1145-37-1602 **Elyssa N Sliheet*** (elyssasliheet@gmail.com), 6704 Swainson Trail, Arlington, TX 76002, and **J Montgomery Maxwell**. *Mathematical models linking within-host to between-host HIV dynamics.*

In this study, we develop mathematical models linking within-host and between-host HIV dynamics. In particular, we incorporate antibody responses into within-host viral dynamics model to accurately estimate the probability of virus transmission from an infected individual to an uninfected individual. Using the probability of infection resulting from within-host models, we then develop models to describe the dynamics of between-host transmission. With these models, we evaluate the role of within-host HIV dynamics on the between-host spread of HIV within communities. (Received September 23, 2018)