



INDIANA UNIVERSITY

DEPARTMENT OF MEDICINE

School of Medicine

Post-doctoral Fellow Position

Sepsis, Molecular biology, Microbiology, Renal physiology

Hato Laboratory

Indiana University School of Medicine

950 W. Walnut Street R2 Indianapolis, Indiana, USA

Website: <https://hatolab-iu.github.io/>

The Hato Laboratory at Indiana University School of Medicine is seeking a motivated postdoctoral fellow to join our interdisciplinary research program at the intersection of sepsis, microbiology, molecular biology, and renal physiology. Our laboratory uses the kidney as a model organ to understand how microbial signals shape tissue function, host responses, and disease pathogenesis. We are particularly interested in questions that cross traditional disciplinary boundaries, connecting bacterial physiology and adaptation with mammalian molecular biology and organ-level physiology.

A major focus of our laboratory is understanding how bacteria interact with the unique environments of the kidney during health and systemic infection. We are especially interested in the renal inner medulla, the principal site of urine concentration, as a previously unrecognized reservoir for *Staphylococcus aureus*. This highly specialized environment provides an exciting opportunity to uncover mechanisms of bacterial adaptation and persistence, host–pathogen interaction, and their consequences for sepsis and kidney injury.

Our laboratory has developed expertise at the interface of renal pathobiology and microbiology, allowing us to interrogate both sides of the host–microbe relationship. We combine complementary experimental approaches, including advanced imaging, dual-species sequencing and custom library preparation, RNA-based therapeutics, and genome editing in both mammalian and bacterial systems. This creates a distinctive training environment for scientists interested in developing expertise across nephrology, molecular medicine, and infectious diseases.

We welcome applicants from a variety of scientific backgrounds. Candidates with training in molecular biology, microbiology, immunology, nephrology, or related fields are particularly encouraged to apply. Previous expertise in every area used by the laboratory is **not required**. We are especially interested in individuals who are intellectually curious, enjoy learning new approaches, and want to pursue mechanistic questions across conventional disciplinary boundaries.

Our goal is to provide a supportive, collaborative, and rigorous training environment in which postdoctoral fellows can grow technically and intellectually while preparing for the next stage of their scientific careers. The successful candidate will have opportunities to develop independence.

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Interested candidates are encouraged to contact Dr. Takashi Hato directly at thato@iu.edu

Inquiries are welcome in either English or Japanese.