

Position for Ph.D. student in multiscale mechanisms of evolution

Application review begins November 15, 2018

The [Theoretical Biology Group](#) at ETH Zurich is hiring a Ph.D. student to study multiscale mechanisms of evolutionary dynamics in microbes.

Description of the position

Evolution is a process that fundamentally spans multiple length and time scales, from the nanoscale of individual DNA base pairs to the macroscale of entire populations. Quantitative predictions of evolutionary dynamics must therefore address the interplay of processes at all of these scales. We are hiring a student to develop multiscale models of evolution by combining biophysical and systems-level modeling of cellular processes with models of population dynamics, focusing on microbes such as *E. coli*. The project will involve a combination of mathematical modeling (borrowed especially from statistical physics), simulations, and data analysis, including the opportunity to work in close collaboration with experimentalists as well as other theorists.

The position will be supervised by [Dr. Michael Manhart](#) in the group of [Prof. Sebastian Bonhoeffer](#), with close interactions with the [Molecular Microbial Ecology Group](#) led by [Prof. Martin Ackermann](#). The successful applicant will join the world-class research community at ETH and greater Zurich studying quantitative and systems biology. The position offers a highly competitive starting salary of 47,040 CHF as well as excellent benefits.

Qualifications

Applicants should have a master's degree in physics, theoretical or computational biology, theoretical chemistry, applied mathematics, or a related field. Some coding experience (e.g., Python or C/C++) is also valuable. A formal background in biology is not necessary, although applicants should demonstrate a strong interest.

Application instructions

Please e-mail the following to Dr. Michael Manhart at theor.biol.phd.position@gmail.com:

1. A cover letter describing your interest in the position, qualifications (including previous research experience), and how it will contribute to your long-term career goals
2. Your CV
3. Names and contact information for three references

We will begin reviewing applications on November 15, 2018 and continue until the position is filled. We value diversity and strongly encourage applications from women, persons with disabilities, and members of other groups underrepresented in science.