Modeling infectious disease dynamics

**Research emphasis:**
Dr. Dawson’s main research focus has been the development and use of model-based approaches to study population and infectious disease dynamics. This focus is the result of a multidisciplinary research background strongly rooted in ecology. For his PhD, he studied the influence of natural and anthropogenic influences on mosquitoes using experimental and model-based methods. His current research involves modeling different pathways of *E.coli* transmission within feed lot cattle populations using network and individual-based approaches.

**Applications:**
- Model-based tools for disease intervention
- Modeling vector populations and disease occurrence
- Characterization of direct and indirect contact in disease transmission

**Research Strengths:**
- Population/infectious disease modeling
- Agent-based model development
- GIS and spatial analysis
- Statistical analysis and data processing

**Publications and Abstracts:**
