

1155-92-594

Azmy Ackleh, LA, and **Karyn Sutton**, **Tingting Tang*** (ttang2@sdsu.edu) and **Lihong Zhao**. *A Second Order Finite Difference Scheme for a Structured Model of Mycobacterium marinum Dynamics in Aquatic Animals.*

In this talk, we present a novel second order finite difference scheme for a modified version of a model, to study the transmission dynamics of a human TB-like bacterium, *Mycobacterium marinum*, affecting aquatic animals on a similar scale. Convergence of the finite difference approximation to the unique weak solution of the model is shown. Numerical results confirming the second order convergence of the scheme are presented. The computational advantages of using this high-resolution scheme in comparison to the first order scheme is illustrated (Received January 21, 2020)