

**Opportunity Title:** Postdoctoral Computational Biologist  
**Opportunity Reference Code:** ARS-FSEPRU-2015-0116



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

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**How to Apply** A complete application 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 Postdoctoral Research Opportunity is available with the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) Food Safety Enteric Pathogens Research Unit (FSEPRU) at the National Animal Disease Center (NADC) in Ames, Iowa.

We are looking for an outstanding scientist who is proactive, independent, and motivated to use advanced computational software to solve complex biological problems.

A team of microbiologists are conducting research to dissect host-pathogen-microbiota interactions in the reservoir animals for Shiga toxin-producing Escherichia coli (STEC), namely cattle, in order to develop and apply novel STEC detection and elimination strategies. The appointee will be responsible for conducting bioinformatics analyses of data generated as part of these projects. Methods include but are not limited to bacterial strain or community-omics (genomics, transcriptomics or proteomics). Current research is focused on: reducing cattle colonization by STEC; exploiting STEC interactions with the host and its commensal bacteria to develop control strategies (probiotics, vaccines) that would enable such reductions and development of methods to rapidly detect STEC colonized animals.

The position is full-time for one year and may be renewed upon recommendation of the ARS and availability of funding. The annual stipend rate for this opportunity is \$58,562. A health insurance allowance of \$5,160 will be provided to offset the cost of a health insurance plan. The participant must show proof of health and medical insurance. Health insurance can be obtained

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through ORISE. Relocation expenses, up to \$500, may be reimbursed. An allowance of \$3,000 is available for travel-related expenses to scientific and professional development activities. **The participant does not become an employee of ARS or ORISE.**

NADC is the premier research institute within the USDA for studying diseases of large animals, and is located in Ames Iowa. At the NADC, scientists are able to investigate microbe-host interactions from every perspective—molecular, microbe, and natural host.

**Recent publications of team members and collaborators:**

-Proteomics. 2015; 15:1829-1842. doi:10.1002/pmic.201400432.

-PLOS One. 2015; doi:10.1371/journal.pone.0116743

-BMC Microbiol. 2014; 14:48 doi: 10.1186/1471-2180-14-48  
<http://www.biomedcentral.com/1471-2180/14/48>

-PLoS One. 2014 Jan 21;9(1):e85866. doi:  
10.1371/journal.pone.0085866.

-Appl Environ Microbiol. 2014 Mar;80(6):1882-92. doi:  
10.1128/AEM.03198-13.

-Microb Pathog. 2013 Apr;57:21-6. doi:  
10.1016/j.micpath.2013.02.002.

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

This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details](#) page of the program website for information about the valid immigration statuses that are acceptable for program participation.

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

Ames, home of Iowa State University, was recently ranked ninth on CNNMoney.com's "Best Places to Live" list.

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

**Qualifications** To be eligible, applicants must have received a Doctorate degree in Bioinformatics, Computational biology, Microbiology

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Immunology, and/or a related field within five years prior to the desired starting date.

The ideal candidate will be skilled in: use of Linux or Mac OS-X operating systems; analyses of large datasets, particularly of nucleic acid sequences; use of biological databases and various bioinformatics tools; and technical writing for peer-reviewed publications.

Additional knowledge of statistical inference methods, scripting language(s) such as Java or Python, microbiology, molecular biology, and/or genetics, and good interpersonal and public speaking skills is preferred.

Demonstrated skills and research ability investigating microbial-host interactions, including computational analysis of metagenomics, transcriptomics and/or proteomics data, is ideal.

**Eligibility  
Requirements**

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (14 👁)