Applied Mathematics Seminar

Jenna McDanold

PhD Candidate - Math Modeling - Rochester Institute of Technology

Friday, Sept 23 1-1:50pm

MAK A2-167 or via zoom (request password from ortizron at gvsu dot edu)

Mathematical Modelling of Tree Litter Dispersal

Abstract: Heterogeneity in surface vegetation and litter can be a major factor in low-intensity fire behavior and ecosystem dynamics. The challenge in accurately modeling these heterogeneous fuels involves a vast array of unknowns affecting their configuration on the forest floor. We present a mechanistic model for estimating variation in surface fuels called the Distribution of Understory using Elliptical Transport (DUET). Using affine transformations of the unit circle, and with a given canopy structure, species information, and average winds in the target area, DUET represents a method for modeling tree litter accumulation as a function of time since the last burn. The model also develops grass growth and decay patterns over time to more precisely simulate surface fuels present within a given forest area.

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More info: http://bit.ly/applied-math-seminar

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