

Applied Dynamical Systems Seminar

Speaker

*Liang Zhang
Lanzhou University*

*Monday, February 9, 2015
1:00-2:00pm, HH3026*

*A Time-Periodic Reaction-Diffusion Epidemic Model
with Latent Period. (Part 1)*

Abstract: In this talk, a time-periodic reaction-diffusion epidemic model with nonlocal delayed nonlinearity is proposed. Then I introduce the basic reproduction number \mathcal{R}_0 for this model and assert that the sign of $\mathcal{R}_0 - 1$ determines the local stability of the disease-free periodic solution. I further show that the disease-free periodic solution is globally attractive if $\mathcal{R}_0 < 1$, while there is an endemic periodic solution and the disease is uniformly persistent if $\mathcal{R}_0 > 1$.