



## Internship Opportunity



### Roman L. Hruska U.S. Meat Animal Research Center



**Program:** This eight week undergraduate internship at the U.S. Meat Animal Research Center (USMARC) provides an opportunity for college students interested in a possible research career in genomics, bioinformatics, and related fields to receive cutting edge research experience while under the mentorship of an established Agricultural Research Service (ARS) scientist. The student will be selected on a competitive basis. In addition to the research project, the student will participate in formal weekly discussions, which will provide the opportunity to share their experiences with other USMARC interns and research scientists.

**Facilities:** The USMARC is a world-renowned animal research facility within the Agricultural Research Service (ARS), the primary research agency of the U.S. Department of Agriculture (USDA). The Mission of the USMARC is to develop scientific information and new technology to solve high priority problems for the U.S. Beef, Swine, and Sheep Industries. The Center is located in South Central Nebraska on 35,000 acres. Research approaches involve multidisciplinary teams consisting of 53 scientists and post-docs as well as 200 supporting personnel with emphasis on both short-term and long-term solutions to animal production and product quality. About 50 percent of the research effort focuses on beef cattle, 30 percent on swine, and 20 percent with sheep. The Center is organized into four Research Units: Genetics, Breeding, and Animal Health, Meat Safety & Quality, Nutrition & Environmental Management, and Reproduction.

**Project Description:** Structural variations in the genome are an important source of genetic diversity. These include copy number variations (CNVs), which are gains and losses of large regions of genomic sequence between individuals of a species that are often large enough to include entire genes. Thus, a significant fraction of CNVs are likely to have functional consequences, due to gene dosage alteration and disruption of genes. A comprehensive identification and cataloging of CNVs will greatly benefit the genetic and functional analysis of livestock genome variation. The student will be responsible for investigating CNV regions in the genome sequence of USMARC swine under the guidance of the supervising USMARC scientist. The student will become familiar with CNV detection methodology and learn to use computational and statistical tools that have been developed for CNV identification, as well as other bioinformatics tools. In addition, the student will help with other ongoing projects at USMARC as time permits.

**Benefits:**

- Opportunity to work with world-renowned animal research scientists
- A salary of at least \$11.00 per hour plus earned leave benefits
- Hands-on experience in diverse areas of bioinformatics and animal science
- Experience as a federal employee within the USDA

**Eligibility:** To qualify for this program students must

- Be currently enrolled at a college or university
- Have sophomore status by start of employment
- Have a minimum GPA of 3.0
- Be interested in and have taken coursework that encompasses at least two of the following: biology, animal science, genetics, mathematics, statistics, and computer science
- Be willing to learn basic computer programming and how to use DNA information to improve livestock genetics

Women and minorities are encouraged to apply. USDA/ARS is an equal opportunity provider and employer.

**Applications must be emailed or postmarked by April 1, 2016.** To apply, please provide an unofficial transcript, a personal statement, a resume, and a letter of recommendation from a faculty member at your institution.

**Selections will be made by April 15, 2016.**

**Employment is available beginning May 30, 2016.** The educational program will run June 1, 2016 through July 29, 2016.

To apply or request additional program information contact:

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