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Lester Caudill* (lcaudill@richmond.edu), Dept. of Mathematics and Computer Science, 28 Westhampton Way, Univ. of Richmond, VA 23173. *A Low-Dimensional Model of the Innate Immune Response to Bacterial Infection.*

The human immune response to bacterial pathogens is a remarkably complex process, involving many different cell types, chemical signals, and complex lines of communication. Mathematical models of this system have become increasingly complicated, as researchers seek to capture many of the major dynamics. In this talk, the author argues that, in some important instances, preference should be given to low-dimensional models of immune response, as opposed to their high-dimensional counterparts. One such model is analyzed and shown to reflect many of the key phenomenological properties of the immune response in humans. (Received September 22, 2011)