

STAT 280B-01: Seminars in Statistics on Sep-30th, 2019 (Monday 4pm in Engineering 2, Room 192)

Speaker: Jennifer Hoeting, Professor of Statistics, Colorado State University

Title: Combining mathematical and statistical models: a disease ecology perspective

Abstract: In the study of biological, ecological, or environmental dynamical processes, many theoretical models have been developed but it is not common practice to estimate theoretical model parameters using statistical functions of observed data. In this talk we present an overview of some of the methods that have been proposed to enable statistical inference for parameters of dynamical models such as ordinary and stochastic differential equation models. A challenge for statisticians is to develop methods to address the issue of the computationally intensive or intractable likelihoods required for these problems. The focus of this talk will be applications in disease ecology but the ideas and techniques are applicable to many problems in ecology, biology and other fields.