

**Opportunity Title:** Postdoctoral Research Opportunity in Bacterial Pathogenesis

**Opportunity Reference Code:** USDA-ARS-2019-0052

<b>Organization</b>	U.S. Department of Agriculture (USDA)
<b>Reference Code</b>	USDA-ARS-2019-0052
<b>How to Apply</b>	<p>A complete application consists of:</p> <ul style="list-style-type: none"> <li>• An application</li> <li>• Transcripts – <a href="#">Click here for detailed information about acceptable transcripts</a></li> <li>• A current resume/CV, including academic history, employment history, relevant experiences, and publication list</li> <li>• Two educational or professional recommendations</li> </ul>

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

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.

**Application Deadline** 8/30/2019 3:00:00 PM Eastern Time Zone

**Description** **\*Applications will be reviewed on a rolling-basis.**

A research opportunity is available with Tracy Nicholson's laboratory of the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), National Animal Disease Center (NADC), Virus and Prion Research Unit (VPRU) located in Ames, Iowa.

Current research projects in the laboratory include identifying virulence factors and evaluating the molecular mechanisms used by respiratory bacterial pathogens, such as *Bordetella bronchiseptica*, *Haemophilus parasuis*, and *Streptococcus suis*, to colonize and cause disease in their natural host.

Under the guidance of a mentor, the participant will be involved in the following activities:

- genetic modification of bacterial strains
- performing biofilm assays
- measuring swine immune responses
- analyzing RNA and DNA sequencing data to identify genetic elements that contribute to disease outcomes
- evaluating pathogenesis using molecular tools both in cell culture and in swine infection studies

The participant will also collaborate with the swine bacterial pathogens team on other ongoing projects. The participant will have the opportunity to present research findings in laboratory meetings and seminars, and will write scientific manuscripts and publish them in peer-reviewed scientific journals.

National Animal Disease Center (NADC) is the premier research institute within the U.S. Department of Agriculture (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.

Ames, home of Iowa State University, was recently ranked ninth on CNNMoney.com's




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"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, ranging from \$59,246 - \$71,012 annually. Full or partial reimbursement for travel expenses to conferences, scientific meetings, or training may be provided. Full or partial reimbursement for health insurance costs will be provided. Proof of health insurance is required for participation in this program. The appointment is full-time at ARS in the Ames, Iowa, area. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits.

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



The qualified candidate should have received a doctoral degree in one of the relevant fields, or be currently pursuing the degree and will reach completion by the start date of the appointment. Degree must have been received within five years of the appointment start date.

Applicants with an interest in the molecular mechanisms that underlie bacterial and polymicrobial (viral-bacterial) host-pathogen interactions, the contributions of biofilms to the pathogenesis of respiratory disease, and the immune response to these diseases are encouraged to apply.

Preferred skills:

- Strong molecular biology skills: PCR, cloning, sequencing, western blot, DNA / RNA isolation
- Experience with animal models for infectious disease study
- Experience with cell culture assays: mammalian cell culture maintenance, culture of pathogens
- Knowledge of standard immunological techniques
- Experience with next generation sequencing platforms, genomics or metagenomics, and using computational methods to manage, analyze, and visualize biological data sets
- Excellent verbal and written communication skills

## Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 6/3/2019 12:00:00 AM.
- **Discipline(s):**
  - **Environmental and Marine Sciences** (1 )
  - **Life Health and Medical Sciences** (45 )