The 2021 UQ-bio Summer School  
(All events online)

The First Annual Online Undergraduate Quantitative Biology Summer School will be held June 2 – July 9, 2021 using Zoom.

To apply now, please visit the application website: https://forms.gle/RN2JqQb51yYPz1UJ9

Applications are due May 14, 2021. Seminars will be limited to no more than 500 registrants. Small group problem and project sessions will be limited to 30 students selected based on their past coursework and statements of interests. All events are free to all participants.

School Overview: The UQ-bio Summer School is an annual event intended to help undergraduate and first year graduate students acquire essential skills to advance predictive modeling of cellular regulatory systems. Participants will be exposed to a survey of work in quantitative biology and provided with in-depth instruction in selected techniques. The emphasis of the 2021 program will be experimental and computational techniques useful to understand cellular regulatory networks at the single-cell level.

The main focus of the program is to get students working together with mentors on small projects. Participants will have access to several pre-recorded technical lecture videos each week (approximately 3hrs per week) and will attend daily live events including research seminars from top scientists in the field (2hrs/week), mentored problem sessions (2hrs/week), project-specific software tutorial sessions (2hrs/week), career discussion forums (1hr/week), student presentation sessions (2hrs/week), and more. The summer school is designed for undergraduate students and early-stage graduate students, or anyone with a quantitative background who is new to modeling cellular regulatory systems/networks.

The 6 weekly modules of the 2021 UQ-bio summer school will be:
- Bootcamp Basics to get Started with Scientific Computing in Python (June 1-4)
- Single-Cell Optical Microscopy Experiments and Image Processing (June 7 - 11)
- Multivariable Statistics and Machine Learning for Single-Cell Data (June 14 - 18)
- Stochastic Simulations of Single-Cell Gene Regulatory Processes (June 21 - 25)
- Master Equation Analyses of Single-Cell Gene Regulatory Processes (June 28 - July 2)
- Monte Carlo Methods to Infer Models for Noisy Single-Cell Processes (July 5 - 9)

More details about each module available at: q-bio.org/wp/qbss/course_topics

Organizers and Lectures (full list will be posted at: q-bio.org/wp/qbss/2021lecturers):
- Brian Munsky (contact organizer), Colorado State University
- Doug Shepherd (co-organizer), Arizona State University
- Luís Aguilera, Colorado State University
- Mary Dunlop, Boston University
- Linda Forero Quintero, Colorado State University
- Zachary Fox, Los Alamos National Laboratory
- Srividya Iyer-Biswas, Purdue University
- Khuloud Jaqaman, UT Southwestern Medical Center
- Carlos Lopez, Vanderbilt University
- Zaida (Zan) Luthey-Schulten, University of Illinois
- Gregor Neuert, Vanderbilt University
- Linda Petzold, University of California Santa Barbara
- Steve Presse, Arizona State University
- Huy Vo, Colorado State University
- Jesse Wilson, Colorado State University.

For inquiries about the summer school, please contact: Dr. Brian Munsky: qbio_summer_school@colostate.edu

Interested to become a mentor for the UQ-bio program? Please contact us directly or apply at: https://forms.gle/Vzey1UUcwDxsYBcr8

For more information, please visit the school website at: http://q-bio.org