

May 3rd, 2024

PhD Position in Veterinary Microbiology: Deciphering Host Specificity of *Mycobacterium avium* subsp. *paratuberculosis* (MAP)

Faculty of Veterinary Medicine, University of Calgary (UCVM), Calgary, Canada

Join a world-leading team in Johne's Disease (JD) research! The De Buck Laboratory at UCVM is offering a PhD position to investigate the unique host specificity of *Mycobacterium avium* subsp. *paratuberculosis* (MAP) for ruminants. This bacterium causes JD, a significant production limiting and health issue in dairy cattle, impacting farms globally and in Canada, where infection rates are alarmingly high.

Project Overview:

As the successful candidate, you will delve into comparative genomics to understand why MAP targets ruminants uniquely, unlike closely related pathogens. You will engage in cutting-edge research involving CRISPR-Cas3 genome editing to manipulate bacterial genomes and assess changes in host specificity in in vitro and in vivo models. Your work will contribute significantly to our understanding of MAP biology and could lead to breakthroughs in controlling this debilitating disease.

About Our Lab:

Our lab has we'll over 15 years of experience at the forefront of JD research, including extensive studies on bacterial pathogenesis and host interactions. We've pioneered the development of advanced diagnostic and preventative strategies (vaccines & phages), contributing to potentially better management practices against JD worldwide.

Key Responsibilities:

- Conduct comparative genomic analyses and genetic manipulations using CRISPR technology.
- Develop and implement experimental models of infection.
- Analyze data and contribute to high-impact publications and presentations.

Candidate Profile:

- A Master's degree in Microbiology, Molecular Biology, Veterinary Sciences, or related fields.
- Strong molecular biology skills, with a keen interest in bioinformatics.
- Previous experience in microbiological research and genetic techniques is highly desirable.

Our Offer:

- Access to state-of-the-art facilities and a dynamic research environment.
- Opportunity to work in a lab renowned for its contributions to veterinary microbiology.
- Supportive academic and professional development in a collaborative setting.
- A vibrant, multicultural city close to the Rocky Mountains, offering a high quality of life and numerous recreational opportunities.

Application Process: Interested applicants should submit a detailed CV, a letter of interest, and references to jdebuck@ucalgary.ca. We are looking forward to learning how your expertise and interests align with our goals.

The University of Calgary is committed to equity and diversity and welcomes applications from all qualified individuals.