

# ANIMAL AND DAIRY SCIENCES, PHD

The Animal and Dairy Sciences Department offers one of the most comprehensive animal and dairy science graduate programs in the country. Faculty interests and research funding span diverse areas of focus with emphases ranging from in vivo and in vitro studies that probe biological relationships at a fundamental mechanistic level to using bioinformatics and data analytics to study fundamental biology and development of decision support tools for dairy farm management. The common thread through these varied interests is the motivation to address current practical issues in animal agriculture.

Development of an individual course of study is flexible to meet the needs of students with varied interests. Fundamental training in basic science fields related to the area of interest is required. There are nine program areas for prospective applicants to review and choose from – see website (<https://andysci.wisc.edu/>).

Graduate students in the department are a mix of domestic students, from within and outside of Wisconsin, and international students from multiple countries. This diversity brings a national and global perspective to research, instruction, extension, and cultural understanding. Graduates find employment in academic teaching and research, in professional veterinary or medical degree programs, in industrial research in the food and feed industries, in laboratory research programs with governmental and international agencies, private corporations, and in industrial or institutional management positions requiring a high level of scientific training.

The greatest share of PhD training will be achieved through the selection and pursuit of a research project in a discipline of animal and dairy sciences in which the student has a strong interest. Students exercise individual initiative in the planning and execution of research projects. Every effort is made to start students on research problems early in their graduate careers.

## RESEARCH FOCUS AREAS

Students may choose to focus on the areas of nutrition, rumen microbiology, reproductive physiology–endocrinology, lactational physiology, genetics, animal breeding, animal behavior, muscle biology, meat science, cell biology, animal health, immunity and toxicology, international agriculture or precision agriculture. Considerable opportunity for study exists in joint programs with bacteriology, toxicology, biochemistry, the interdepartmental graduate program in nutritional sciences, genetics, endocrinology, reproductive physiology training program, food science, physiology, agricultural and applied economics, biometry, cellular and molecular biology, pharmaceutical sciences, chemical and biological engineering, bio-engineering, comparative biosciences, and anatomy.