

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Experimental evolution of *E. coli*** MENGSHI ZHANG<sup>1</sup>, Shenzhen Research Institute, The Chinese University of Hong Kong; Department of Physics, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong — The evolution from unicellular to multicellular behavior is an essential step in the history of life. Our aim is to investigate the emergence of collective behavior in the model organism *Escherichia coli* (*E. coli*) and its selection advantages, such as better utilization of public goods. Our preliminary results suggest that the evolution of collective behavior may be a natural response to stressed conditions.

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Date submitted: 03 Dec 2015

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