

1056-34-873

Peng Feng* (pfeng@fgcu.edu), 10501 FGCU Blvd. S., Fort Myers, FL 33965. *Dynamics of a segmentation clock model with discrete and distributed delays.*

In this talk, we study the effects of time delays on the dynamics of a segmentation clock model with both discrete and distributed delays. Two cases are considered. The first case corresponds to the model with only distributed delay. The second case involves both discrete and distributed delay. More precisely, we study the following model:

$$\begin{aligned}\frac{dp}{dt} &= am(t - \tau_p) - bp(t), \\ \frac{dm}{dt} &= \int_{-\infty}^t g(t - s)f(p(s))ds - cm(t).\end{aligned}$$

Local stability analysis is carried out for all cases. Numerical simulations are also performed to illustrate the results. (Received September 18, 2009)