

Employment Opportunities

- [Infectious Disease Epidemiology](#)
- [Purdue University Cytometry Laboratory \(PUCL\)](#)

1-year Post-doctoral Associate position in Infectious Diseases Epidemiology, Purdue University

Applications are invited for a full-time Post-doctoral Associate position in the **Infectious Diseases Epidemiology Laboratory** at Purdue Veterinary Medicine, headed by Dr. Wendy Beauvais.

The Post-doctoral Associate will work for approximately 15-20% of their time on the following project, which is funded by USDA: **Improving disease preparedness amongst small-scale poultry owners**. This project team includes faculty members at Purdue and at SAFOSO in Switzerland. The team is seeking a self-motivated individual who will nurture a diverse, collaborative, supportive and productive research environment.

The remaining 80-85% of the post-doc's full-time effort will be used to support other ongoing research projects and to develop research proposals aligned with the post-doc's interests including quantitative and qualitative methods applied to infectious disease epidemiology problems *e.g.*, zoonotic influenza, antimicrobial resistance in human and animal settings.

Salary and health insurance benefits will be provided. The position is available to start as soon as possible.

Applicants must have the ability to acquire an Indiana driver's license and be prepared to travel throughout the state of Indiana to visit poultry owners. Previous training or experience in conducting surveys or with poultry husbandry would be an advantage but is not required.

Department of Comparative Pathobiology, Purdue Veterinary Medicine

The successful candidate will work within the department of **Comparative Pathobiology** at Purdue's West Lafayette campus, which is home to more than 10,000 postgraduates. **Purdue University** is the land-grant University of the State of Indiana. As the only College of Veterinary Medicine in the State, the College is in the unique position of conducting education, research, and outreach to fulfill the veterinary needs of the State and improve the health and well-being of animals and people. The Department of Comparative Pathobiology (CPB), housed within the Veterinary College, has a long tradition of excellence. The CPB department is dedicated to the study of disease processes at the molecular, cellular, individual, population and ecosystem levels, its impact and specific diagnosis. Various areas of expertise within the Department include infectious diseases and vaccinology, pathology, cancer biology, drug development, toxicology, animal welfare, disease diagnostics and surveillance, and human-animal interactions.

Apply

Interested candidates should submit a CV and covering letter to Dr. Wendy Beauvais at wbeauvai@purdue.edu.

Short-listed candidates will be invited to participate in a video-conference interview consisting of a 5-minute research presentation and a standardized set of interview questions.

Deadline

Applications will continue to be accepted until August 31, 2023, but those received after the review date will only be considered if the position has not yet been filled.

Diversity Statement

Purdue University College of Veterinary Medicine values, nurtures, and respects all members of its community and ensures an environment of inclusive excellence where all students, faculty, and staff are inspired and empowered to achieve their full potential. In order to be better informed about issues of climate, diversity and inclusion, Purdue University and Purdue Veterinary Medicine provide the opportunity for all its faculty and staff to participate in various diversity-training activities.

Purdue University is an EOE/AA employer. All individuals, including minorities, women, individuals with disabilities, and veterans are encouraged to apply.

POSTDOCTORAL POSITION AVAILABLE (FROM JULY 1ST, 2023)

Topic: In vitro device development for Schistosoma egg migration study

Place: PUCL, PURDUE UNIVERSITY, WEST LAFAYETTE CAMPUS

The Purdue University Cytometry Laboratory (PUCL) is inviting applications for a postdoc position available from July 1st, 2023.

PROJECT DESCRIPTION

The candidate will work on an exciting study funded by the Human Frontier Science Program (HFSP), which aims to clarify how Schistosoma eggs are able to transit through the human gastrointestinal tissues despite lacking apparent locomotory appendages. The study will entail the development of microfluidic devices to realize *in vitro* models (organ-on-chip, organoid-on-chip) that recreate the human gastrointestinal (mesenteric capillary, epithelial/endothelial barriers, and the gut lumen) for use in the study of Schistosoma egg migration. This will include tracking multicellular interactions among host fibroblasts and immune cells associated with granuloma formation around a Schistosoma egg, and quantification of the forces involved in the migration from a tissue mechanics perspective. This is an international collaborative study which will require close collaboration with collaborators in Kenya who will be undertaking a similar study using *in vivo* models. The successful candidate will work in the College of Veterinary Medicine within the PUCL research environment with a dedicated team of staff and postdocs in a very high technology lab environment.

ABOUT THE PUCL LAB:

Led by Prof. J Paul Robinson, the PUCL has a rich research history in cytometry and has developed a plethora of high-throughput spectroscopic techniques for cell and pathogen detection, including laser induced breakdown spectroscopy, elastic light scatter, single-photon spectroscopy, among others. The lab combines engineering with biological approaches to address fundamental challenges in pathogen detection in health and food safety.

PUCL offers a welcoming and exciting research environment where you will work closely with members from diverse academic backgrounds (engineers, biologists, etc.) and nationalities to foster your creativity and multidisciplinary through collaboration and exciting lab discussions over PIZZA every Friday. A healthy work experience as well as work-life balance awaits you. More info on the PUCL can be found at: <http://cyto.purdue.edu>

BASIC QUALIFICATIONS

We are looking for a postdoc candidate who is enthusiastic about challenging new research fronts by combining engineering and biological approaches to answer fundamental biological questions. Specifically, we are looking for someone with basic experience in cell culture, cell handling and, possibly, experience in microfluidics and *in vitro* models such as organ-on-a-chip or organoids (or interest in this kind of research). Experience working with microscopes and analytical tools such as RT-PCR, qPCR, ELISA, western blots would be a plus. Additionally, experience in device instrumentation for force mapping and quantitative analysis of mechanical factors such as tissue stiffness would be an added advantage.

KEY TASKS AND RESPONSIBILITIES:

- Design and develop *in vitro* models (e.g. gut-on-chip) to mimic the human gastrointestinal system.
- Perform 3D cell culture in a stiffness-tunable hydrogel and track cell dynamics in a 3D space using timelapse and fluorescence microscopy.
- Map changes in hydrogel stiffness associated with granuloma formation induced by *Schistosoma* egg (egg will be mimicked using an “egg-like-bead”).
- Perform molecular analyses using western blotting, PCR and ELISA etc.
- Generate and record data, protocols and/or code for publication.
- Draft manuscripts and figures derived from experiments and other analyses.
- Interact with and support other laboratory members.
- Share and discuss research results with key collaborators in the group, including the partners in Kenya (in may be necessary to travel to Kenya).
- Present scientific results and findings in relevant international meetings.

JOB REQUIREMENTS

➤ **Mandatory requirements:**

- A PhD in either biology, biomedical engineering, biophysics, biochemistry, or other relevant disciplines.
- Knowledge of microscopy and cell imaging.
- Basic knowledge in molecular analysis
- Good knowledge of data analysis and presentation
- Fluency in English (English is the main language used in the lab).

➤ **PREFERENTIAL REQUIREMENTS:**

- Enthusiasm and readiness to challenge new research fronts.

➤ **OTHER COMPETENCIES:**

- Independence and flexibility in handling a research project and generating new ideas.
- Strong interpersonal skills and demonstratable teamwork.
- Ability to keep research records with transparency and accountability and be able to create an open and positive lab environment.
- Ability to work in an inclusive environment with sensitivity and respect for diversity.

APPLICATION INSTRUCTIONS:

The application should contain:

1. CV with full list of publications and other scientific achievements,
2. description of research experiences (max two pages),
3. contact information of at least TWO references.

Please send the above by email to Prof. J Paul Robinson (jpr@cyto.purdue.edu).

Applications are accepted until the position is filled.

In your “description of research experiences”, please briefly describe: 1) your scientific background, 2) why you want to apply and work on this research project, 3) how you can relate your research experiences to the project.

For additional specific enquiries, please contact **Kennedy Okeyo** at; kokeyo@purdue.edu
(Please note that this email address should not be used to send in applications).

SALARY/BENEFITS

- Salary commensurate with experience (min. USD 56,880/year)
- Other benefits will be in accordance with Purdue University work regulations.
- Flexible working hours.
