Keller, Evelyn F.; **Segel, Lee A.**

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Summary: The chemotactic interaction of amoebae, as mediated by acrasin, is evidenced in a variety of ways, the most dramatic of which is aggregation. In this paper we present a mathematical formulation of the general interaction, and provide a detailed analysis of the aggregation process. By analogy with many problems in the physical world, aggregation is viewed as a breakdown of stability caused by intrinsic changes in the basic parameters which characterize the system. This point of view provides a description of aggregation which does not require that any cells be distinguished, but rather assumes a homogeneous population.

MSC:

92C17 Cell movement (chemotaxis, etc.)
35Q92 PDEs in connection with biology, chemistry and other natural sciences

Full Text: DOI

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