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Brittany E. Bannish* (bannish@math.utah.edu), **James P. Keener** and **Aaron L. Fogelson**. *The effect of thrombin activatable fibrinolysis inhibitor (TAFI) in a multiscale mathematical model of fibrinolysis.*

The degradation of blood clots is a tightly regulated process. If the mesh of fibrin fibers securing the clot degrades too slowly, thrombi can form, leading to heart attack or stroke. If the fibrin degrades too quickly, excessive bleeding may occur. We study fibrinolysis (the degradation of fibrin by the main fibrinolytic enzyme, plasmin) using a 3-dimensional multiscale mathematical model. This talk will focus on the effect of thrombin activatable fibrinolysis inhibitor (TAFI) on the degradation of single fibers and whole clots. We use both stochastic and deterministic methods to model the various lytic processes. (Received September 16, 2011)