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HIV-1 dynamics of fighting a virus with another virus

In this talk, we propose a mathematical model for HIV-1 infection with intracellular delay. The model examines a viral-therapy for controlling infections through recombining HIV-1 virus with a genetically modified virus. For this model, the basic reproduction number R_0 is identified and its threshold properties are discussed. Some simulations are performed to support the theoretical results. These results show that the delay plays an important role in determining the dynamic behaviour of the system. This is a joint work with Yu Bai and Dr. Pei Yu.