Program in Innate Immunity
Division of Infectious Diseases and Immunology
Department of Medicine
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Read Pukkila-Worley, MD, FIDSA
Associate Professor of Medicine
University of Massachusetts Medical School

Opportunity
Postdoctoral Research Fellow in the Pukkila-Worley Laboratory

Location
Program in Innate Immunity, Division of Infectious Diseases and Immunology
University of Massachusetts Medical School

Job Description
We are seeking a highly motivated and creative individual to join us in investigating conserved mechanisms of host-pathogen interactions in the intestine. Specifically, our lab focuses on three broad questions, which are each funded by different NIH grants.

1. How are bacteria sensed by the innate immune system? This project (R01 AI130289) focuses on characterizing the role of a specialized type of transcription factor called nuclear hormone receptors in the sensing of metabolites derived from a pathogenic bacteria during infection — a totally new mechanism of pathogen sensing and immune activation.
2. How do neurons control inflammation in the intestine? Under a newly funded R21 (R21 AI163430), we are characterizing sensory neurons that regulate intestinal immune responses — a window into so-called gut-brain-microbiome axis that is not well understood, but is essential for innate immune homeostasis.
3. How does metabolism affect the ability of a host to survive infection? Funded by a new R01 award (R01 AI159159), which received a score in the first percentile in June 2021, we are defining the links between energy sufficiency and the activation of protective immune defenses that are essential to survive infection. Specifically, this project dives into the mechanics of the p38 MAP kinase innate immune pathway to figure out how protective immune defenses are activated in response to pathogen-induced changes in host metabolism.

Applicants with expertise in any area of science will be considered. Expertise in molecular biology, cell biology and genetics in any model system, in particular *C. elegans*, *Drosophila* or mice, is a bonus.

Specific Requirements
- A Ph.D. or M.D. (or equivalent)
- Evidence of previous scientific scholarship, specifically the publication of original research articles in peer reviewed journals as first author
- The candidate must also be responsible, have strong communication and interpersonal skills and be willing to work in a highly collaborative and open research environment.

Application Materials
- A cover letter explaining your scientific background and your reasons for wanting to join our group
- A *curriculum vitae* (with publication list)
- Three letters of reference will be needed upon request

Application Method
Please apply by email to the Principal Investigator: Read Pukkila-Worley, M.D. (RPWlab@gmail.com, @RPWlab)

For more information, please visit our lab website (http://www.umassmed.edu/pukkila-worleylab)