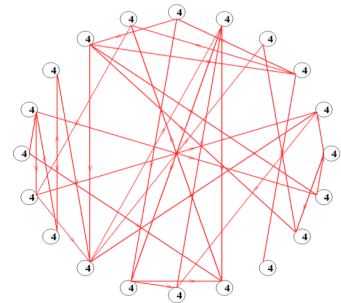


# ESM 6984 Frontiers in Dynamical Systems (Special Study course)

## Description

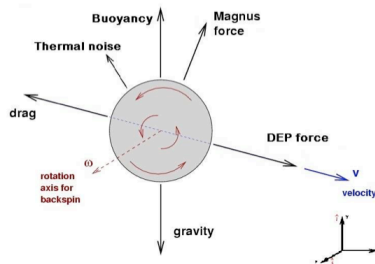
The purpose of this course is exploring applications of tools from dynamical systems to new problem domains. This integrative course is organized around small teams of graduate students who work on projects of mutual interest in a faculty member's research area. The goals are for the participating students and faculty to become more familiar with each other's work and expertise, and to get graduate students from different groups to broaden their exposure and interact with each other. The output of the course will be a short paper of the sort that could be sent to a conference. The paper should consist of a short description of the problem under study and the relevant dynamical systems tools, followed by a preliminary set of results and a description of next steps to be pursued.



The projects will be identified by the instructor among faculty who have shown an interest in participating. These faculty come from across the university, representing departments engaged in engineering, biology, sociology, etc.

## Example Projects from Previous Years

The mechanics of diving birds: impact forces as birds enter the water  
Role of Magnus effect in cell separation using dielectrophoresis  
Chaos in space and time  
Patterns of roosting in a bat colony  
Wake-structure interactions  
Balance recover strategy



**Instructor: Shane Ross.** For examples of previous year's final presentations or more information, please email [sdross@vt.edu](mailto:sdross@vt.edu)

