Bioinformatics

Bioinformatics and computational biology have direct and highly sought applications in basic and applied research ranging from conservation biology and modeling molecular networks to epidemiology, biomedical engineering and drug design, artistic data visualization and developing human-computer interaction. Consequently, topics of PhDs in Bioinformatics at the University of Fribourg are rather diverse and include:

- Bacterial genomics (e.g. the identification of genes conferring drug resistance or constituting virulence factors)
- Gene interaction networks (e.g. characterizing the transcriptional feedback loops that define circadian oscillators)
- Medical genetics (e.g. developing methods to increase the power of genome-wide association studies)
- Population genetics (e.g. harnessing the power of time-series data to study adaptive processes)
- Statistical genetics (e.g. developing a genotyping pipeline for ancient DNA)
- Proteomics and metabolomics (e.g. quantifying changes in protein abundance with age)
- Image analysis (e.g. automated species recognition for ecological surveys)
- Conservation biology (e.g. inferring the demographic history of an endangered species to device appropriate conservation measures)

Apart from detailed knowledge in the field, PhD students will also learn to conduct independent research projects, to interpret and present scientific data and to put their work into a general context. To an interdisciplinary research field such as bioinformatics and computational biology, the exchange and interaction with people from many different fields is of utmost importance. We actively promote such exchanges and interactions by organizing workshops and courses of various topics.

PhD students will further take part in the Fribourg Graduate School of Life Sciences (FGLS) and the PhD Training Network of the Swiss Institute of Bioinformatics. Contacts established during the PhD thesis provide valuable networking opportunities that will widen your job prospects in academia as well as in the private sector. We thus also give all our PhD students the opportunity to present their work at international conferences and to meet people working on similar questions from close and far.

PhD students in the Department of Biology are remunerated according to standards of the Faculty of Science. Funding for PhD projects is available in multiple ways: 1) through project funds attributed to individual labs. Interested candidates are encouraged to select a laboratory in which they would like to carry out their PhD (see Contact) and contact the group leader directly to ask for a possible opening; 2) through openings posted by the Fribourg Graduate School of Life Sciences (FGLS). The selection procedure is carried out twice a year (see link below for details); 3) through funding acquired by the Phd candidate. Before applying for funds, candidates should contact the group leader under which supervision they would like to carry out their PhD.

Studies organisation

http://studies.unifr.ch/endoc Hartford/sci/bioinformatics
Structure of studies

ECTS credits can be earned.

Doctoral school

http://studies.unifr.ch/go/phd-fgls

Admission

In order to be admitted to a doctorate the candidate must have been awarded an academic Bachelor's and Master's degree or an equivalent qualification by a university recognised by the University of Fribourg.

Before applying for a doctorate the candidate must contact a professor who would be willing to supervise the thesis work.

There is no general right to be admitted to a doctorate.

*The respective conditions of admission for each doctoral study programme are reserved.*

Contact

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