Cleveland State University
College of Science

COLLOQUIUM

Amy Buchmann, Ph.D.

Professor

Dept. of Mathematics, University of San Diego

Computational Models of Microorganism Motility

Friday Apr. 3rd at 1:00pm in RT 1516

Bio: Dr. Buchmann is an applied mathematician working in the field of mathematical biology. She studies complex biological systems using mathematical and computational models. Modeling can provide valuable insights when traditional experiments are either too expensive or impossible. She received her Ph.D. in Applied and Computational Mathematics and Statistics from the University of Notre Dame in 2015. Then she worked as a postdoc in the Department of Mathematic and the Center for Computational Science at Tulane University. In Fall 2018 she started at the University of San Diego in the Department of Mathematics.

Abstract: In the field of computational biofluids, we create mathematical and computational models to study the mechanics of biological fluids within the human body, including the circulatory and respiratory systems, as well as the motility of microorganisms. The Method of Regularized Stokelets can be used to model microorganisms immersed in a viscous fluid. Using this method we can model both rigid and elastic filaments immersed in a fluid to study the coordination of flagella and cilia.

Coffee available in RT 1517 before the talk at 12:30pm