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Jessica M. Conway* (jmconway@psu.edu), **Alan S. Perelson** and **Jonathan Z. Li**. *HIV viral rebound: patient-specific stochastic model predictions*. Preliminary report.

Antiretroviral therapy (ART) effectively controls HIV infection, suppressing HIV viral loads to levels undetectable by routine testing. Suspension of therapy is typically followed by rebound of viral loads to high, pre-therapy levels. Using data from AIDS Clinical Trials Group (ACTG) treatment interruption trials, Li et al. (2015) report that the size of the expressed HIV reservoir and a patient's drug regimen correlate with the time between ART suspension and viral rebound. We have developed a multi-type, branching process model to gain insight into HIV post-treatment dynamics and viral rebound across patients. Using maximum likelihood methods, we parametrize our model using the ACTG clinical trials data discussed in Li et al. (2015). Our results represent first steps towards a model that can make predictions of a patient's rebound time distribution based on personal characteristics and help identify patients with expected long viral rebound delays. (Received September 07, 2016)