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Links to Avida-ED spreadsheets for Active LENS and BioQUEST 2018

By Jim Smith



AVIDA-ED

Module Description:

This resource contains Avida-ED materials that were presented at the 2018 Active LENS Train-the-trainers Workshop and the [2018 QUBES/BioQUEST Summer Workshop](#). Similar materials will be presented at the upcoming [2019 Active LENS Train-the-trainers Workshop](#) and [2019 QUBES/BioQUEST Summer Workshop](#). Learn more about both professional development opportunities in the “Related Materials and Opportunities” section below.

Would you like your students to engage with evolutionary mechanisms

using a digital model that is not just a simulation of the effects of evolution? Are you interested in implementing an active learning and inquiry-based scientific experience in your course?

Using the free browser-based digital evolution platform Avida-ED your students can design experiments and collect data to observe how random mutations and evolution in action can produce complexity. This authentic research experience addresses common misconceptions in an engaging and exploratory manner that many of our students find to be “really cool and helpful,” and “a vivid way to learn” about evolution. For many of our students this experience was the first time they identified with the scientific community: “[With] the Avida-ED project, [it] felt like I was a researcher.”

In our session participants will perform a set of exercises designed to address common misconceptions regarding the process of evolution. We’ll then describe the independent research projects carried out by groups of students using Avida-ED. Our session’s initial exploration of this curriculum will provide the basis for a discussion about how workshop participants might implement Avida-ED lessons and/or research projects in their own courses.

This Avida-ED curriculum has been implemented in biology courses at Michigan State University and around the US, ranging from high school through advanced undergraduate. We will also present data on work we have done to assess the effectiveness of Avida-ED implementations on student learning of evolutionary concepts and science process skills.

Teaching Setting:

The Avida-ED curriculum is appropriate for use in high school and both lower and upper level undergraduate biology courses.

QUBES Citation:

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Related Materials and Opportunities:

Avida-ED is a free, web-based program designed to teach both principles of evolution and the nature of science, based on the research platform Avida. Learn more about Avida-ED in the recent publication, [A digital technology-based introductory biology course designed for engineering and other non-life sciences STEM majors](#).

As mentioned above, this resource contains Avida-ED materials that will be presented at the upcoming [2019 Active LENS Train-the-trainers Workshop](#). Two Avida-ED workshops will be offered this summer: **one at the University of Texas in Austin from June 12-14 and one at Michigan State University (in East Lansing) from August 7-9**. Workshop participants will learn how to use this program, and incorporate it into courses that they teach. Past participants have predominantly been collegiate faculty members, though we've also had postdocs, grad students, high school teachers, and even one member of industry who teaches some core evolutionary biology in their organization. We will give priority to applications submitted as teams of two, though we are also accepting applications from single individuals. More information is available [on the workshop site](#). **The application deadline has been extended! Applications are now being accepted on a rolling basis.** Please note that the 2019 Avida-ED Active LENS workshops will be the final set offered under our current NSF grant, which is in its last year. If you have any questions about this, please don't hesitate to contact Jim Smith (jimsmith@msu.edu) or Mike Wiser (mwiser@msu.edu).

This resource will also be presented at the [2019 QUBES/BioQUEST Summer Workshop - Evolution of Data in the Classroom: From Data to Data Science](#), which will be held on July 14-19, 2019 at the College of William & Mary in Williamsburg, VA. In this workshop we will explore how to build on the ways data is currently used in the classroom to incorporate the emerging field of data science. [Learn more about the 2019 QUBES/BioQUEST Summer Workshop](#) and view a complete [list of speakers](#) on the workshop website. Look for applications to attend the summer workshop to open soon. In the meantime, if you are interested in attending, please [subscribe to receive updates](#).

If you adopt and adapt this module, you are highly encouraged to share your adaptation back with the QUBES community using the QUBES Resources System for sharing Open Education Resources.

QUBES on Social Media



QUBES is a community of math and biology educators who share resources and methods for preparing students to use quantitative approaches to tackle real, complex, biological problems.

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