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Abhishek Mallela* (am9d5@mail.umkc.edu), 508 NW O'Brien Road, Lee's Summit, MO 64063, and **Suzanne M Lenhart** and **Naveen K Vaidya**. *Optimal Treatment Strategies for HIV-TB Co-Infected populations.*

There exists an important question (and hot debate) of whether the initiation of ART (Antiretroviral Therapy) during ongoing TB treatment is appropriate or not. If ART is administered early in the presence of TB treatment, the advantages are that there will be fewer deaths due to AIDS and less risk of transmission due to HIV. The disadvantages, though, are significant complications, including IRIS and a high pill burden. If ART is administered late in the presence of TB treatment, the opposite outcomes are obtained. In this talk, I will present a mathematical model, which helps us identify an optimal ART treatment strategy for co-infected people undergoing TB treatment. Using our model, we further develop an optimal control problem in order to achieve a minimum burden (sum of new IRIS cases, IRIS deaths, new HIV infections, and AIDS deaths) from this co-infection.

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