

Math/Stat Department Colloquium

Friday February 7 at 1:00 in MEP 461

# Models of Insect Olfaction

We formulate a mathematical model to describe the mechanisms for sense of smell by considering the structure and behavior of individual neurons, then we analyze the activity generated by a network of these neurons. Results from numerical simulations of this network, along with a simplified mean-field analysis utilizing phase-plane techniques, present a biologically plausible picture of the two main mechanisms that characterize insect olfaction.



**Dr. Pamela Pyzza** is a mathematician interested in the dynamics of complex networks in neuroscience, epidemiology, and other biological areas. She is a faculty member in the Department of Mathematics & Computer Science, and Neuroscience program at Ohio Wesleyan University. Pamela's outside interests include Crossfit, Olympic weightlifting, and cooking & baking.