University of Zurich, Department of Evolutionary Biology and Environmental Studies & Department of Aquatic Ecology of Eawag

PhD Studentship in Evolution/Evolutionary ecology

Application deadline: 15.08.2016

[printable version
http://www.dzg-ev.de/de/stellenboerse/ausschreibungen/2016/phd_zurich2016b.pdf]

The University of Zurich (UZH) is one of the leading research universities in Europe and offers the widest range of study courses in Switzerland.

Eawag, the Swiss Federal Institute of Aquatic Science and Technology, is an internationally networked aquatic research institute within the ETH Domain (Swiss Federal Institutes of Technology).

The Altermatt lab and the Wagner lab at the Department of Evolutionary Biology and Environmental Studies (IEE) of UZH and the Department of Aquatic Ecology of Eawag have a vacancy for a

PhD Studentship in Evolution/Evolutionary ecology
Project title: Understanding invasions - from the genetic basis to the ecological dynamics of spreading populations

Biological invasions are among the biggest threats to natural ecosystems. Unfortunately, the causes of invasions remain elusive, due to the large spatiotemporal scales involved and the poor integration of macroecology and evolutionary biology. Additionally, we lack an integration of ecological and evolutionary theory with experimental data. In this project the doctoral researcher will conduct laboratory invasion experiments, using the model organism Tetrahymena thermophila in miniaturized landscapes suitable to study macroecological and evolutionary dynamics (Giometto et al. 2014 PNAS, Altermatt et al. 2015 Methods Ecol. Evol.,

Fronhofer&Altermatt 2015 Nature Comm.), in order to track and understand the resulting eco-evolutionary dynamics from genes to populations. During these invasions, Tetrahymena undergoes evolutionary adaptations that alter its ability to invade which affects the ecological invasion dynamics. Whole genome sequencing and computational analyses of sequence data will reveal the genomic basis of observable phenotypic changes of invading organisms. The experimental findings will be integrated into a consistent theoretical eco-evolutionary framework using mathematical models and agent-based simulations. This interdisciplinary and synthetic project will promote our causal understanding of invasions and range dynamics.

Competitive applicants will have previous experience in evolutionary ecology, molecular ecology or evolutionary biology. They will have substantial programming skills and optimally experience in analyzing high-throughput sequence data. Excellent experimental skills are a must. A background in modeling is a plus. Candidates will be highly motivated, enthusiastic and independent persons with a passion for science.Excellent communication and writing skills in English, good work ethics, and creative thinking are desired. A Masters level degree (or equivalent) is necessary for admission. The working language is English.
The project will be co-supervised by Prof. Dr. Florian Altermatt, Prof. Dr. Andreas Wagner and Dr. Emanuel Fronhofer. The project will be based at University of Zurich and at Eawag. Zurich offers a stimulating and international research environment, excellent research facilities and a lively and social working place. The position will be for a period of four years, and should start in January 2017 or soon thereafter. The PhD student will be enrolled at University of Zurich and be part of the PhD Program in Evolution.
The project is financed by the University of Zurich Research Priority Program â Evolution in Actionâ (http://www.evolution.uzh.ch/en.html).
For further information, consult
Altermatt lab: http://homepages.eawag.ch/~altermfl/Home.html
Wagner lab: http://www.ieu.uzh.ch/wagner/

or directly contact
Prof. Dr. Florian Altermatt, E-mail: florian.altermatt@eawag.chor
Prof. Dr. Andreas Wagner, E-mail: andreas.wagner@ieu.uzh.ch
University of Zurich and Eawag offer a unique research and working environment and are committed to promoting equal opportunities for women and men. Applications from women are especially welcome. Applications must be submitted by 15 August2016.
We look forward to receiving your application. Please submit your applicationincluding a motivation letter with a description of pertinent experience, a complete CV (incl. publication list), the names (with e-mail addresses) of three academic references, and copies of certificates of academic qualifications via the Eawag Jobs & Career webpage, any other way of applying will not be considered. The link below will take you directly to the application form.

https://apply.refline.ch/673277/0445/pub/1/index.html