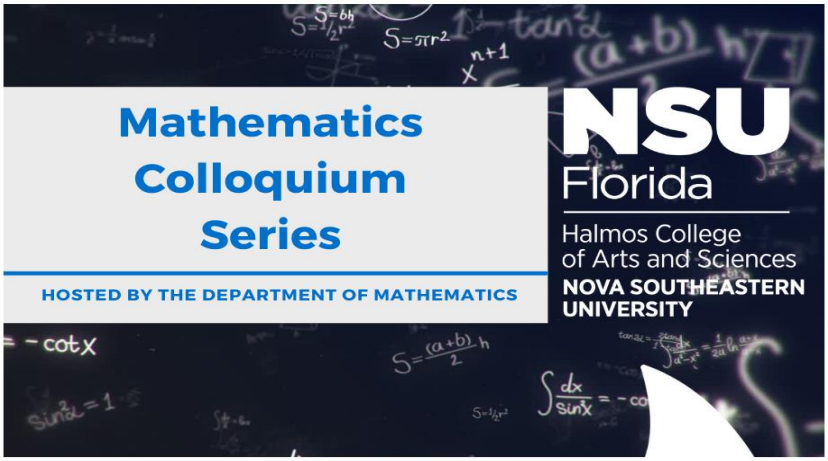
Halmos College of Arts and Sciences
NOVA SOUTHEASTERN UNIVERSITY | NSU Florida



Day/Time: Thursday, March 24, 2022, 12:30-1:20pm

Location: Parker Building, Room 338

Speaker: Evan Haskell, Ph.D., Professor

Title: How Prey Defense Patterns Predator-Prey Distributions

Abstract: In ecology, predator and prey species share a common interest in survival. However, this common interest places these species at odds with each other. Predators need to consume prey for their survival. Prey, on the other hand, do not survive if they are consumed. To meet their needs, predators engage in foraging or prey-taxis behaviors whereby they seek areas of high prey density. For prey there are numerous defense strategies to engage including aposematic mechanisms to advertise they are not worth the predator's while, attacking the predator through chemical or community defense mechanisms, and alarm calls to seek assistance from predators at` higher trophic levels of the food chain; to name a few. In this talk, we will focus on competition between prey-taxis and chemical defense; placing a particular emphasis on conditions leading to spatial segregation between predator and prey, or as it is known in mathematics, pattern formation. We will also discuss other prey defense mechanisms such as the burglar alarm hypothesis and the potential impact of prey defense mechanisms on prey species in resource competition.

The entire NSU community, including students at all levels of mathematics, is invited and encouraged to attend.

About the speaker: Dr. Evan Haskell serves a professor of mathematics at NSU Florida. He earned his Ph.D. in mathematics from the Courant Institute of Mathematical Sciences at New York University in 2000. Dr. Haskell joined the faculty at NSU in 2005 and has served as mentor and professor to hundreds of NSU students. He works on applied problems inspired by the real and engineered world.

For more information about Dr. Haskell's work, please visit: https://works.bepress.com/evan-haskell/