

The research group „**Nucleic Acid Chemistry**” at the Institute of Inorganic Chemistry of the University of Vienna is looking for a

PhD candidate

to work on a biotechnology project where RNA libraries are synthesized at very high throughputs to be used for Nanopore sequencing. The project combines organic chemistry, nucleic acid synthesis and bioinformatics where photolithographic microarray fabrication is at the center. The project received support from the FWF and the position is to be filled for a period of three years, starting in the fall of 2021.

ROLE WITHIN THE RESEARCH PROJECT

- Incorporate novel RNA base modifications into oligonucleotides using phosphoramidite chemistry and *in situ* microarray photolithography
- Synthesize base-modified RNA microarrays at very high density
- Improve and optimize synthesis parameters to achieve highest RNA quality
- Generate sequence libraries to be sequenced by NGS and Nanopore techniques
- Advance Nanopore base-calling algorithms to identify new RNA bases
- Parallel projects involving DNA and chemically-modified oligonucleotide microarray libraries
- Coordinate with collaboration partners
- Writing scientific articles and participation to symposiums/conferences

PROFILE

- MSc degree in bioorganic/organic chemistry (strongly preferred), biochemistry, synthetic/molecular biology, or bioinformatics
- Experience in the handling, preparation and analysis of nucleic acids is a strong asset (solid-phase synthesis, phosphoramidite chemistry, PCR, library preparation...)
- Ability to learn and navigate between interdisciplinary themes (chemistry/biology/bioinformatics)
- General understanding of sequencing methods, bioinformatics and programming is a strong plus
- Excellent command of written and spoken English. French and German are a plus
- Excellent teamwork and communication skills, independent, critical thinking and initiative

WORKING ENVIRONMENT AND CONDITIONS

- 30 h/week, salary corresponding to doctorant-level according to the FWF personnel costs (~€31000 brutto/year)
- A stimulating research environment, dedicated to problem-solving and opened to new ideas and hypotheses
- Access to the benefits and facilities of the University of Vienna, the largest research institution in Austria

ADDITIONAL INFORMATION

- <https://anorg-chemie.univie.ac.at/research/nucleic-acid-chemistry/>

To apply, please send CV and motivation letter, as well as at least one letter of recommendation to Dr. Jory Lietard (jory.lietard@univie.ac.at) no later than 31/08/21.