



# NIMBioS

National Institute for Mathematical  
and Biological Synthesis



## Timescales, multiple stable points, and tipping points

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### *NIMBioS Interdisciplinary Seminar*

3:30 p.m.\*, September 13, 2011

NIMBioS, Blount Hall, 1534 White Ave, 4<sup>th</sup> floor

I will start with some simple models for dynamics of coral reefs (joint work with Pete Mumby and Julie Blackwood) that provide illustrations of the ideas of multiple stable points and the possibility of changes in system dynamics. Models will illustrate issues of “controlling” the system to have it remain or be restored to a desirable state. These models will illustrate issues of time scales. I will then discuss several more abstract models that illustrate the difficulty of obtaining early warning signs for these regime shifts (work with Derin Wysham). I will finish by discussing recent work with Carl Boettiger on the statistical issues of detecting early warning signals for regime shifts even in the cases where they would be theoretically expected.

*\*Join us for refreshments in the NIMBioS Lobby on the 4th floor at 3 p.m.*

For more information about this and other NIMBioS Seminars, visit

<http://www.nimbios.org/seminars>

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