



## PhD Studentship in Dynamics of nucleic acids: role in folding, function and disease

Applications are invited for a 3.5-year PhD studentship. The studentship will start on 1 November, 2021, or as soon as possible after that.

### Overview of the Studentship

This fully funded PhD studentship is based at the [NMR centre](#) of [National Institute of Chemistry](#), Slovenia, a national facility and a research group that uses NMR spectroscopy in combination with other biophysical methods to explore structure and function of (bio)molecules.

### Project Description

In recent years, more thorough picture of macromolecular machines in action or folding process is emerging, where macromolecules form dynamic conformational ensembles and low populated, high energy structure represent functional states that may differ in only small changes in structure on a level of a base-pairs, or in complete structural rearrangements. Without detailed knowledge of dynamics, understanding of biological role of molecules, their interactions and regulation is incomplete. NMR methods for detection of dynamics have been shown to be excellent in filling in gaps in understanding of dynamic processes. Their strength lies in possibility to detect dynamic exchange in different timescales from nanoseconds to hours and to give information about structure of alternative conformers in form of chemical shifts. The goal of the project will be to investigate functional role of dynamics of nucleic acids. Focus of the project is adoptable with regard to the interests of the candidate.

### We offer

- The opportunity to learn and use advanced techniques in NMR-based data acquisition and analysis
- State-of-the-art research equipment (NMR, CD, UV spectrometers) and fully equipped RNA/DNA lab
- A great, highly interactive work atmosphere within a collaborative team and institute
- A funding period of 3.5 years, including participation in workshops, seminars, conferences



## Eligibility

This PhD studentship is offered for SI and international applicants under 28 years of age.

Applicants should:

1. Have a Master's qualification in Biology, Biochemistry, Chemistry, Pharmacy, Physics, Bioinformatics, or any areas related;
  2. Display an interest in nucleic acids structural biology;
  3. Be proficient in English and have excellent communication skills;
  4. Have strong analytical skills;
  5. Display a "can do", positive attitude and high motivation
- Experience in NMR spectroscopy and publication of peer-reviewed literature is advantageous.
  - Experience in programming is desirable.

## How to Apply

To apply for this position, please send your CV and short motivation letter with a brief summary of relevant research experience to [marusic.maja@ki.si](mailto:marusic.maja@ki.si).

## Enquiry

If you wish to discuss this project further informally or for more information on the admissions process, please contact Dr. Maja Marušič ([marusic.maja@ki.si](mailto:marusic.maja@ki.si)).