

A postdoctoral position is available as part of the multi-institutional **Beenome100** effort to sequence and analyze 100+ bee species in the US. This project has produced 50+ reference genome assemblies to date, and is on track to pass 100 in 2024.

This position (<https://www.zintellect.com/Opportunity/Details/USDA-ARS-SCINet-2023-0488>), will involve “**Using AI to Address Host-Microbe Interactions in Pollinating Bee Species**”.

Location: Beltsville, Maryland but with telework potential

Closing Date: 2/16/2024

Research Project: This postdoctoral fellow will deploy artificial intelligence (AI) and statistical modeling techniques to investigate 1) gene family expansion and retraction for immune-related proteins across the bees, and 2) signatures of selection in immune-related proteins. They will also use AI approaches and microbial resources to assess parasite and pathogen pressures across a diversity of bee species and collaborate with the Beenome100 team to improve curated microbial databases across bees as a whole. This research will produce testable hypotheses for the impacts of climate, habitat, social structure, and nutrition on bee disease threats.

Primary Home: The Evans laboratory is a part of the USDA-ARS Bee Research Laboratory, Beltsville, MD, studying the impacts of disease in honey bees and other pollinators. As part of the Beenome100 effort to sequence, annotate, and utilize reference genomes for 100+ bee species, we are interested in immune-related genes across the bees, and developing insights into bee-microbe interactions (<https://orcid.org/my-orcid?orcid=0000-0002-0036-4651>).

Learning Objectives: The fellow will have opportunities to develop skills in insect immunity, genetics, molecular biology, bioinformatics, and metagenomics. The fellow will have opportunities to research alongside several collaborators, present their research at professional conferences, publish their findings, and participate in AI and other trainings hosted by USDA-ARS SCINet.

Mentor: The mentor for this opportunity is Jay Evans (jay.evans@usda.gov). If you have questions about the position, please contact the mentor.

Anticipated Appointment Start Date: 2024; start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year but may be renewed for a second year upon recommendation of the mentor and ARS.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience. **The current stipend range for this opportunity is \$85,000 - \$95,000/year plus a supplement to offset a health insurance premium.**

Citizenship Requirements: 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.