

Graduate Student Opportunities in Livestock Microbial Ecology at North Dakota State University, Fargo, North Dakota, USA.

Two graduate student positions (one M.S. and one Ph.D. level) are available in Dr. Samat Amat's lab in the Department of Microbiological Sciences at North Dakota State University (NDSU). Based on the selected candidate's own research interests, background and future career goals, the student will be given the opportunity to develop and pursue research projects on one of the following topics: 1) understanding the role of the maternal microbiome on fetal and offspring development in cattle; 2) harnessing the reproductive tract microbiota to enhance fertility; 3) developing antimicrobial alternative strategies (e.g. bacteriophage, essential oil, and microbiota transplantation) to mitigate bovine respiratory disease and/or liver abscesses in finishing cattle. Thesis projects will be conducted in collaboration with colleagues in the Department of Animal Sciences, NDSU.

The ideal candidates will be passionate about the livestock industry and microbiology and have a desire to make contributions to the livestock industry by developing microbiome-based strategies to address challenges (e.g. antimicrobial resistance, improving production efficiency, etc.) facing the livestock industry. Candidates having a background in animal science, microbiology, immunology, biology or veterinary science with previous experience in molecular biology and microbiology lab techniques and animal experimentation are desired. Candidates with bioinformatic analysis experience including amplicon and shotgun metagenomic sequencing and RNA-seq with a desire to learn and perform molecular ecological network analysis, causal structural equation modeling and machine learning are also encouraged to apply. Experience with North American cattle production systems would be advantageous.

The successful candidates will receive competitive stipends and tuition waivers and can start their graduate programs in Summer 2021 or immediately. Interested candidates should contact Dr. Samat Amat (samat.amat@ndsu.edu) with a cover letter, CV and contact information for 2-3 references. In the cover letter, the applicant should indicate the project of interest and how the grad program would help to achieve applicant's future career goals.