1154-92-1627 **Anna Nelson*** (anelson@math.utah.edu), **Aaron Fogelson** and **James Keener**.

Understanding the role of fibrinogen in fibrin gel formation: Kinetic models of two monomer polymerization.

Motivated by fibrin-fibrinogen interactions in blood coagulation, a two monomer polymerization system is presented with monomers that participate in different reaction types and have varying functionality. Using a framework pioneered by Ziff and Stell [*J. Chem. Phys.*, 73 (1980), pp. 3492 - 3499], the proposed two monomer kinetic model is studied up until gelation, which is defined as the emergence of an oligomer of infinite size in finite time. Given certain initial conditions and functionalities, we determine if the addition of a second monomer inhibits or enhances gelation with analytical and numerical results presented. (Received September 16, 2019)