**PhD and postdoc positions available in NMR-based structural biology**

We are seeking applications for a 3-years PhD project and a 18 months Post-doc position starting from November 2021. The project is financed by the CARIPLO foundation and will be carried out under the supervision of Daniela Lalli, part of the research group headed by Prof. Mauro Botta, at the Department of Sciences and Technological Innovation of the University of Eastern Piedmont, Alessandria.

**PROJECT/TOPIC:**

The overall goal of the project is the investigation of the DNA replication mechanism in Mycobacterium tuberculosis (MTB) using integrated structural biology methods, including NMR spectroscopy, X-ray crystallography, and Cryo-EM.

In particular, we aim at revealing the structural organization, the dynamic properties and the molecular interactions of the smaller and flexible proteins involved in the DNA replicative helicase loading in MTB, using high resolution Nuclear Magnetic Resonance (NMR) as main investigation method. This information will complement X-ray crystallography and Cryo-EM studies performed on the macromolecular complexes of the replication machinery by the partners of this project.

In fact, the project will be developed in close collaboration with Riccardo Miggiano, part of the biomolecular X-ray crystallography group leaded by Menico Rizzi at the Department of Pharmaceutical Sciences (Novara), and with David Jeruzalmi at the City University of New York.

**Environment:**

The Department of Science and Technological Innovation of the University of Easter Piedmont, Alessandria, provides access to the Magnetic Resonance Platform PRISMA (<https://www.prisma.uniupo.it>), which comprises four high-resolution NMR spectrometers for solution NMR (two 500 MHz and two 400 MHz) and one for solid state NMR (500 MHz), a fast field-cycling relaxometer (0-10 MHz) and a high-field tunable relaxometer (20-120 MHz).

**Skills Qualification:**

We are looking for highly motivated candidates with strong scientific background, independence, and who enjoy working in a team.

For the PhD position, a Masters degree in Chemistry, Physics, Biochemistry or closely related fields is required to enter the program. Prior experience with biomolecular NMR is desirable but not required.

For the postdoctoral position, a PhD in Chemistry, Physics, Biochemistry, Biophysics, Structural Biology or closely related fields is required. Prior experience with NMR is a prerequisite, with specific expertise in biomolecular NMR.

The successful candidateswill work on:

- Structure determination of proteins by solution NMR techniques

- Characterization of protein-protein interactions

- Investigation of protein dynamics.

**To apply** please send:

* a cover letter (explaining your background and motivation);
* your CV and publication list or a copy of the results obtained during the Master's degree;
* contact information of referees;

to Daniela Lalli (daniela.lalli@uniupo.it).