzymes with tunable thermal properties. By integrating structural biology with biocatalysis, our goal is to develop novel enzymes for biotechnological applications. This research will contribute to the development of next-generation biocatalysts for sustainable industrial processes.

About the Positions: We seek motivated students eager to pursue a doctoral programme within an international, interdisciplinary, and intellectually stimulating environment.
Recruited doctoral students will work on cutting-edge research at the intersection of enzyme design, structural biology, and industrial biotechnology. The experimental work will be focused on recombinant protein production, structural biology, enzymology, and biocatalysis. The training programme includes an international secondment at a leading partner institution, as well as financial support to participate in international conferences and summer schools.

Candidate Profile: We welcome applications from young candidates who are going to complete or soon after completion of their Master's degree in Biotechnology, Molecular Biology, Biochemistry, Structural Biology, or related disciplines. Experience in recombinant protein expression, enzymology, structural biology, or computational protein design is highly desirable. Proficiency in English is required.

Application Timeline: The official application process will open in March/April 2026 on the following website. However, we encourage interested candidates to reach out early for an informal discussion. The fellowship is fully funded according to Italian PhD regulations and is expected to start in November 2026.

Contact: For more details on the project and the upcoming selection process, please contact Dr. Marco Mangiagalli at marco.mangiagalli@unimib.it.