



NIMBioS

National Institute for Mathematical
and Biological Synthesis



NIMBioS Interdisciplinary Seminar

in conjunction with UTK Department of Ecology & Evolutionary Biology

Dr. Dan Blumstein

Ecology & Evolutionary Biology, UCLA

3:30 p.m.**, **Thursday**, January 17, 2013

***Hallam Auditorium, Room 206
Claxton Education Building, 1122 Volunteer Blvd.***

“The sound of fear: A journey from marmot meadows to Hollywood”

What is it that makes certain sounds scary? Why are screams particularly evocative? To explore this, I will discuss insights from over two decades of studying marmots - large, mostly-alpine, ground squirrels – that live throughout the northern hemisphere. I will talk both about the evolution and function of alarm calls, and end with a discussion of similarities among species, including humans, in the structure of fear screams and other scary and arousing sounds. I will discuss correlative and experimental studies on humans to evaluate the hypothesis that fearful and arousing sounds contain specific types of nonlinear acoustic phenomena, including noise. Finally, I review recent experimental work where by composing ‘marmot-inspired music’ we have determined that noise and other non-linear phenomena may be generally arousing and fear inducing. The sound of fear may indeed be noisy.

****Join us for refreshments at 3 p.m. in the 1st floor visitor breakroom.**

For more information about this and other NIMBioS Seminars, visit

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The National Institute for Mathematical and Biological Synthesis (NIMBioS) brings together researchers from around the world to collaborate across disciplinary boundaries to investigate solutions to basic and applied problems in the life sciences. NIMBioS is sponsored by the National Science Foundation, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture with additional support from The University of Tennessee, Knoxville.