Interested in research or want to find out what it is all about?

Research positions are available for undergraduate students who are interested in research in the Department of Animal Sciences. Applicants must commit to full-time research over a 10 week period during summer 2015 and participate in the CFAES and University Denman undergraduate research forums spring semester 2016. Each position is awarded $3500. The award is distributed in two parts: $3000 is disbursed at the beginning of the summer of research and the remaining $500 is disbursed upon submission of an abstract to the CFAES undergraduate research forum. Research positions are located in Columbus and at the Ohio Agricultural Research and Development Center in Wooster, Ohio. Detailed position descriptions follow.

The application deadline for Animal Sciences Undergraduate Research Experiences is Saturday, January 31, 2015.

Eligibility:
Minimum requirements for application to these positions include:

- OSU undergraduate student in animal sciences or a related discipline
- Minimum cumulative GPA of 2.50
- Anticipated graduation date of spring 2016 or later

Selection of applicants will be made in consultation with Animal Sciences faculty. Applications must include all required components for consideration. Failure to adhere to the program submission requirements disqualifies the application.

Preference will be given to students that plan to use the experience for internship (ANIM SCI 3191) or who plan to graduate with research distinction (ANIM SCI 4999). To be eligible for 3191 credit, students must be Animal Sciences majors and are required to adhere to the departmental internship program requirements (http://ansci.osu.edu). For eligibility for 4999 credit, students accepted for a position must develop an independent research project proposal in consultation with their research mentor. Copies of the proposal are submitted to the Department of Animal Sciences and to CFAES. The project proposal must be pre-approved. In addition, a final research thesis is required (http://ansci.osu.edu/undergraduate/ug-research).
Application Components:
To apply you will need:

1) Application form ([http://ansci.osu.edu/undergraduate/ug-research](http://ansci.osu.edu/undergraduate/ug-research))
2) Personal statement, submitted as part of the application form, discussing your academic intentions, career goals, interest in research, and why the positions chosen interest you.
3) Resume
4) Your most recent advising report including autumn term grade postings (available at [http://buckeyelink.osu.edu](http://buckeyelink.osu.edu))

Incomplete applications that fail to provide the above requested information will not be considered

Submission Instructions:
E-mail a hard copy of these items (as attachments) no later than 5:00 pm January 31, 2015 to:

Pasha A Lyvers Peffer
Department of Animal Sciences
lyvers-peffer.1@osu.edu

Include in the subject: ANIM SCI UGR Experience Application 2015
POSITION AVAILABLE:
Dates: May to August, 2015
Hours: Monday-Friday, 8am-5pm; possible weekends depending on research project

SUPERVISOR INFORMATION:
Dr. Kimberly Cole, Assistant Professor
Department of Animal Sciences
The Ohio State University, 2029 Fyffe Court
222D Animal Science Building, Columbus, OH  43210-1095

Phone: (614) 292-2625  Fax: (614) 292-1515
Email: cole.436@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
• Assist in collection of data during research trials
• Assist with the feeding and general care of animals on research trials
• Input and organize research data in a spreadsheet
• Assist with data analysis
• Depending on the student’s interests and experience, they may engage in an independent research project
• Prepare a poster for the CFAES Undergraduate Research Forum and Denman Undergraduate Research Forum that are held during Spring term
• The student must provide their own transportation to the OSU Equine Facility and local horse farms

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
Students will apply principles of the research process, from a hypothesis to conducting a research trial to data interpretation as they explore some of the major areas of equine research and the methods used in equine research. Both oral and written communication skills will be enhanced in the process.
RUMINANT NUTRITION (DAIRY) - Columbus, Ohio

POSITION AVAILABLE:
Dates: May to August, 2015
Hours: 8:00 am to 5:00 pm

SUPERVISOR INFORMATION:
Dr. Maurice L. Eastridge, Professor
Department of Animal Sciences
The Ohio State University, 2029 Fyffe Court
221B Animal Science Building, Columbus, OH 43210-1095

Phone: (614) 688-3059 Fax: (614) 292-1515
Email: eastridge.1@osu.edu
Website Address: http://ansci.osu.edu/eastridge

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
Level of engagement is dependent on the student’s interests and experiences.
• Conduct chemical analyses in the ruminant nutrition laboratory
• Assist in collection of data during research trials
• Assist with feeding animals on research trials
• Input and organize research data in a spreadsheet
• Depending on the student’s interests and experience, they may engage in an independent research project
• Assist with the education of youth about feeding dairy cattle and programs held during the Ohio State Fair
• Prepare a poster for the CFAES Undergraduate Research Forum and Denman Undergraduate Research Forum that are held during Spring Semester. Also, the opportunity will be available to present the student’s research at the Tri-State Dairy Nutrition Conference and the American Dairy Science Association.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
An understanding of the importance of the accuracy of laboratory analyses will be gained as students explore the major areas of research in ruminant nutrition. The research process, from a hypothesis to conducting a research trial to data interpretation, will be explored through the research methods used in ruminant nutrition.
POSITION AVAILABLE:
    Dates: To be determined
    Hours: As Applicable

SUPERVISOR INFORMATION:
    Jeff Firkins, Professor
    14 Animal Science Building
    2029 Fyffe Road
    Columbus, OH 43210

    Phone: (614)292-7147
    Email: firkins.1@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
    The student is primarily expected to assist other graduate students in conducting research experiments in the field of animal nutrition. Additional job responsibilities may include the planning and conducting of assigned experiments, data entry into spreadsheets, and statistical analyses of experimental data. The student may also be required to help in the housekeeping tasks in the lab.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
    The internship will provide an opportunity for the student to gain valuable laboratory experience and understand the basics of research in animal nutrition. The practical knowledge gained in the lab will augment the theoretical information the student would obtain in classes and this will help them to understand the scientific process better. Interaction with the faculty, research staff, graduate and undergraduate students will provide an opportunity to improve communication skills and learn how to work as part of a research group. Laboratory techniques and skills acquired during the internship will be helpful in future endeavors in academia or industry.
POSITION AVAILABLE:
   Dates: May to August, 2015
   Hours: 7:00am-4:00pm

SUPERVISOR INFORMATION:
   Dr. Monique Pairis-Garcia, Assistant Professor
   222E Animal Sciences Building
   2029 Fyffe Rd.
   Columbus, OH 4310
   Phone: 614-688-1968   Fax: 614-292-1515
   Email: pairis-garcia.1@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
   To improve cow comfort on farm, many dairy producers are installing ‘cow brushes’ that allow cows to independently scratch and clean themselves. However, little research has investigated how cows use these brushes, and how management practices may impact their use. The objective of this study is to measure brush usage in dry dairy cows, and to assess how stocking density of the pen affects brush use. The student working on this project will be trained to code and record brush usage from digital video files.

   Responsibilities include:
   - Complete pre-training requirements (by May 31st, 2015) and be competent in working with video equipment
   - Be attentive and consistent when scoring video, but be able to work independently on the project without supervision of professor
   - Be engaged in the project and ask questions as needed
   - Have once a month meetings with Dr. Pairis-Garcia to give a progress and update report and to discuss any concerns or challenges experienced

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
   The student will become proficient in behavioral sampling techniques and the concepts of behavioral methodology that can be applied to future research projects.
   A unique skill set in collecting behavioral data utilizing a professional software program for collection, analysis and presentation of behavioral data will be developed. The student will understand the importance and application of work to current industry needs and gain experience supporting data results with peer reviewed literature and participation in scientific conferences and poster presentations.
OARDC MASTITIS RESEARCH (two positions available) - Wooster, Ohio

POSITION AVAILABLE:
   Dates:  May to August, 2015
   Hours:  From 7:30 to 4:30

SUPERVISOR INFORMATION:
   Joe Hogan, Professor
   OARDC Mastitis Lab
   Gerlaugh Hall, OARDC
   Wooster, OH 44691
   Phone: 330.263.3801 Fax: 330.263.3603
   Email: hogan.4@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
   Assist in mastitis laboratory and field work. Collect samples and perform routine diagnostic tests for bacteriological and cytological examination of milk. Complete a mastitis trial in the areas of diagnostics, environmental exposure, host defense or animal welfare. Assist in accepting and processing samples submitted to lab by veterinarians and producers. Prepare a poster for the CFAES Undergraduate Research Forum and Denman Undergraduate Research Forum that are held during the Spring term. Complete work experience at Krauss Dairy including milking, calf feeding, vaccinations, and other standard dairy husbandry activities.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
   Student will gain an understanding of etiology of mastitis and means to diagnose and control the disease. Student will be expected to participate in activities allowing for hands on experience in laboratory and with collecting milk and blood samples from dairy cows. Students will gain competency in handling and caring for dairy cows and heifers.
MOLECULAR AND CELLULAR BIOLOGY – Columbus, OH

POSITION AVAILABLE:
Dates: As applicable
Hours: As applicable

SUPERVISOR INFORMATION:
Kichoon Lee, Associate Professor
222F Animal Science Building
2029 Fyffe Court
Columbus, OH 43210-1095

Email: lee.2626@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
• Assist with the collection of data during poultry and swine research trials in the area of Nutrition and Molecular Biology.
• Assist with data analysis and interpretation of results.
• Prepare a poster for the CFAES Undergraduate Research Forum and Denman Undergraduate Research Forum that are held during the Spring term.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
Student will gain an understanding of basic laboratory techniques and the research process. A basic understanding of molecular genetics with regard to the developmental biology of adipose and muscle tissues will be a focus.
METABOLIC DEVELOPMENT - Columbus, OH

POSITION AVAILABLE:
  Dates: To be
  Hours: As applicable

SUPERVISOR INFORMATION:
  Pasha A Lyvers Peffer, Associate Professor
  201 Plumb Hall
  2027 Coffey Road
  Columbus, OH 43210

  Email: lyvers-peffer.1@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
  The student will participate in the development, execution, analysis, and dissemination of research involving avian development. The position involves training in animal care and use, molecular biology techniques, and data analysis software. Review and discussion of published literature in the area is required. The student should have the desire and be able to work independently.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
  Student research will uncover basic information on nutrient handling and the coordination of cellular energy utilization in domesticated poultry in response to environmental stressors. Basic techniques in molecular biology and enzymology will be learned to evaluate energy pathways in birds.
RUMEN MICROBIOLOGY RESEARCH - Columbus, Ohio

POSITION AVAILABLE:
  Dates: To be determined
  Hours: As applicable

SUPERVISOR INFORMATION:
  Zhongtang Yu, Associate Professor
  2029 Fyffe Rd., Room 122D
  Columbus, OH 43210

  Phone: 614-292-3057  Fax: 614-292-2929
  Email: yu.226@osu.edu

DETAILED SUMMARY OF DUTIES & RESPONSIBILITIES:
  This position requires direct involvement in experiments with rumen microorganisms
  that drive feed digestion by ruminant animals. Depending upon the interests of the
  student, it might involve cultivation of rumen bacteria or archaea that are important to
  feed digestion and feed efficiency, diversity analysis of rumen microbial communities
  using molecular biology techniques (PCR, DGGE, qPCR, etc.), or probiotics suitable for
  animal use.

KNOWLEDGE & EXPERIENCE INTERN SHOULD GAIN:
  Students will gain an understanding and appreciation of microorganisms that underpin
  feed digestion and utilization by farm animals. The student will also learn basic
  microbiology and molecular biology techniques that are commonly used in ruminant
  nutrition.