

SNSF-funded 4-year PhD position in Evolutionary Genomics in Bern, Switzerland

A PhD position is available to work with Dr Milan Malinsky (<https://bit.ly/35nsQC2>) in the context of his Swiss National Science Foundation (SNSF) funded Ambizione project to study evolution of recombination rates. The position is based at the Institute of Ecology and Evolution at the University of Bern, Switzerland.

Recombination is a fundamental genetic process. It contributes to generating the genetic diversity upon which natural selection acts and mechanistically it ensures proper formation of sperm and egg cells. Studies of fine-scale distribution of recombination along chromosomes, and how this is regulated, have so far been possible only in a limited number of species. This is now changing. In this project, we are going to construct fine-scale recombination maps for over 30 species to (i) explore links between recombination and genetic differentiation in pairs of populations or closely related species; and (ii) to follow up on preliminary results suggesting the mechanisms for specifying recombination hot-spots in a large group of fishes (Percomorpha) may be distinct from other vertebrates.

We are looking for a highly motivated candidate with a strong interest in evolutionary biology, genetics, genomics, and bioinformatics. Candidates should hold a Master's degree, demonstrate scientific curiosity, initiative, problem-solving skills, and be able to confidently communicate in English. On the technical side, definite advantages include strong numeracy, understanding of statistics and probability, and previous experience with computer scripts/coding. This position is open to applicants worldwide. We are committed to increasing diversity, equity and inclusiveness in evolutionary biology and would like to especially encourage applications from underrepresented groups.

Milan is a young new PI, offering close focus on the project and supervision of the PhD candidate, while the project benefits from access to large unique genomic datasets and a world-class network of collaborators, including Ole Seehausen (formal co-supervisor) and Katie Peichel in Bern; Richard Durbin in Cambridge, UK; Walter Salzburger in Basel, Switzerland; and Molly Przeworski at the Columbia University in New York. There is the potential for the PhD candidate to spend up to eight months visiting at the Prof. Przeworski's lab in New York within the framework of this collaboration. The salary is competitive, and Bern is within a short distance of some of the most iconic peaks of the Swiss Alps.

Applications should include a motivation letter, a CV, and contact details for at least two referees and should be sent, ideally as a single PDF document, to Milan Malinsky (millanek@gmail.com). The start date for the PhD is between 1st April 2021 and 30th September 2021, to be agreed with the successful applicant. Screening of applications will commence on 1st December 2020 and continue until the position is filled.

Applicants interested in more scientific background may find the following articles useful:

1. Coop, G. & Przeworski, M. An evolutionary view of human recombination. *Nat. Rev. Genet.* **8**, 23–34 (2007).
2. Baker, Z. *et al.* Repeated losses of PRDM9-directed recombination despite the conservation of PRDM9 across vertebrates. *Elife* **6**, 403 (2017).
3. Shanfelter, A. F., Archambeault, S. L. & White, M. A. Divergent Fine-Scale Recombination Landscapes between a Freshwater and Marine Population of Threespine Stickleback Fish. *Genome Biology and Evolution* **11**, 1573–1585 (2019).