

MAR12-2011-003478

Abstract for an Invited Paper
for the MAR12 Meeting of
the American Physical Society

Formation and propagation of high density waves during swarming of *P. aeruginosa*¹

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We will describe in this talk how the bacterium *P. aeruginosa* alters its local physical environment by propagating high density waves of cells into branched tendrils during surface motility described as swarming. Biologically justified model simulations will be used to suggest a mechanism of wave propagation and branched tendril formation that depend upon competition between the changing viscosity of the bacterial liquid suspension and the liquid film boundary expansion caused by Marangoni forces. Thus, *P. aeruginosa* controls physical forces responsible for liquid film expansion to efficiently colonize surfaces.

¹This reserach was partially supported by NIH grant 1R01GM100470-01