Many ecological and biological applications require in-depth studies and analysis of the underlying control problems involved. This in turn calls for new mathematical models and the use of sophisticated mathematical tools. Recent research promotes the use of geometric control theory and the combined use of stochastic analysis and differential geometry. For example, the study on infectious disease has a long and illustrated history that goes back to the malaria outbreak in the early 20th century that led to the development of compartmental models in epidemiology. The recent outbreak of the Zika virus adds new demand for people working in mathematical epidemiology. This workshop will bring together scientists from both theoretical research and data analysis.