

**Opportunity Title:** Bioinformatic Programming Research Opportunity

**Opportunity Reference Code:** ARS-CICGRU-2016-0145

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** ARS-CICGRU-2016-0145

**How to Apply** A complete application package consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Selected candidate must provide proof of completion of the degree before the appointment can start. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation.
- A current resume/CV

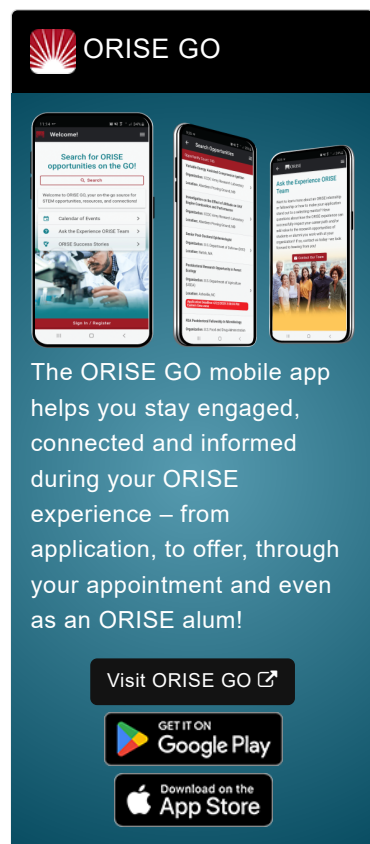
If you have questions, send an email to [USDA-ARS@orau.org](mailto:USDA-ARS@orau.org). Please include the reference code for this opportunity in your email.

**Description** A postgraduate research opportunity is available with the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) Corn Insects & Crop Genetics Research Unit (CICGRU) in Ames, Iowa.

The selected applicant will participate on a project aimed to produce software for interactive display of genetic and genomic data, in a web environment; and to contribute to projects in the Drupal framework with Postgres back end. Technologies used will include various javascript libraries, potentially including but not limited to, Paper.js, Node.js, D3, and AngularJS. For projects in the Drupal framework, familiarity with PHP and PostgreSQL is desired. Software will be managed and made publicly available through github or comparable version control repository. Development will take place primarily in a Unix environment.

The appointment is full-time for one year and may be renewed based upon recommendation of the ARS and availability of funding. The selected applicant will receive a stipend as support for their living and other expenses during this appointment. Stipend rates are determined by ARS officials, and are based on the applicant's academic and professional background. A stipend supplement is available to offset the cost of a health insurance plan. The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. A relocation allowance will be provided if needed. An annual allowance is available to reimburse travel-related expenses to scientific and professional development activities. The participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

While participants will not enter into an employment relationship with ARS, this position requires a pre-employment check and a full background investigation.



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This opportunity is available to U.S. citizens.

This is an equal opportunity program open to all qualified individuals without regard to race, color, age, religion, sex, sexual orientation, gender identity, national origin, mental or physical disability, covered veteran's status or genetic information.

For more information about the ARS Research Participation Program, please visit the [Program Website](#).



**Qualifications** To be eligible, applicants must have received a bachelor's degree in Computer Science, Bioinformatics, Software Engineering, Genetics, or a related field with significant coursework in both computer science and genetics or bioinformatics within five years of the desired starting date.

Preferred skills include:

- Demonstrated working knowledge of javascript, and familiarity with javascript graphics libraries (e.g. D3 or Paper.js) and frameworks (e.g. Angular, jQuery, or Dojo)
- Familiarity with PHP and one or more relational database platforms (e.g. MySQL, Postgres)
- Knowledge of basic genomic and genetic concepts, including genomic structural components (genes, genomes, regulatory elements) and genetic modes and mechanisms of inheritance
- Fluency in Unix environments, including demonstrated knowledge of at least one command-line editor, knowledge of one or more shell scripting languages, and knowledge of regular expressions

Ideal candidates will have:

- Understanding of software engineering principles and practices, including modularity, documentation, and methods of distributed code management
- Experience writing and maintaining software tools for visualizing genomic information, such as JBrowse

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Bachelor's Degree.
  - **Discipline(s):**
    - **Computer, Information, and Data Sciences** ([3](#) )
    - **Life Health and Medical Sciences** ([3](#) )