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Impact of Helicobacter Pylori on Mucus Rheology[1] JONATHAN CELLI, Boston University, SARAH KEATES, CIARAN KELLY, BRADLEY TURNER , Beth Israel Deconess Medical Center, RAMA BANSIL, SHYAMSUNDER ERRAMILLI, Boston University Department of Physics — It is well known that the viscoelastic properties of gastric mucin are crucial to the protection of the lining of the stomach against its own acidic secretions and other agents. Helicobacter Pylori, a rod shaped, gram-negative bacteria that dwells in the mucus layer of approximately 50% of the world's population is a class I carcinogen and is associated with gastric ulcers and severe gastritis. The structural damage to the mucus layer caused by H. Pylori is an important aspect of infection with this bacteria. We are examining the impact of H. Pylori on mucin and mucus rheology quantitatively using a combination of dynamic light scattering and multiple particle tracking experiments. Video microscopy data will also be presented on the motility of this bacteria in mucin at different pH and in other viscoelastic gels.

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Jonathan Celli
Boston University

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