Lake R Ritter* (lritter@spsu.edu), SPSU-Dept. of Mathematics, 1100 S. Marietta Pkwy, Marietta, GA 30060. A mathematical model of macrophage reverse cholesterol transport by high density lipoproteins.

The accumulation of fat deposits in the arterial wall is a hallmark of atherosclerosis. High density lipoproteins may serve a number of anti-atherogenic purposes—among them the removal of excess cholesterol from the tissue including lipids bound to forming foam cells (lipid laden immune cells). A model of foam cell formation including reverse cholesterol transport will be offered. Steady state and numerical analyses of the equations will be presented. (Received August 22, 2013)