1137-74-288 **Samuel Britton*** (sbrit004@ucr.edu), Riverside, CA 92507, and **Oleg Kim**, **Zhiliang Xu**, **Rustem Litvinov**, **John Weisel** and **Mark Alber**. *Model of Stress Propagation in Fibrin Network.* Preliminary report.

The fibrin network is one of the primary components of a blood clot. Its mechanical properties determine the structural behavior and stability of clots. Novel mechanism of dynamical deformation of fibrin networks under compression is shown to be based on bending and linking of individual fibrin fibers using discrete worm-like chain model. The model, calibrated using atomic force microscopy data, is used to study how microscopic fiber mechanisms lead to changes of fiber density, elasticity, and bending stiffness, which impact macroscopic dynamics, i.e. Young's Modulus, network strain and densification. Structures of the networks used in model simulations are constructed to fit different types of experimental confocal microscopy data. Simulated results demonstrate good agreement with the data from rheometer experiments and they confirm hypothesized mechanism of stress propagation through the network and characterize how rearrangement and linkage of fibrin fibers effects network stiffening. Quantification of fiber mechanisms has applications in clot construction and lysis. (Received February 05, 2018)