

## PhD position in the Laboratory of Environmental Microbiology

We offer a 3-year PhD position in the Laboratory of Environmental Microbiology, Institute of Microbiology of the Czech Academy of Sciences in Prague, Czech Republic. The project is funded by the Czech Grant Agency and aims to investigate adaptations of *Acinetobacter* spp. to antibiotic use in cattle.

### Project description

In the context of the One Health perspective, this project aims to assess whether and how antibiotic use in livestock contributes to the emergence of multidrug-resistant human pathogens. This project is focused on bacterial genus *Acinetobacter* including free-living and animal- and human-associated species. Notably, *Acinetobacter baumannii* is a critical human pathogen that can be resistant to all medically relevant antibiotics. This project addresses the question whether antibiotic use on farms is a factor increasing the occurrence of antibiotic-resistant and potentially pathogenic *Acinetobacter* spp. in cattle waste and what are the adaptations of *Acinetobacter* spp. to a frequent antibiotic use in farms.

The PhD project will be mainly focused on comparison of cattle feces from farms with either high or low antibiotic use in terms of the abundance, diversity and species composition of *Acinetobacter* spp. (by both cultivation-based and direct molecular biology approaches), antibiotic resistance and virulence of *Acinetobacter* isolates, and genetic adaptations of *Acinetobacter* spp. to antibiotic use (genomics and metagenomics). This will be a collaborative work of four research groups (based within the Institute of Microbiology, National Health Institute and Czech University of Life Sciences Prague), by which we will also gather detailed metadata on antibiotic use in farms and antibiotic content of the samples. The project further includes monitoring of the fate of *Acinetobacter* spp. and their antibiotic resistance genes in soil receiving manure from antibiotic-treated cattle.

### Requirements

Master degree in Microbiology, Molecular Biology, Environmental Sciences or similar

Laboratory experience with microbiology and molecular biology techniques

Basic experience with R or other statistical programs and work on the command-line

Fluent English

Good communication and writing skills

Enthusiasm for research

### Contract details

This is a temporary position, initially with 1-year contract with possibility of extension up to 3 years in total, given the satisfactory performance within the first year. The position starts in summer/fall

2022. Successful applicants have to enroll into Ph.D. program of Faculty of Sciences, Charles University in Prague **by April 30, 2022**.

Remuneration consists of university non-taxable stipend starting at 10,500 CZK/month, (ca. 400 EUR, and increasing in further years) and gross salary 18,000 CZK/month (ca. 700 EUR) - note that cost of living in Czechia is considerably lower compared to Western Europe. The contract covers health insurance and contribution to social security system.

### **Group and campus detail**

We are a friendly international group of about 30 members, focused on various topics within soil microbial ecology, see <https://mbucas.cz/en/research/ecology/laboratory-of-environmental-microbiology/>. The Laboratory of Environmental Microbiology is spacious, recently renovated lab providing most necessary facilities for microbiology, bacterial genomics and metagenomics, while many others are available on the campus.

The Institute of Microbiology is located in spacious green campus in the outskirts of Prague, 30 min from the city center by public transportation. With more than five hundred employees and two hundred students represents a key national institution performing research in different fields of microbiology. Research community in the campus is fully international, working language is English. Language courses (e.g., Czech and English) are available for the employees of the institute. The campus includes dining services, child-care center, temporary housing and sport facilities.

### **Application**

To apply for the position, send a detailed CV (including education, previous employments, list of publications), motivation letter, master thesis (pdf), copy of your diploma (if already available) and contact details for 1-2 references to Dr. Martina Slaninova Kyselkova, **[martina.kyselkova@biomed.cas.cz](mailto:martina.kyselkova@biomed.cas.cz)**, email subject: PhD application. The deadline for application is **March 31, 2022**.