Center for ViroScience and Cure (CVC)

Children's Healthcare of Atlanta

Center of Viroscience and Cure

CFAR

CENTER FOR VIROSCIENCE AND CURE SEMINAR

WEDNESDAY, OCTOBER 22, 2025

2:00 PM ET

Conference Room HSRB II N600 & Zoom
(Registration required)

Ashwin Balagopal, M.D

Associate Professor, Infectious Diseases, John Hopkins Univesrity, Baltimore, MD

Tracking the Spread of Viruses Through Liver in Chronic Infection

Zoom Registration

Dr. Balagopal completed his undergraduate degree at MIT, finished medical school at the Mount Sinai School of Medicine, and completed a residency and chief residency in internal medicine at Yale. After a research post-doctoral fellowship in innate immunity at Ohio State University, he did a combined clinical and research fellowship in infectious diseases at Johns Hopkins where he focused on liver biology and viral hepatitis. He joined the faculty in the division of infectious diseases at Johns Hopkins in 2009.

His investigations have been on the spread of viral infections in tissues, with a specific focus on hepatitis viruses. His lab has developed and adapted quantitative tools (single-cell laser capture microdissection and droplet digital PCR [ddPCR]) to study viral life cycles in single cells in tissue, optimizing sensitive measures of nucleic acids. Using these tools, he reported the first quantities of HCV RNA in single hepatocytes in 2013. He adapted those methods to HBV in liver tissue, uncovering in vivo a population of hepatocytes that contain cccDNA but that are transcriptionally silent. Most recently, his lab developed a multiplex ddPCR to disentangle the source of serum hepatitis B surface antigen, either from cccDNA or integrated DNA. A focus in the lab is to identify links between appropriate and dysregulated immune responses, i.e. immune activation, and pathogenesis, specifically addressing HIV and its co-infections. In addition, he collaborates regularly with mathematicians at Los Alamos National Laboratories to develop theoretical models of tissue biology based on high-resolution analysis.