Opportunity Title: Postdoctoral Research Opportunity in Computational Biology - ARS
Opportunity Reference Code: ARS-FSEPRU-2017-886-0024-02

Organization U.S. Department of Agriculture (USDA)

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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. Click **here** for detailed information about acceptable transcripts.
- A current resume/CV
- Two references – While two references are requested, applications will be considered without reference information. It is preferred that a complete application package contains a minimum of one reference.

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

Description A postdoctoral research opportunity is available with the Food Safety Enteric Pathogens Research Unit (FSEPRU) at the National Animal Disease Center (NADC).

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. A team of microbiologists and immunologists are conducting research to monitor the activities of mucosal and immunological tissues in the avian intestinal tract. The appointee will collaborate with this team and conduct research in bioinformatics analyses of this data. The appointee will strengthen their research skills in host and bacterial transcriptomics, genomics, and microbial community analyses. Current research focuses on: reducing colonization of foodborne pathogens (notably Salmonella and Campylobacter); exploiting interactions among the host, its commensal bacteria, and foodborne pathogens; understanding environmental stressors (e.g. heat) on intestinal tissue functions and foodborne pathogen colonization; and establishing links between microbial membership and metabolic function in the gut.

This is a one year, full-time position that may be renewed based upon recommendation of the ARS and availability of funding. The annual stipend is $60,210, with an additional allowance towards individual or family insurance. Relocation expenses up to $500 may be reimbursed and an annual allowance of $3,000 is available for travel-related expenses to scientific meetings.The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. The

participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, ARS, 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-appointment check and a full background investigation.

Recent publications of team members and collaborators:
Proc Natl Acad Sci (www.pnas.org/cgi/doi/10.1073/pnas.1120238109)
mBio (http://mbio.asm.org/content/2/6/e00260-11)
Appl Environ Microbiol (http://aem.asm.org/content/76/24/8026)
Infect, Genet, Evol (http://www.ncbi.nlm.nih.gov/pubmed/23535116)
ISME (http://www.nature.com/ismej/journal/v8/n8/full/ismej201412a.html)
Front Microbiol (http://www.ncbi.nlm.nih.gov/pubmed/24959163)

Qualifications

To be eligible, applicants must have received a doctorate degree in Microbiology, Bioinformatics, Biochemistry, or a related field within five years prior to the desired starting date.

The ideal candidate will be skilled in: use of Linux operating systems; analyses of large datasets, particularly of nucleic acid sequences; fluency in at least one scripting language is required; 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, microbial ecology, 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 transcriptomic and population-scale metagenomic data, is ideal.

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (2)
  - **Computer, Information, and Data Sciences** (16)
  - **Engineering** (3)
  - **Environmental and Marine Sciences** (13)
  - **Life Health and Medical Sciences** (45)
  - **Mathematics and Statistics** (10)