

## Post-Doctoral position in stochastic modelling of drug resistance

A post-doctoral collaborator for a joint project of the *Institute of Mathematical Statistics and Actuarial Science* (IMSV), University of Bern, and the *Department of Visceral Surgery & Medicine*, Bern University Hospital, is sought. The project concerns stochastic processes and related statistical estimation challenges in medical problems of drug resistance.

**Duration and occupation rate:** 18 months at 100% (negociable)

The project addresses key questions on stochastic resetting strategies on therapy changes to prevent drug resistance development. The project relies on theory of stochastic processes, on stochastic differential equations, stochastic simulation, Bayesian analysis, and also on techniques of data analysis and integration. The collaborator will be mentored by an interdisciplinary team from the statistics side (Profs. Riccardo Gatto and David Ginsbourger) and the medical side (Professor Deborah Stroka and Dr. Daniel Sanchez Taltavull). The collaborator is expected to have regular interaction with a Ph.D. student and with several Master students. The collaborator will be hosted at IMSV.

### Candidate Requirements

- Ph.D. in probability/statistics, mathematical biology/ physics or closely related fields
- Very good (written and oral) English communication skills
- Ability to work independently within an international and heterogeneous environment with multiple collaborators from different institutes, including Ph.D. and Master students
- In-depth knowledge of at least one the following domains is desired: stochastic differential equations, simulation of rare events, Bayesian inference.
- Command of programming (R/Python languages, ideally) and scientific computing
- Prior knowledge of (and affinity with) biology and/or epidemiology are welcome

### What we offer

A strong and dynamic scientific environment, the possibility to have an impact on science and society within a high-level university, and a competitive salary. The city of Bern is regularly mentioned for its high quality of life and UniBE strives for enabling a good work-life balance.

**Starting date:** as soon as possible

**Salary:** will be determined according to University of Bern guidelines

Interested candidates can apply by sending CV and 2 reference contacts to:

R. Gatto, [gatto@stat.unibe.ch](mailto:gatto@stat.unibe.ch) (+41 31 684 8807)

All applications received before January 15 2022 will be entirely considered. Later applications will be considered until the position is filled.