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## Mathematical models of HIV and HPV coinfection

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**Presenter Information**

Samantha Erwin, Meghna Verma, Vida Abedi, Raquel Hontecillas-Magarzo, Stefan Hoops, Josep Bassaganya-Riera, and Stanca M. Ciupe

## *Mathematical models of HIV and HPV coinfection.*

HIV infected patients have an increased incidence of chronic HPV infection, leading to precancerous cells. To address the effect of HIV on HPV pathogenesis, we develop a mathematical model of HIV-HPV coinfection that captures known interactions such as decreased HPV-specific cytotoxic T cells and increased HPV viral production. From our mathematical analysis, we predict biological conditions under which coinfecting individuals can clear HPV. We address the clinical implications of anti-retroviral therapy used to treat HIV in HPV-coinfecting patients and compare it to previous clinical observations.