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Angela M Reynolds* (areynolds2@vcu.edu), 1015 Floyd Ave, Richmond, VA 23284. *Modeling the Innate Immune Cells.*

During an inflammatory response there is a complex cascade of reactions, which may lead to health or sustained inflammation during many diseases and processes, such as wound healing and infections. In order to understand how the immune cells involved in the inflammatory response contribute to the disease progression, we have developed various models for the immune cell dynamics. In this talk we will start by analyzing a reduced model and then adapting this model to various diseases by increasing the complexity of the immune cells in the model to gain more biological insight. Using bifurcations, parameter estimation, and sensitivity analysis, we will explore how modulating the immune response dynamics can alter patient outcome. (Received January 19, 2020)