

NIMBioS/SCMB Virtual Workshop on Quantitative Education in Life Science Graduate Programs: Draft Schedule

Note the introductory sessions scheduled on the use of the NIMBioS Interactive platform (built in Sococo) and pre-workshop opportunities for meeting other participants for collaborative discussions about the Workshop themes in Birds-of-a-Feather sessions.

All times below are p.m. Eastern Standard Time

***Meeting in Zoom**

+Meeting using Sococo audio/video

****List of Breakout Session Topics**

Thursday, Nov 19

4:00 - 5:00 Sococo Training session

Monday, Nov 23

4:30 - 5:00 Sococo Training session

5:00 - 6:00 Birds-of-a-Feather sessions

Tuesday, Nov 24

4:30 - 5:00 Sococo Training session

5:00 - 6:00 Birds-of-a-Feather sessions

Tuesday, Dec 1

11:30 – 12:00+ Sococo Training session

12:00 - 12:15* Introduction of workshop objectives and participants – Lou Gross (UTK)

12:15 - 12:45* “Prioritizing quantitative concepts and skills - results from analysis of suggested readings from biomedical science faculty” – Lou Gross (UTK)

12:45 - 1:15* Presentation by Stefano Allesina (U. Chicago)

1:15 - 1:45* “When good theory is not good enough: practical and problem-centric approaches for developing PhD training programs in quantitative Biosciences” – Joshua Weitz (GA Tech)

1:45 - 2:00* Questions and comments

2:00 - 2:15 Break

2:15 - 2:45* Discussion of breakout session topics and organization

2:45 - 3:15* “Experimenting with Graduate Course Formats for Statistics and Programming” – Nathalie Vladis (Harvard Medical School)

3:15 - 3:45* “The Future of Graduate Quantitative Education: An Education Ecosystem Perspective” – Jay Labov (National Academies)

3:45 - 4:45+ Breakout sessions 1 – 5**

4:45 - 5:00* Session reports

5:00+ Open Reception in lounge areas

Wednesday, Dec 2

12:00 - 12:15* Discussion of plans for the day– Lou Gross (UTK)
12:15 - 12:45* Presentation by Alison Gammie (NIH/NIGMS) - pending
12:45 - 1:00* Organization of breakout topics for sessions 6 – 10**
1:00 - 2:30+ Breakout sessions 6 – 10
2:30 - 3:00* Presentation by Kiona Ogle (NAU)
3:00 - 3:30* Break and session reports
3:30 - 4:00* Discussion of potential additional topics for breakout sessions
4:00 - 4:45+ Birds-of-a-feather sessions
4:45 - 5:00* Planning session for next day
5:00+ Open Reception in lounge areas

Thursday, Dec 3

12:00 - 12:30* Organization of report and consensus on topics
12:30 - 2:00+ Breakout sessions 11 – 15
2:00 - 2:30 Break
2:30 - 3:30* Synthesis sessions for each breakout topic
3:30 - 4:30* Final wrap up
4:30+ Goodbye reception in lounge areas

Breakout Session Topics

December 1

- 1) What are alternative perspectives on how to infuse quantitative perspectives in different life science graduate programs (Microbiology, Molecular, Genetics, Development, Behavior, Ecology and Evolution, Biomedical, MD, MD/PhD, etc.)?
- 2) Are there consistent differences in what quantitative concepts and skills are emphasized in different life science disciplines and how should this affect educational initiatives?
- 3) What are the benefits and issues with the use of alternative modes of learning at the graduate level (formal courses, lab groups, journal clubs, seminars, boot-camps, etc.) to enhance quantitative concept and skill development?
- 4) In what ways might we change the landscape of quantitative skills being taught at the graduate level?
- 5) How might we enhance a culture in life science education that encourages diverse quantitative knowledge?

December 2

- 6) In what ways will personalizing a graduate student's experience in courses, research groups, labs, and seminars serve to increase quantitative core competencies and what institutional challenges might occur as a result of this personalization?

7) How do we deal with the tremendous expansion of complicated quantitative approaches when there may not be an individual with the necessary expertise available at a student's institution?

8) Are there particular skills and concepts that are more effectively learned outside of a formal classroom setting and are there ones for which formal class settings are most appropriate?

9) What lessons from efforts on quantitative education at the undergraduate level can be adapted or modified to enhance graduate education?

10) Are there effective ways to "downscale" quantitative education from programs that focus on educating quantitative biologists to the broader population of graduate biology programs?

Additional Topics

11) Considering the portfolio of alternative modes for graduate students to acquire quantitative concepts and skills, are there different optimal portfolios for different types of life science graduate programs?

12) How might we encourage diversity (both conceptual and skill-based) on graduate student committees?