

Institut für Biomedical Informatics
Faculty of Computer Science and Biomedical Engineering
Stremayrgasse 16/I, A-8010 Graz Austria
<https://www.bioinfo.tugraz.at/>

University Assistant (postdoctoral researcher) for 6 years, 40 hours per week, starting on October 1, 2020, at the Institute of Biomedical Informatics at Graz University of Technology

A position for a postdoctoral researcher is available in Leila Taher's group at the Institute for Biomedical Informatics (<https://www.bioinfo.tugraz.at/>) at Graz University of Technology (Austria). We develop and apply regulatory genomics and systems biology approaches to analyze large genomic datasets. Our long-term goal is to gain novel insights into the mechanisms and evolution of differential gene expression.

Please note that, despite the focus of the institute, **this is not a bioinformatics position.**

Eligibility criteria:

To be eligible to apply for this position, candidates should have

- Completed doctoral studies or equivalent in molecular biology, genetics, biochemistry, biotechnology, or a similar field.
- Practical laboratory experience sequencing with Oxford Nanopore Technologies.
- Profound knowledge and practical laboratory experience in the field of molecular genetics (DNA extraction and amplification, library preparation, cloning, qRT-PCR, etc.).

In addition, the ideal candidate should:

- Be highly motivated to independently familiarize herself/himself with a topic and develop solutions.
- Be interested in multidisciplinary work.
- Have strong logical and analytical skills.
- Have strong organizational skills.
- Be creative, independent, and self-motivated.
- Have very good written and oral English.
- Have good interpersonal skills.
- Have experience in project management, including the preparation of research proposals.
- Didactic competence and teaching experience.

Ability and willingness to teach courses in the Biomedical Engineering Bachelor and Master programs.

Experience with analytical and statistical interpretation of quantitative data as well as Machine Learning would be an additional advantage.

Role:

Biological nanopores are an exciting new class of biosensors, which found practical application is in single-molecule DNA sequencing and single-molecule analysis. The successful candidate will develop, engineer and re-design biological nanopores to identify and characterize regulatory elements as well as detect epigenetic modifications in eukaryotic genomes. Relevant literature includes:

- Wang et al. Single-molecule long-read sequencing reveals the chromatin basis of gene expression. 2019. <https://pubmed.ncbi.nlm.nih.gov/31201211/>.
- Dhillon et al. Combinatorial analysis of *Saccharomyces cerevisiae* regulatory elements. 2019. <https://www.biorxiv.org/content/10.1101/777763v1>.

Initially, part of the work will be dedicated to setting-up the lab (purchasing equipment, developing, and

implementing protocols for calibration, performance verification, and operating procedures, establishing a maintenance program, provide training for all operators). Main responsibilities include:

- Establishing and implementing protocols to sequence eukaryotic genomes and characterize eukaryotic epigenomes using the Oxford Nanopore MinION.
- Designing and implementing protocols for sequencing eukaryotic genomes and characterizing eukaryotic epigenomes using the Oxford Nanopore MinION.
- Developing, optimizing, and improving assays using the Oxford Nanopore MinION.
- Independently planning, executing and evaluating laboratory experiments in the field of gene regulation.
- Evaluating, analyzing, and interpreting sequencing data.
- Documenting, representing, and presenting results.
- Preparing scientific publications.
- Teaching.
- Acquisition of research projects and third-party funding.
- Training and further education (participation in conferences, continuing education, etc.).
- Administrative and organizational tasks in teaching and research.

What we offer:

The position is for a fixed term of six years and will be paid according to category B1 of the collective agreement for employees of Austrian universities. This currently results in a monthly gross salary in the amount of € 3,889.50 (14 x per year), which may increase based on previous experience.

Contact:

Leila Taher (funcgenfau@gmail.com)

Reference number:

7200/20/042

How to Apply:

Applications must be submitted by **August 31th 2020** to the Dean of the Faculty of Computer Science and Biomedical Engineering, Prof. Roderick Bloem, preferably by e-mail (applications.csbme@tugraz.at), indicating the reference number "7200/20/042" in the subject of the e-mail and including in a single PDF file the following documents:

- A cover letter stating the candidate's motivation to apply and the reason(s) why she/he should be selected for the position.
- A CV.
- List of publications.
- Copies of certificates and transcripts.
- A research statement that outlines your interest in the topic.
- The contact information of two referees.

Please, cc Leila Taher (funcgenfau@gmail.com) on your applications.