

## **Indiana University School of Medicine- Nephrology**

A postdoctoral research position is available in our lab starting July 2017

We are interested in recently graduating doctorates from physiology, molecular and cell biology or immunology programs who would like to develop a career in kidney/urological related research.

The focus will be on studying the parthenogenesis of kidney stones at the cellular and molecular levels.

Basic and few advanced lab techniques are expected. Ideal candidates would have experience in kidney physiology, molecular and cellular biology, multi fluorescence imaging, tissue histology, quantitative image analysis. Any experience in analysis and interpretation of large omics data (RNA seq, microarrays, proteomics) will also be favored.

### **Ashkar Lab profile:**

Our lab has been focusing on the role of Tamm-Horsfall protein (Uromodulin) in Kidney Injury and inflammation. We uncovered a novel protective role for Uromodulin in acute kidney injury by down-regulating the inflammatory response and modulating neutrophil infiltration. Our current investigations are aimed at defining the molecular mechanism involved in this regulation, with a long term goal of using such insights to design novel therapeutic tools to treat patient with Acute Kidney Injury.

We are also interested in understanding and defining tubular cross-talk that occurs between various nephron segments, and the ensuing interaction with the renal immune system in physiological states and during kidney injury. We use several animal models for kidney injury, and various genetic, molecular and cell biology techniques, with special expertise in various forms of microscopy and quantitative image analysis. We also developed advanced expertise in performing immuno-fluorescence guided Laser Micro-dissection (LMD) to dissect specific nephron segments for down-stream genomic and proteomic analysis.

Because of our expertise in tissue interrogation, we also developed interest in uncovering cellular and molecular omics signatures from human biopsy tissue to correlate with disease phenotype and outcomes. The goal is to implement a precision medicine approach to understand disease pathogenesis and treatment. Using this approach, we are currently involved in a large cooperative study to understand the pathogenesis of human kidney stone disease by molecular interrogation of kidney papillary biopsies.

If interested, please send CV and cover letter to Dr. Tarek Ashkar at [telachka@iu.edu](mailto:telachka@iu.edu)