PhD positions in Quantitative Biology: Optimal control of growth, aging, and body size

The newly founded group of Prof. Benjamin Towbin at the University of Bern is looking for two PhD students in Quantitative Biology. Our interdisciplinary group studies the effect of nutrition on animal growth, aging, and body size combining quantitative experiments with C. elegans and mathematical modelling (http://www.towbinlab.org).

Projects: Nearly all animals slow down growth and delay aging when nutrients are scarce. Although many signalling pathways are known that control aging, we do not understand why animals control how fast they age. What is the benefit of regulating the rate of aging? We address this question by combining genetics, precise measurements of growth and aging by live imaging, and mathematical models of cellular metabolism (see e.g. Towbin et al., Nature Comm. 2017). A second branch of the lab uses similar techniques to study how animals control their body size in different nutritional conditions.

Your profile: For this interdisciplinary project, we look for students with a MSc in molecular, computational, or evolutionary biology. We also welcome applications from physicists and computational scientists with a strong interested in learning wet lab biology. Foremost, candidates require enthusiasm for cross-disciplinary research and an interest in learning new skills. We expect you to be passionate about interacting with scientists of diverse backgrounds and thrive in a dynamic and young environment.

Our laboratory is part of the institute of cell biology at the University of Bern, which provides state-of-the-art infrastructure for live imaging and molecular biology. As the capital of Switzerland, Bern is an attractive place to live. The city is located an hour away from major alpine resorts and its old centre belongs to the UNESCO world heritage.

To apply, send a single PDF with a detailed CV and a cover letter explaining (i) why you want to join our lab, (ii) what you know, and (iii) what you want to learn by email to Prof. Benjamin Towbin. Please, include 2-3 academic references, and copies of relevant diploma. Applications will be evaluated from the end of August until the position is filled. The application deadline is October 31.

Contact and further information:
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http://www.towbinlab.org
http://www.izb.unibe.ch