***Refining Research Questions for Modeling***

**Wednesday, May 21, 2025: 8:15-10:15am**

**8:15-8:45am:** Sophie revisits group-chosen questions from Monday and:

1. makes a statistical framework from the statistical question (define x and y, the model family, and the link function)
2. draws a model diagram showing the processes (flows) and influence arrows of one state on another

*This serves as an example of what we will do with each student in the small group session.*

**8:45-8:50am:** Divide the students into five groups of five (one group will have four). Have at least one instructor accompany each group and separate out into various corners of the facility.

* Groups: (1) Cara + Abby (2) Santino + Rindra, (3) Christian + Sophie, (4) Mirana + Charlie, (5) Angelo + Martin

**8 :50-10:00am:** Instructor should scribe and facilitate discussion, preferably on white board or large sheets of paper.

* **Spend ~15min on each group member, one-by-one. Give 3-5 min for the statistical question and 7-10 min for the dynamical. Keep track of time or you will get behind!**
* Ask the student for his/her question statistical question and dynamical question and write at the top of the page for all to see. If the question can’t be modeled dynamically, guide the student to a complementary question that can.
* **For the statistical question, guide the student to define x and y, the model family, and the link function. Move on quickly from this model.**
* **For the dynamical question, briefly brainstorm ‘populations’ and ‘states’ and ‘processes’ and ‘influences’ for the system represented by each question**
* Guide the group into construction of a rough ‘model diagram’ that matches each research question and highlight possible states and processes within that system.

**10:00-10:15pm:** Regroup with whole group and close with brief discussion. Review ‘Make a Model Diagram’ HW.