Objective:
Briefly review latest quantitative developments and issues
Summarize some recent results from laboratory and field experiments
Discuss some case studies of problems and opportunities

Methodological developments

Data quality issues and consequences

Sampling error

How DD operates, and when, on whom

Life history effects

Spatial and temporal variability

Population structure

Observational Study: the Soay sheep of Scotland

First principles?

Recommendations for observational work

Experimental work: the lab, the field

When to worry about DD?

Review questions

Create a simple structured model in excel, add density dependence to the overall population size using the logistic equation, and change the start vector. What happens?

You are modeling a small population of animals living in a rare habitat. You are considering adding density dependence to your model. Should you? Why or why not?

Create a hypothetical research question based on observational data, then state how such a hypothesis might be tested either in the field or laboratory.

Resources for this lecture:
Krebs and Berteaux. 2006. Problems and pitfalls in relating climate variability to population dynamics. Climate Research 32:143-149.