# Four Example Papers:

**A Susceptible-Infected Model of Lyme Disease Incidence on Nantucket Island**

What the paper does right:

* Proposes a novel new model to model a specific situation by combing the SIR model with an interspecies transition model.
* Makes reasonable, careful estimates of the parameters.
* Derives and classifies the important model features (equilibria in this case), although a phase model/phase information would have been good to see.
* Draws concrete conclusion from it.

**Will Type-CA MRSA become the Dominant Staph Bacteria in the Future?**

What the paper does right:

* Sets up a extension of a know system of equations that describes the specific case she’s discussing. She actually develops two extensions and compares them, which provides an interesting contrast of results in two defend cases.
* Provides equilibrium and stability analysis and **derives a formula for the phases based on the parameters**.
* Backs her model up with simulations against data.

**North Atlantic Right Whales vs. Fishermen**

What the paper does right:

* Sets up a novel set of equations that, while not complicated, are a nontrivial extension of the usual models.
* Fixes the constants using real world data.
* Solves the models, describing nontrivial phases
* Uses the model to simulate multiple different fishing strategies, providing practical suggestions for policy.

**Modified SIR Modeling on the Spread of Ideas**

What the paper does right:

* They take a model that was applied to disease spread (SIR) and apply it in a completely new context, exploring a variety of possible modifications before settling on their chosen model.
* Find equilibrium points and provide a scheme for determining solution stability around them, even though the system has many quantities and parameters.
* Give a full analysis of the phases of the system, along with example simulations.