

Eti Wiraningsih, Short-term Visit, Nov. 3-17, 2011

Title: *Rabies model between dogs and human: Stability analysis and optimal control problem*

A system of differential equations modelling rabies in dogs and humans in Indonesia was refined. Stability analysis for this system was completed to study the effects of parameters on the long term behavior. Optimal control was used as a tool to investigate management strategies for vaccination in dogs. The model was extended to include wild dogs and domestic dogs and work on the corresponding stability analysis was started. In the future, further management strategies including vaccination of humans will be considered. Optimal control of the extended model will be treated. Fola Augusto of Austin Peay University and Suzanne Lenhart collaborated on this work.