

# Medical Microbiology and Immunology

## MMI 291 Seminar Series

### Emerging Challenges in Microbiology and Immunology

#### Current Theme: Interdisciplinary Research

## Prasanna Jagannathan, M.D.

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Stanford University Medical Center*

## “Immunologic consequences of early life malaria exposure and prevention”

Friday, September 28, 2018

Genome and Biomedical Sciences Facility, Auditorium Room 1005

12:10 PM – 1:00 PM

**Research work:** Dr. Jagannathan is an Infectious Diseases specialist with a research program in human immunology to malaria. His goals are to further our understanding of the mechanisms of clinical immunity to malaria through field-based studies, and to better understand the immunologic consequences of malaria control interventions. He and his colleagues have made several novel observations about the roles of semi-innate, malaria-responsive  $\gamma\delta$  and CD4+ T cells in the development of immunity to malaria, and how chemopreventive drugs given during pregnancy or infancy may impact the acquisition of protective immunity.

### Publication references:

**Jagannathan P**, Kim CC, Greenhouse B, Nankya F, Bowen K, Eccles-James I, Muhindo MK, Arinaitwe E, Tappero JW, Kanya MR, Dorsey G, Feeney ME. Loss and dysfunction of V $\delta$ 2+ Gamma Delta T cells are associated with clinical tolerance to malaria. *Sci Transl Med*. 2014 Aug 27; 6(251):251ra117. PMID: 25163477. PMCID: PMC3887092

**Jagannathan P**, Bowen K, Nankya F, McIntyre T, Auma A, Wamala S, Sikyomu E, Naluwu K, Nalubega M, Boyle MJ, Farrington L, Bigira V, Kapisi J, Aweeka F, Greenhouse B, Kanya M, Dorsey G, Feeney ME. Effective antimalarial chemoprevention in childhood enhances CD4+ T cell quality and limits CD4 production of immunoregulatory IL-10. *J Infect Dis*. 2016 Apr 10. PMID: 27067196. PMCID: PMC4918829

**Jagannathan P**, Kakuru A, Okiring J, Muhindo MK, Natureeba P, Nakalembe M, Opira B, Olwoch, P, Nankya F, Ssewanyana I, Tetteh K, Drakeley C, Beeson J, Reiling L, Clark TD, Rodriguez-Barraquer I, Greenhouse B, Wallender E, Aweeka F, Prah M, Charlebois ED, Feeney ME, Havlir DV, Kanya MR, Dorsey G. Dihydroartemisinin–piperaquine intermittent preventive treatment of malaria during pregnancy and risk of malaria in early childhood: a randomized controlled trial. *PLoS Med*. 15(7): e1002606. 2018. PMID 30016328.