

Project 1: New techniques in nuclear magnetic resonance (NMR) spectroscopy

NMR spectroscopy can be used to determine the 3D structure of proteins in solution. The project involves the refinement and application of novel NMR techniques to do this much faster than previously possible.

Requirements: experience with programming (any computer language) and a background in physics or biophysics

Project 2: Structure determination of a protein-protein complex

Nuclear magnetic resonance (NMR) spectroscopy can provide 3D structural information about protein-protein and protein-DNA complexes in solution. In this project, protein samples will be labelled with a paramagnetic tag to accelerate the structure determination of intermolecular complexes by providing long-range information. It involves cell-free protein synthesis, protein tagging and NMR measurements.

Requirements: biochemistry or structural biology

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