Submittee: Mark Lewis
Date Submitted: 2009-09-08 10:37
Title: Models in Ecology
Event Type: Summer-School

Location:
Bamfield Marine Station

Dates:
July 27 - Aug 14, 2009

Topic:
This course develops the methods, models and tools for quantitative ecology. Students learn to formulate, analyse, parameterize, and validate quantitative models for ecological processes and data. Applications include population dynamics, species interactions, movement, and spatial processes.

Methodology:
Approaches involve classical hypothesis testing, computer simulation, differential equations, individual-based models, least squares, likelihood, matrix equations, Markov processes, multiple working hypotheses, and stochastic processes. A computer lab covers simulation and programming methods. Course discussion entails evaluation and appraisal of current literature. There is a term project in which students apply methods learned in the course to an ecological problem.

Objectives Achieved:
The course had 20 students enrolled and had 10 student projects (done in pairs). Some may be publishable.

Scientific Highlights:
Many students worked on projects related to their thesis research. This was a highly productive group of students. They made presentations of their research findings on the last day of the course.

Organizers:
Lewis, Mark, Math/Stat Sciences, University of Alberta Krksosek, Martin, Fisheries, University of Washington

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Speakers:
Guest lectures: titles are given, no abstracts available. Lewis, Mark, Math/Stat Sciences, University

of Alberta. Mechanistic models for animal territories Krksosek, Martin, Fisheries, University of Washington. Models for salmon and aquaculture Strasser, Carly, Math/Stat Sciences, University of Alberta. Demographic models for right whales.

Links:

Comments / Miscellaneous:
Students were highly motivated. The course was intense, but rewarding to teach. Evaluations (done by BMS) indicate a high level of student satisfaction with the instruction. Numbers entered in demographics are estimates.