

BI-CO MATHEMATICS COLLOQUIUM

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"Possible Quantifications of Resilience"

Monday, November 13, 2017

Talk at 4:00 – H109

Tea at 3:30 – Foyer outside of H109

Abstract:

Quantifying resilience has become an important question in natural sciences such as ecology, biology, and climate science. However, the definition of resilience is ambiguous and there is room for multiple mathematical interpretations in the context of the question *resilience of what to what?* This talk will examine different conceptual differential equations models for resilience: one with repeated state space perturbations (like repeated damage from hurricanes to a coral reef), one with a parameter that changes over time and causes the system to tip to a different state (like ocean acidification increasing over time), and then a model that combines the two ideas. The beginning of this talk won't assume any knowledge of differential equations, and the whole talk will include a lot of pictures and animations.

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