

Abstract Submitted
for the NES15 Meeting of
The American Physical Society

Does *Helicobacter pylori* exhibit corkscrew motion while swimming?¹ MAIRA CONSTANTINO, JOSEPH HARDCASTLE, RAMA BANSIL, Boston University — *Helicobacter pylori* is a spiral shaped bacterium associated with ulcers, gastric cancer, gastritis among other diseases. In order to colonize the harsh acidic environment of the stomach *H. pylori* has to go across the gastric mucus layer. Many studies have been conducted on the swimming of *H. pylori* however none have studied the trajectory path. We present a single cell experimental study of the effects of body shape in the swimming trajectory of *H. pylori* in pig gastric mucin and liquid media by a quantitative analysis of the bacterium rotation and translation using phase contrast microscopy and particle tracking techniques while simultaneously measuring the bacterium body parameters. Our measurements show very well defined helical trajectories, from which we measure the body rotation.

¹Supported by the National Science Foundation PHY PoLS

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Date submitted: 08 Apr 2015

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