



Math Club

presents

Ben Vanderlei

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Producers and Scroungers: A Model of Social Foraging

Abstract: We consider a population made up of two types of foragers: those that look for food directly, and those that follow others in order to exploit their discoveries. We build a model using differential equations using terms that are often seen in chemotaxis models. It is known that these models lead to spatial instabilities and the formation of patterns. We will look at a simple example in order to shed light on the mathematical reason for the emergence of these patterns. Similar dynamics appear in the producer-scrounger model, and we see that the social foragers also sustain spatio-temporal patterns. The results imply that the nature of the foragers can have a dramatic effect on the spatial distribution and fluctuation of food resources.

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Monday, October 17, 4:00pm
Room D 123, Abbotsford

All students, faculty and staff are invited to attend.