**Emergency preparedness for an epidemic of livestock infectious disease.**

**Mentor Team**

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**Abstract**

There is urgent need for the US animal health sector to improve its preparedness to respond to an outbreak of foreign animal disease (FAD); specifically, contagious infectious diseases that do not currently exist in the US. Well-informed preparedness and response plans developed prior to potential FAD outbreaks are essential for rapid and effective response. Simulation modeling is a common tool to assist investigation of highly contagious disease spread, assist in policymaking, and act as a decision support tool. This project was developed in response to the Anschutz Foundation call for pandemic preparedness. We will focus on Colorado, and Foot and Mouth Disease (FMD), and the tools needed to inform an effective preparedness and response strategy. We have developed a collaborative team of CSU, Colorado Department of Ag, and APHIS-VS personnel. We will identify and implement CO-specific livestock parameters and scenarios for use in a livestock disease model to support the State Veterinarian with science-based decision-making on FMD vaccine deployment and a preparedness/response plan.

This project provides a wonderful opportunity for student experiential learning. The project requires campus-based data input and management to populate the model, work with the State Veterinarian's office to gather the necessary data, interface with producers to validate the integrity of the data, evaluate producer preparedness and educate producers on biosecurity practices. Interns will be incorporated into all of these activities at various times during the summer. They will learn how multidisciplinary teams operate, how academia works with regulatory authorities, how livestock operations implement infectious disease control and prevention and how we work together with producers to improve outcomes. They will learn how livestock production and movement data can be collected and validated, how to interface with producers and some of the impediments to disease control. They will interface with Extension field personnel who help educate producers and connect the research to the producer community. Interns will spend time on campus, in Broomfield at the State Veterinarian's Office, and at various locations in the Northeastern Plains of Colorado, but can retain residence in Fort Collins and travel to the other locations.

The mentor team will oversee intern activities and help the interns develop a project that aligns with their interests as a component of our research work. We will balance intern time between data collection and management, regulatory activities, and field exposure to livestock producers and education programming. We are requesting 2 interns, one a graduate student in data science, and the other a veterinary student. By encouraging teamwork we expect the students will experience peer teaching/learning in addition to the mentoring we will provide.