Abstract Submitted
for the DFD10 Meeting of
The American Physical Society

Elastic symmetry-breaking in synchronizing cells GWYNN ELFRING, ERIC LAUGA, University of California, San Diego — Swimming microorganisms such as spermatozoa have been observed to synchronize their flagella when swimming in close proximity. We showed recently that this can arise passively in part due to an asymmetry in the flagellar waveforms of the cells. Using a simple two dimensional model we investigate here the role of fluid body interactions and flagella elasticity as a source of asymmetry, and whether or not flexibility is sufficient to induce synchronization.

Gwynn Elfring
University of California, San Diego

Date submitted: 05 Aug 2010 Electronic form version 1.4