Mathematical Biology Seminar

Friday, November 9, 2018
11 am – 373 CAB
Please note change in date, time and location

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Population dynamics in patchy landscapes

Mathematical models for population dynamics have a long history in biomathematics. They are tools to explore the effects of birth and death, species interaction, landscape quality and spatial movement on the persistence, spread and spatial distribution of a species. One particular question is how spatial variation in landscape attributes affects the dynamics of populations, for example in the context of species invasions. A relatively recent approach to this question divides a landscape into "patches" and incorporates small-scale individual movement information to predict large-scale population dynamics.

In this talk, I will review several aspects of this growing body of literature. I will include empirical evidence, model derivation, basic model outcomes, analytical challenges and some future ideas. The talk is aimed at a general mathbio audience.