

# PhD Project

## Genomics of Plant Toxin Resistance

**Background:** Plant secondary metabolites play a key role in multitrophic interactions. We recently found that natural enemies of herbivores can adapt to secondary metabolites that are taken up from the plant by a specialist herbivore (<https://www.pnas.org/content/116/46/23174>). The capacity to deal with plant toxins determines the predation success and biological control potential of these organisms. Yet, the genetic and biochemical mechanisms of this phenomenon are unclear, which hampers our capacity to exploit it for sustainable agriculture. The current PhD project aims at filling this gap of knowledge by uncovering the genetic basis of benzoxazinoid resistance in entomopathogenic nematodes. The project is embedded in a collaboration between the Biotic Interactions and Ecological Genomics Groups at the Institute of Plant Sciences at the University of Bern.

**We look for** an enthusiastic and ambitious PhD student with a strong interest in genomics and multitrophic interactions. Applicants should have a firm background in computational biology and an interest in combining bioinformatics with laboratory work. All our projects are highly integrative and require willingness to embrace multiple biological sub disciplines. Fluency in English is a prerequisite for this position. A MSc. degree or Diploma with competitive grades is required.

**We offer** an inspiring and dynamic research environment, including state-of-the art research facilities, extensive supervision and an exciting project of considerable fundamental and applied relevance. Specific project tasks can be tailored to the interests and training priorities of the student. The Institute of Plant Sciences is located at the shore of the river Aare, close to the vibrant city center of Bern. PhD students are paid according to University standard rates and have the possibility to join the graduate program in Molecular Life Sciences. More information about our current activities can be found here: <https://www.ips.unibe.ch/research/interactions/>

**How to apply:** Send a *single* pdf including i) a letter of motivation, ii) a detailed CV, iii) copies of University grades and iv) the names and addresses of two referees to [matthias.erb@ips.unibe.ch](mailto:matthias.erb@ips.unibe.ch). The position is available from August 2020 and open until filled. For more information, feel free to contact Matthias Erb directly.