Opportunity Title: Postdoctoral Research Opportunity in Microbiology and Antimicrobial Resistance
Opportunity Reference Code: ARS-FSEPRU-2018-980-0024-04

Organization U.S. Department of Agriculture (USDA)

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How to Apply A complete application consists of:

- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional references

All documents must be in English or include an official English translation.

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 the U.S. Department of Agriculture (USDA), 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 computational and microbiological methods to solve complex biological problems.

A team of microbiologists and immunologists are conducting research to monitor the activities of bacteria along mucosal surfaces in the avian intestinal tract. The appointee will be responsible for conducting analyses of data as part of the project goals. Methods include but are not limited to: host and bacterial transcriptomics, genomics, and microbial community analyses. Current research focuses on: understanding the movement of antibiotic resistance genes between bacteria in the gut; reducing colonization of foodborne pathogens (notably Salmonella and Campylobacter); exploiting interactions among the host, its commensal bacteria, and foodborne pathogens; and establishing links between microbial membership and metabolic function in the gut.

The participant will have the opportunity to learn cutting edge computational and molecular techniques, as well as gain experience in designing and executing animal experiments to test hypotheses. Additional opportunities exist to attend technical workshops and to participate in grant writing.

This is a one year, full-time position that may be renewed annually for an additional 2 years. The annual stipend is $61,218, with an additional stipend supplement 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.

NADC is the premier research institute within the USDA for studying diseases of large animals, and is located in Ames Iowa. At the NADC,

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scientists are able to investigate microbe-host interactions from every perspective—molecular, microbe, and natural host.

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)
- ISME (http://www.nature.com/ismej/journal/v8/n8/full/ismej201412a.html)
- Front Microbiol (http://www.ncbi.nlm.nih.gov/pubmed/24959163)
- mBio (https://mbio.asm.org/content/mbio/7/2/e02214-15.full.pdf)
- mBio (https://mbio.asm.org/content/mbio/8/4/e00709-17.full.pdf)

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

This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. The initial appointment is for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits.

While participants will not enter into an employment relationship with ARS, this position requires a pre-appointment 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.

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 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; use of biological databases and various bioinformatics tools; microbiological techniques; and technical writing for peer-reviewed publications.

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

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Demonstrated skills and research ability including computational analysis of antibiotic resistant gene sequences or transcriptomic and population-scale metagenomic data. Additional experience with microbiological culturing and molecular methods is ideal.

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1 👁)
  - **Environmental and Marine Sciences** (3 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (1 👁)