UCDAVIS HEALTH | SCHOOL OF MEDICINE

Medical Microbiology and Immunology
MMI 291 Seminar Series
Emerging Challenges in Microbiology and Immunology
Spring Quarter 2023 – CRN 51609

MMI 291 Seminar Series

Spring Quarter 2023 – CRN 51609 - Zoom

"The Power of Spatial Imaging Approaches to Understand HIV Reservoirs and Cure Strategy Outcomes"

Research Bio: Uncontrolled inflammation generates significant morbidity and mortality in many non-infectious (e.g., inflammatory bowel disease) and infectious (e.g., HIV) diseases. The central focus of Dr. Estes's research seeks to understand how immune response dysregulation leads to tissue pathology, disease progression, and in the context of infectious diseases, pathogen persistence with the goal to develop and test effective therapeutic strategies that prevent disease and restores immune function. Towards that end, we utilize non-human primate models of several highly relevant human diseases, with a strong emphasis on models of HIV infection and disease, to elucidate determinants of local and systemic inflammation and to test therapeutics that modulate the immune landscape, restore immune homeostasis, and reduce viral reservoirs. We capitalize on the full power of our pre-clinical models by performing cutting-edge in vivo and in situ tissue analyses, including our pioneering work with next-generation in situ hybridization and immunohistochemistry, to generate comprehensive characterizations of the host-pathogen interactions, including the cellular and inflammatory immune landscapes present within relevant tissue microenvironments. Our studies invite collaboration, and we work with academic, government and industry partners around the globe on a wide range of projects from intestinal dysbiosis to the distribution of Zika virus within the host.

Publications

Estes JD. "Combined protein and nucleic acid imaging reveals virus-dependent B cell and macrophage immunosuppression of tissue microenvironments". *Immunity*. 2022 Jun 14;55(6):1118-1134.e8. doi: 10.1016/j.immuni.2022.03.020. Epub 2022 Apr 20. PMID: 35447093; PMCID: PMC9220319.

Estes JD. "Defining total-body AIDS-virus burden with implications for curative strategies". *Nat Med*. 2017 Nov;23(11):1271-1276. doi: 10.1038/nm.4411. Epub 2017 Oct 2. PMID: 28967921; PMCID: PMC5831193.: 30001436; PubMed Central PMCID: PMC6042791.

Estes JD. "Interleukin-10 contributes to reservoir establishment and persistence in SIV-infected macaques treated with antiretroviral therapy". *J Clin Invest*. 2022 Apr 15;132(8):e155251. doi: 10.1172/JCI155251. PMID: 35230978; PMCID: PMC9012284.

April 28

Jacob Estes, Ph.D.
Professor and Director
Vaccine and Gene Therapy Institute at Oregon Health and Science University

April 28, 2023
12:10 – 1 p.m.

Medical Microbiology and Immunology
School of Medicine

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We hope to see you there!