1023-76-416   **Nathaniel Whitaker***, University of Massachusetts, Amherst. *Some mathematical models for modeling blook flow in the kidney.*

In this talk, we will discuss some mathematical models for modeling blood flow in the kidney. In particular, the transport and processing of blood in the loop of Henle which is part of the nephron(basic functional unit of the kidney) will be simulated. We will derive the basic model and show how dynamical systems theory can be used to predict oscillations in certain important variables. We will also show how jumps in the bifurcation diagrams can occur. Numerical results will also be presented. (Received September 12, 2006)