1109-92-208 **Libin Rong*** (rong2@oakland.edu). *Modeling HIV persistence and slow CD4+ T cell decline.* Preliminary report.

HIV cannot be eliminated by current combination therapy because of latent infection. The reservoir consisting of latently infected CD4+ T cells is extremely stable. The progressive loss of CD4+ T cells is the hallmark of HIV infection. The mechanisms underlying these virus and T cell dynamics are not fully understood. In this talk, I will review some existing models and introduce a new one based on the establishment of HIV latency to probe HIV persistence and the latent reservoir stability. Both deterministic and stochastic simulations of the model will be performed to study the long-term dynamics of HIV and latently infected cells. I will also develop another model to test a new mechanism that may explain the slow time scale of CD4+ T cell decline. Modeling prediction will be compared with long-term CD4+ T cell data in untreated HIV patients. (Received February 01, 2015)