

## PhD Position in Computational Biology and Machine Learning in Disease Mechanisms of prostate cancer

The **Ludwig Boltzmann Institute Applied Diagnostics** in Vienna, Austria (<https://www.applied-diagnostics.at/>), follows a new dual biomarker concept for tumor diagnosis. The focus of the institute lies on the development of non-invasive diagnostic methods combining molecular epigenetic and genetic signatures and molecular imaging biomarkers for PET and SPECT. The combination of these two methods will allow for improved functional, spatial and temporal assessment of tumor load and molecular tumor characterization.

The Molecular Pathology group of the Ludwig Boltzmann Institute Applied Diagnostics (LBIAD) and the Department of Pathology of the Medical University of Vienna are currently establishing a position for a **PhD studentship** with excellent skills in **bioinformatics and with a biology related background** as part of the efforts within the FWF-funded project “The biological role of PSMA for prostate cancer”. The integrative approach of this project aims to create a multidimensional picture of prostate cancer using machine/deep learning methods. In this project, we will focus on the development and application of machine learning, statistical and mathematical approaches to reveal genetic signatures of disease and target discovery for biomarker development. We will use, strongly publicly available large-scale cancer datasets and in house generated –omics data (DNA methylation, proteomics).

The applicant will be responsible to apply computational biology and machine learning to epigenomic, transcriptomic, metabolomic and proteomic experimental data from available public datasets and from wet-lab experiments for uncovering novel disease mechanisms and targets.

### Desired Skills and Experience

- Exceptional enthusiasm for bioinformatics, as well as a strong interest in the underlying biological processes and disease mechanisms
- Experiences with the analysis of next-generation sequencing data and good knowledge in at least one programming language (C/C++, Perl or Python) are required
- Profound knowledge in C++ and experience in R would be a plus
- Excellent (English) communication skills are required since the candidate will work within a multidisciplinary international group
- Motivation to work in a transdisciplinary team

The position will be available **immediately for a period of three years**. Based on funding, a contract extension might be possible.

Application documents (motivation letter, *Curriculum Vitae*, and contact data of 2-3 references) should be sent to **Dr. Raheleh Sheibani-Tezerji: [raheleh.sheibani@lbiad.lbg.ac.at](mailto:raheleh.sheibani@lbiad.lbg.ac.at)**

The application deadline is until the end of February 2020.