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Libin Rong*, 1400 Stadium Rd, Gainesville, FL 32611. *Modeling HIV cell-to-cell transmission*. Preliminary report.

HIV persists in infected individuals despite long-term treatment with antiretroviral drugs. The mechanisms underlying HIV persistence are not fully understood. HIV latent infection of CD4+ T cells might be a major reason but other mechanisms can also contribute to viral persistence. In addition to cell-free virus infection of cells, virus can be directly transferred from infected to uninfected cells (cell-to-cell transmission). During cell-to-cell transmission, multiple virions are transmitted to an uninfected cell, making it possible that at least one virion can escape HIV drugs and establish infection. In this talk, I will discuss a few mathematical models that include cell-to-cell viral transmission to study HIV dynamics under therapy. I will show the mathematical and numerical results of the models and discuss the contribution of cell-to-cell transmission to HIV persistence. (Received September 04, 2019)