

1020-92-259

David M Bortz* (dmbortz@colorado.edu), Applied Mathematics, University of Colorado, Box 526, Boulder, CO 80309-0526. *Estimation and Identification of Klebsiella pneumoniae Aggregation Dynamics*. Preliminary report.

The bacterial pathogen *Klebsiella pneumoniae* is a cause of community-and hospital- acquired lung, urinary tract, and blood stream infections. A common contaminant of indwelling catheters, it is theorized that a common infection pathway for this gram-negative organism is via shedding off of biofilm colonies.

In an effort to better understand bacterial proliferation in the host bloodstream, we develop a size-structured PDE for the aggregation dynamics of the population of bacteria in an agitated suspension. We will present results of an investigation of the fragmentation properties of the viscoelastic biofilm fragments. (Received August 29, 2006)