Institute of Biomedical Informatics
Faculty of Computer Science and
Biomedical Engineering

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PhD Position

Graz, January 2, 2020

1 position as a University Assistant for 3 years, 30 hours per week, starting as soon as possible, at the Institute of Biomedical Informatics at Graz University of Technology

A position for a doctoral candidate is available in Leila Taher's new lab at the Institute for Biomedical Informatics at Graz University of Technology (Austria, https://www.bioinfo.tugraz.at). 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.

Required academic qualification:

Master's level degree in Bioinformatics, Informatics in the Natural Sciences, Applied Computer Sciences, Molecular Biology, Bioengineering or equivalent.

In addition, the ideal candidate should have

- good programming skills (e.g., Perl, Python, R; see "Beginning Perl for Bioinformatics" by James D. Tisdall and "Developing Bioinformatics Computer Skills" by Cynthia Gibas and Per Jambeck).
- a proven knowledge of Molecular Biology at the level of Benjamin Lewin's "Genes XII".
- a solid understanding of statistics.
- familiarity with UNIX/Linux, including shell scripting.
- experience with the analysis of Illumina NGS data, building NGS pipelines (e.g., Snakemake) and using bioinformatics tools.
- a high level of organization and attention to detail.
- the willingness and ability to work individually and as part of a team.

And be

- proficient in both written and oral English.
- creative.
- self-motivated, with strong work ethics.
- open-minded.

Command of the German language is <u>not</u> a requirement.

Tasks:

Gene expression is primarily controlled at the level of transcription, which is mediated by transcription factor activity and changes in the chromatin structure. Chromatin structure is largely determined by histone modifications and DNA methylation, collectively known as epigenetic marks. Large international efforts such as the ENCODE (https://www.encodeproject.org/) and FANTOM (http://fantom.gsc.riken.jp/) projects are now generating a wealth of transcriptomic and epigenomic data that should enable us to elucidate

the mechanisms underlying health and disease. However, the analysis of these data is not trivial. In particular, repetitive regions in the genome pose an enormous challenge to current bioinformatics tools. It has been estimated that approximately two-thirds of the human genome consists of repeats or repeat-derived sequences, and a predominant part of these sequences are transposons. The successful candidate will develop computational tools to aid the genome-wide characterization of sequences of transposon origin.

The position is intended to give promising candidates the opportunity to pursue advanced research in Functional Genomics leading to a doctoral degree in Natural (Dr. rer. nat.) or Technical (Dr. Techn.) Sciences. Doctoral candidates are expected to explore and address open research questions in the field of Bioinformatics, contribute to existing projects in the Institute for Biomedical Informatics, present their work at conferences, write scientific articles describing their findings, undertake duties in academic self-administration, and actively participate in the activities of the group.

What we offer:

The position is for a fixed term of three years and will be paid according to the standards of the Austrian Science Fund (FWF, http://www.fwf.ac.at/de/forschungsfoerderung/personalkostensaetze/).

Application deadline:

Applications are due immediately. Position will remain open until filled.

Contact:

Leila Taher
funcgenfau@gmail.com

How to Apply:

Please, send an e-mail to funcgenfau@gmail.com addressed to Leila Taher and with the subject "PhD BIOINFO NANTES". An application package must contain the following documents (in English, all in <u>one</u> PDF file):

1. A cover letter with a short explanation for how this position fits into your interests and career aspirations.
2. Your CV.
3. Copies of your transcripts and certificates.
4. Contact information for two references.

Only complete applications will be considered.