



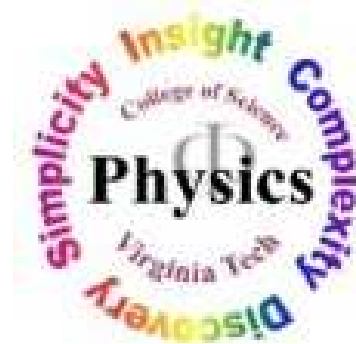
# Physics Department - University of South Alabama *Presents Colloquium Speaker*



**Dr. Beate Schmittmann**

Professor and Chair, Department of Physics, Virginia Tech

**Thursday, April 21, 2011**  
4:00-5:00 P.M., ILB 250



## Totally Out of Equilibrium: Genes, Stocks, and Traffic

Statistical physics forms the traditional foundation for thermodynamics, illustrating how concepts such as entropy and temperature emerge from the statistics of many interacting molecules. This framework has been immensely successful for systems in thermal equilibrium. Yet, many of the most interesting phenomena in nature take place very far from equilibrium - including, for example, living organisms or the earth's ecosystem. In this talk, I will try to give a flavor of the breadth of non-equilibrium phenomena and how to apply lessons learned in physics to much broader, interdisciplinary questions such as the modeling of biological systems, stock indices and traffic jams.

This colloquium is partly supported by the American Physical Society

Refreshments are served at 3:45 P.M.

Host: Dr. R. Godang