



Colloquium

February 7, 4:05 p.m. (9th Period)
(in the Atrium)

Speaker: Chirantha Tharusha Bandara

Title: Mathematical Model on HIV and Nutrition.

Abstract

HIV continues to be a major global health issue, having claimed millions of lives in the last few decades. While several empirical studies support the fact that proper nutrition is useful in the fight against HIV, very few studies have focused on developing and using mathematical modeling approaches to assess the association between HIV, human immune response to the disease, and nutrition. In this talk, we present a novel within-host model for HIV that captures the dynamic interactions between HIV, the immune system, and nutrition. We will explore the relationship between serum protein levels and viral loads, viral production rates, and the enhancement rate of protein by the virus in HIV-infected individuals. We will conclude our presentation with a discussion on the correlation between dietary protein intake and serum protein levels in HIV-infected individuals. Based on joint work with Dr. Maia Martcheva and Dr. Calistus N Ngonghala.