Teaching and learning the dynamics of cellular respiration using interactive computer simulations

An introduction for instructors

Textbook-based learning in life sciences courses limits students' conceptualization of the complex and dynamic biological/biochemical processes. In addition, life science research is shifting to incorporate computational approaches, requiring students to develop systems, computational, and quantitative reasoning skills.

In this workshop, we will introduce a novel and accessible approach whereby students learn about biological processes through building, simulating, and investigating computer models of biological processes. These lessons are facilitated using an online software, Cell Collective (http://learn.cellcollective.org).

Join us during the 2019 NAS Annual Spring Meeting on April 12, 2019!

8 am – 11 am in room Olin 110

Visit https://neacadsci.org/SpringMeeting to register for the Annual Spring Meeting!

In this workshop you will:

- Experience how students can learn biology in a hands-on, simulation and modeling fashion as exemplified using a lesson about Cellular Respiration;
- Learn how to build and simulate a model in Cell Collective;
- Identify topics and courses in which simulation and modeling lessons can be applicable to you and deployed within the next few semesters;
- Connect with our team that will assist you with deployment, student questions, and technical.

No prior experience with computer simulations is required.
Don't forget to bring your laptop!