SHAUN STROHM, University of British Columbia–Okanagan, 3333 University Way, Kelowna, BC V1V 1V7
Dispersal of Mountain Pine Beetle and Impacts of Management

Efforts to control the Mountain Pine Beetle infestation in British Columbia and Alberta include large-scale landscape manipulations such as clearcutting, and cost-intensive techniques such as green attack tree removal. Unfortunately, it is unclear just how effective these techniques are in practice. In order to determine and predict the effectiveness of various management strategies, we need to understand how MPB disperse through heterogeneous habitat, where heterogeneity is measured in terms of species composition and tree density on the landscape. In this talk I will present a spatially-explicit hybrid model for the Mountain Pine Beetle (MPB) dispersal and reproduction. The model is composed of reaction-diffusion-chemotaxis PDEs for the beetle flight period and discrete equations for the overwintering stage. Forest management activities are also included in the model. I will discuss the formation of beetle attack patterns in the PDE model.