

MMI 291 Seminar Series

Current Theme: Interdisciplinary Research
Spring Quarter 2026 – CRN 46205

Friday Seminar at 12:10-1 p.m.
GBSF Auditorium 1005

“Restoring Gut Immune Homeostasis as a Therapeutic Frontier in HIV Infection”

Research Bio

Satya Dandekar is a professor of Microbiology and the chairperson of the Department of Medical Microbiology and Immunology at UC Davis and has a joint appointment in the Department of Internal Medicine, Division of Infectious Diseases, School of Medicine. Dandekar's research program is focused on the molecular pathogenesis of human immunodeficiency virus (HIV) and simian immunodeficiency virus (SIV) infections with special emphasis on gastrointestinal mucosal lymphoid tissue (GALT) as a major target organ of the viral infection and as a viral reservoir. Current studies have been focused on determining the molecular mechanisms of the disruption of gut mucosal immune system in HIV infection and restoration during anti-retroviral therapy. Her research has utilized the SIV infected rhesus macaque model to investigate the pathologic effects of viral infection on the gut mucosal immune system and function. Dandekar's research demonstrates for the first time that gastrointestinal mucosal tissue is an early target organ of HIV and an early site for viral replication and severe CD4+ T cell depletion (Guadalupe, et al. 2003). She has successfully integrated basic and clinical studies to determine the pathogenic mechanisms of mucosal HIV infection. Dandekar's research was also one of the first to demonstrate that GALT is an early target organ for the pathogenic effects of SIV infection. Dandekar's research described for the first time the restoration kinetics of gut mucosal system during therapy and repair of the damage to gut mucosal structure and function caused by the viral infection. Dandekar's other research focus is in understanding enteropathogenic mechanisms of HIV and SIV pathogenesis. She has been responsible for developing an SIV enteropathogenic model for the studies of HIV-associated enteropathy.

Publications

Kramer DJ, Wang W, Loque I, Walters-Laird CJ, Morisseau C, Xiao X, Nearing M, Santos Rocha C, Dandekar A, Hammock B, **Dandekar S.** [“Microbial biotherapeutic metabolite alleviates liver injury by restoring hepatic lipid metabolism through PPAR \$\alpha\$ across the gut-liver axis”](#). 2025 *MBio* 16:e01718-25.

Rocha C, Alexander K, Herrera C, **Dandekar S.** [“Microbial remodeling of gut tryptophan metabolism and indole-3-lactate production regulate epithelial barrier repair and viral suppression in human and simian immunodeficiency virus infections.”](#) 2025 *Mucosal Immunology*.

May
15



Satya Dandekar, Ph.D.

Distinguished Professor

and Chair

Department of Medical Microbiology and
Immunology

UC Davis Medical Center

University of California, Davis

May 15, 2026
12:10 – 1 p.m.
GBSF Auditorium
1005

Hybrid presentation

Medical Microbiology and
Immunology
School of Medicine

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We hope to see you there!