

End-of-Semester Presentations

Tuesday, Dec. 8 - Thursday, Dec. 10 (In Class)

As a final project, you will be reading and presenting scholarly articles in the field of Mathematical Biology in class. You will each be assigned a paper to present to your peers, as well as a group to work with for the duration of the project.

Expectations

- Each group will prepare a 25 minute presentation of their Math Bio journal article using the guideline below. This presentation will be delivered using the projector and screen in class. You may use PowerPoint, Pages, \LaTeX , or any other software you wish to create your slideshow.
- Each group will also be required to meet with the instructor outside of class at least once before their scheduled presentation. This meeting is to discuss the content and structure of your presentation, as well as to address any questions about the content of your assigned paper.
- Each member of your group is expected to participate in the presentation. No free rides.
- On days that you are not presenting, you are required to come to class to participate and ask questions of your peers.

Reading a Journal Article Everyone will be reading and discussing a range of articles for this project and covering various types of mathematics and biology in the presentations. Each of you has your own academic background and experience, and you may find some articles easy to understand while your classmates find them challenging (and vice versa). This is completely normal. Reading academic papers is very different from other types of reading. It is a very rare paper that makes complete sense the first time through. You should plan on reading each paper at least twice and perhaps three times if you find the content particularly challenging. As you read, you will probably not understand everything in the paper immediately. That's okay. Your goal should be to describe the following to someone who has not read the paper:

- What biological questions or hypotheses are posed by the author of the paper? (There may be one or several, and they may be explicitly stated or implied)
- What type of mathematics did the author use to address the question(s)?
- What were the results of the calculations/simulations? (Note: Results are the factual observations without interpretation)
- According to the author, did the results of the modeling answer the question/support their hypothesis? Why or why not?
- Can you give a one-sentence description of what is being depicted in each figure? If the paper is challenging your description may be general.

Presenting a Journal Article As you prepare your presentation, it is important to keep in mind that your classmates come from a broad range of backgrounds and experiences. Some of you have a strong biology background and limited applied math experience. Others may have significant math experience but have not seen a biology course since their freshman year. Your goal as a presenter is to develop an organized, self-contained story that communicates the biology and math in your article to a broad audience.

I suggest dividing your presentation into five parts:

- Introduction/Background (~ 5 min)
 - A quick overview in which you give us an outline of your talk. (You should probably have a slide dedicated to this)
 - Biology Background: Begin broad (why do we care?) and narrow down into the specifics needed to understand the model. Use figures as needed - sometimes the papers will include diagrams that you can reproduce in your slide. Other times you will need to create your own.
 - Statement of the questions/hypotheses presented by the author.
 - Brief foreshadowing of the math that is going to be used to address these questions.
- Explanation of the Math Model/Calculations/Analysis (~ 5 min)
 - If your paper is long you may need to pick a few calculations to demonstrate explicitly. We will discuss this in your pre-presentation meeting.
- Results (~ 10 min)
 - If the paper has a lot of results you may need to choose the key results to present. We will discuss this in your pre-presentation meeting.
- Discussion of Results (~ 3 min)
 - What conclusions did the author come to?
- Recap (~ 2 min)
 - Briefly summarize your presentation: what was the question, how was it addressed, what were the results, and what was the conclusion.

As you present, remember to face your audience as much as possible and ask for questions as needed. We will have a short window for questions after your presentation as the next group gets set up. We have a lot of groups that must present and a limited timetable. Please try not to go over time.