POSTDOCTORAL POSITION ANNOUNCEMENT.

A postdoctoral research opportunity is available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), National Animal Disease Center (NADC), in Ames, IA for a motivated and independent scientist to study the interaction of Mycoplasma species with ruminant hosts, and to develop methodologies (non-antibiotics) to mitigate disease losses in the livestock industry.

The Ruminant Disease and Immunology research groups work on several important diseases in cattle. The selected applicant will work with a team of microbiologists, immunologists and animal scientists investigating host-microbe interactions for the discovery of antibiotic alternatives that will improve animal health and food safety. The research goal of this position is to reduce the use of antibiotics through better understanding of how the host's immune fails to completely eliminate bacterial pathogens that cause disease in cattle. The research plan is focused on two objectives. First, is to manipulate the host in a way that optimizes the immune response to pathogens. Second, to gain a better understanding of the various mechanisms that allow bacteria to evade the host's immune system. The selected applicant will participate in infection studies in cattle to determine effect of immune modulatory therapies (e.g. cytokines) by measuring the changes in immune cell function. In addition, the selected applicant would participate in bacteriological studies to determine virulence determinants in disease. The position may also include collecting, processing, and evaluating samples for RNA sequencing and proteomics.

To be eligible, applicants must have received a doctorate degree in Veterinary Medicine, Immunology, Microbiology, Molecular, and Cellular Biology, or a related field within five years prior to the desired starting date.

The ideal candidate will be skilled in basic immunological, microbiological, and genomics techniques. Fluent technical writing in English for peer-reviewed publications is required.

A strong background in microbiological techniques including procedures such as bacterial culture, isolation, and identification, and other procedures such as tissue culture, flow cytometry, ELISA, and western blotting is desirable. In addition, cellular biology skills, such as cell isolation and cellular function assay are preferred. Experience with basic RNA and DNA isolation, PCR design and applications, and DNA and RNA sequencing techniques and large animal handling is a plus, but not required.

USDA Is an Equal Opportunity Employer.