1048-92-222   **Abdessamad Tridane*** (`tridane@asu.edu`), Arizona State University, Applied Mathematics Program, Mesa, AZ 85212. *Kinetic of influenza A virus in the human respiratory tract and the interferon response.* Preliminary report.

The aim of this work is to investigate, via a series of coupled PDE and ODE models, the dynamics of the viral infection of influenza A virus (IAV) and the degree of protection to the epithelial cells by the innate interferon response. Since the goal is to quantify certain features of IAV infection such as the length of the eclipse phase, specific virus replication rate and specific cell death rate due to infection, our models were fit to an existing data from an experimental H1N1 influenza infection. These simulations indicate that neglecting the delay between the cell infection and the release of new interferon gives similar results with respect to overall interferon dynamics compared with delayed differential equations model. (Received February 09, 2009)