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Avner Friedman and **Abdul-Aziz Yakubu*** (ayakubu@howard.edu), 2441 6th Street NW, Washington, DC 20059. *Fatal Disease and Demographic Allee Effect: Population Persistence and Extinction.*

In this talk, we will prove that the presence of an Allee effect in host demographics matters even at large population densities. That is, we will show that a small perturbation to the disease-free equilibrium can eventually lead to host population extinction. We will focus on the following question. If a healthy stable host population at the disease-free equilibrium is subject to the Allee effect, can a small number of infected individuals with a fatal disease cause the host population to go extinct? To answer this question, we will use an SI epidemic model to obtain model parameters that lead to host population persistence and model parameters that lead to host extinction. (Received September 21, 2011)