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**J. Wang\*** ([jin-wang02@utc.edu](mailto:jin-wang02@utc.edu)). *Modeling the spatial dynamics of cholera*. Preliminary report.

We present our recent work in modeling the spatial dynamics of cholera, a water-borne disease caused by the bacterium *Vibrio cholerae*, using a partial differential equation framework. An emphasis of this study is the interplay of different biological, environmental and physical factors, including the intrinsic bacterial growth, direct and indirect disease transmission pathways, host and bacterial diffusion, and bacterial convection, which shape the complex pattern of cholera epidemics. Traveling wave solutions and disease threshold dynamics will be discussed, and both analytical and numerical results will be presented. This is joint work with Xueying Wang and Drew Posny. (Received January 29, 2015)