

## UF-ANS summer research intern program

Available for undergraduate students from any 1890 Land-grant Universities, this program will introduce you to research in the Animal Sciences Department and make you aware of opportunities to continue your education in our graduate program. See the detailed list of available opportunities and feel free to contact Dr. Raluca Mateescu, Graduate Program Director ([raluca@ufl.edu](mailto:raluca@ufl.edu)) with any questions.

Sponsored by the Dean for UF Research Office and ANS Department  
Interns will work for 6 weeks at \$560 per week and summarize their experience at the UF Animal Sciences Symposium in October, 2017

Preference will be given to U.S. Citizen African American, and Hispanic underrepresented students

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To apply for the summer internship: please submit a brief description of your interest and your resume to [raluca@ufl.edu](mailto:raluca@ufl.edu). Application deadline is **April 10, 2017**.

In the description of your interest, please include information on:

- Your current student status (e.g.: junior, senior, etc) and professional goal (e.g.: pre-vet, interested in grad school)
- Top 2 opportunities from the list you would like to join over the summer (include the name of the faculty and the project title)

The Intern is responsible for housing and transportation. Students can apply for intern housing at UF, but off campus housing is less expensive.

<http://www.housing.ufl.edu/conferenceservices/summerprograms/intern/internapp/>

Last year interns were housed at an apartment complex on 20th Avenue, Gainesville, Florida.

<https://www.gainesville-rent.com/?gclid=CJrXuab18dECFcpZhgod5AkFTg>

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### Positions available:

#### Dr. Jimena Laporta

##### **Summer 2017 internship opportunity in the ANSCI Lactation Physiology Lab**

My research focuses on multifaceted aspects of dairy cattle biology including the study of environmental and nutritional factors affecting cellular and molecular processes of the mammary gland during involution and lactation.

**Objective.** This specific project will evaluate the role of a small molecule, named *serotonin*, as a potential accelerator of the mammary gland involution process during the dry period. This period occurs 6 - 8 weeks prior to calving when the cow "takes a break" and prepares for the next lactation! Inframammary infusions of this molecule, milk and blood sample collection, as well as surgical procedures to obtain mammary gland tissue will be performed routinely.

**Location and supervision.** The project will be performed from May - August and will be supervised by Dr. Jimena Laporta and conducted in Gainesville (campus) and surrounding areas (Dairy Research Unit, 20 min drive from campus)

**Responsibilities.** Students will be assisting graduate students with daily data and sample collection from cattle, as well as with specific laboratory techniques. Students involved in this).

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project will gain hands on experience both on-farm and in the laboratory where they will be trained in molecular and histological techniques (i.e. gene expression analysis by RT-PCR and immunohistochemistry). Students will also have the opportunity to write a summary abstract with their main findings and practice their presentation skills!

Visit our lab website (<http://jimenalportalab.org/>) for more information on my research and group. We are looking forward to have FAMU interns involved in our research project this summer!

### **Dr. Luiz Ferraretto**

#### **Summer Internships in the Ferraretto Ruminant Nutrition Lab:**

Ferraretto Lab research during summer of 2017 will be focused on improving storage, quality and digestibility of forage and feedstuffs commonly fed to ruminant animals. Summer interns would have the opportunity to participate in various research projects aiming to improve starch digestibility and fermentation characteristics of corn and sorghum silages and storage of wet brewers grain. In addition, interns would assist with a project focused on the development of new laboratory procedures to evaluate starch digestibility of starchy feedstuffs.

Responsibilities will include assisting in sample collection, preparation of laboratory silos, analysis of fermentation characteristics and nutrients, ruminal in vitro digestibility measurements, and utilization of near-infrared spectroscopy for starch digestibility analysis. Most work will be conducted at the Animal Sciences Building – Ruminant Nutrition Lab, but farm visits for sample collection may be required. Transportation will be provided for farm visits. In addition, it will be required participation in weekly lab meetings for project and manuscript discussion. Position (s) will be available between May and August (specific dates are negotiable).

### **Dr. Corwin Nelson**

#### **Summer internship opportunities in the Nelson lab:**

Research in the Nelson lab focuses on influences of nutritional and environmental factors on immunity in cattle. There are multiple 6-8 week long projects for students to perform from May - August. These are independent projects that would be supervised by Dr. Nelson and conducted in Gainesville and surrounding areas.

**Calf nutrition and immunity project:** Student will perform on-farm and laboratory research that examines the effects of vitamin A, D, and E supplementation on health, growth and immunity of dairy calves. This project will involve daily feeding of dairy calves, blood sample collection, health scoring, growth measurements, and immune response analysis (Assistance will be provided). Laboratory work for this project involves cell culture, RNA extraction and qPCR analysis, and immune assays (e.g. cell sorting, flow cytometry and ELISAs).

**Mastitis project:** Student will assist in investigation of the effects of vitamin D on mammary immune responses during mastitis in dairy cattle. This project involves milk and blood sample collection, isolation of immune cells from blood and milk using fluorescence activated cell sorting, RNA extraction and qPCR analysis, and microbiological assays.

**Macrophage bactericidal activity project:** Student will perform a study to determine the effects of vitamin D signaling on macrophage bactericidal activity. The project involves blood sample collection from cattle, isolation and culture of macrophages, microbiological assays, and qPCR.

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### Dr. Raluca Mateescu

#### **Summer Internship in the Animal Genomics Lab**

Summer students have the opportunity to participate in a research projects utilizing genomic techniques to investigate several traits in beef cattle.

**Genetic markers for beef quality and tenderness.** Interns will learn basic molecular biology techniques and will apply them to evaluate the association of genetic markers with meat quality and tenderness traits.

**Genetics of thermotolerance in beef cattle.** Interns will participate in data collection to describe the tolerance to heat stress. Interns will learn basic molecular biology techniques and will apply them to evaluate the association of genetic markers with thermal tolerance.

Responsibilities will include assisting in sample collection, DNA extraction, conducting in lab assays for our phenotypes, maintaining records or databases, PCR amplification of DNA, genotyping, and DNA sequencing. Most work is conducted in the Mateescu lab, located on campus in the Animal Science building. The position will begin on June 27 and conclude on August 5<sup>th</sup>.

### Dr. Sally K. Williams

**Sally K. Williams, Ph.D., Associate Professor**, Department of Animal Sciences. Area of expertise includes study of sole and synergistic effects of food additives on meat, poultry and related muscle food proteins. In determining these effects, microbiology, food safety, consumer acceptance, and storage stability of muscle foods are determined.