Community Spotlight

Each Community Spotlight features an outstanding group, partner, resource, or member of our community.

BIOME 2021 Fall Working Groups

This month we are featuring the outstanding work of our BIOME 2021 Fall Working Groups. These groups, which formed at the end of our BIOME summer session, met twice a month throughout the Fall 2021 semester to discuss areas of interest, individual to each group, that will help instructors reform and improve the student experience in STEM.

Below, you will find information about each of the 13 Working Groups, including short descriptions of their focus, recommended resources, and a short video overview of their progress to date.

Collectively, these descriptions show enormous innovation and commitment and demonstrate how faculty communities, formed around their own interests, can excel at developing, driving, and leading education reform. Common themes include making the classroom an inclusive space where every student is engaged and can succeed and making teaching resources more open and accessible for instructors and students–all work we at BioQUEST are so proud to support and share.

Numerous projects and conversations will continue in the spring through working groups, faculty mentoring networks, and the development of resources and papers–we've noted which groups are continuing, and we've linked to the comment section for each group. Log in to QUBES and leave a comment or question to connect and join the conversation!

Thank you to our community and Happy New Year!

(As we plan for BIOME 2022, please also take this survey to let us know more about what would be most helpful for you next year! To stay up to date on BIOME 2022, make sure you are subscribed to our newsletter.)

Scientists Offering Solutions through Sprints

This group learned best practices for holding a science sprint–a one-day event in which participants gather and analyze data to address real-life problems–and thought about scientific inquiries for their own sprints. Post a comment or question to the Sprints group.

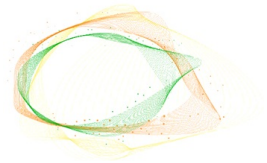
OER for CURE Development

Members of the Ciliate Genomics Consortium (CGG) began with the goal of converting existing Course-based Undergraduate Research (CURE) curriculum modules into open educational resources (OER). As

discussions progressed, they broadened their goals to develop practical guides for helping others decide to use, develop, and implement CURES. Post a comment or question to the OER for CUREs group.

Ecology/Environmental Biology Molecular Case Studies for Molecular CaseNet

This group worked together to develop molecular case studies in Ecology and Environmental Biology, with a common theme of how changes in temperature have an impact on the biology of corals, biofilm forms of Vibrio cholera, and specific species distributions. Drafts of these case studies will be field tested in Spring 2022! Post a comment or question to the Molecular CaseNet group.

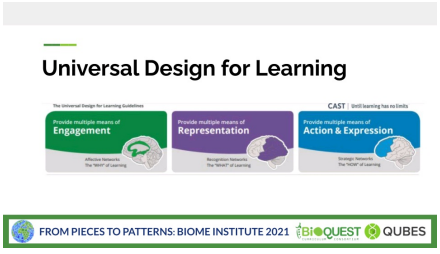


Decentered Grading

This group explored and supported each other in implementing principles of ungrading or decentered grading in a variety of biology and biochemistry classes. They plan to develop a manuscript that shares their experiences in decentered grading–their successes and barriers, and the development of a framework to help guide instructors on how to actually go about decentering grades. Post a comment or question to the Decentered Grading group.

Scientist Spotlights and Data Nuggets

The work of this group dovetails with the Quantitative Skills and Science Identity group–instructors provided each other with ideas and support for developing new scientist spotlights and to pave the way for other instructors to create their own materials in the future. Each team member developed a project based on their particular courses. They'll be continuing as a working group in the spring and may transition to an FMN in Fall 2022. Post a comment or question to the Scientist Spotlights group.



Revising Social & Environmental Justice Open Educational Resources through UDL and Accessibility Lenses

This group addressed challenges in applying a Universal Design for Learning framework–a framework for making course materials accessible to diverse student populations–to existing modules. They will be continuing in the spring as a Faculty Mentoring Network! Post a comment or question to the Revising OER through UDL group.

Quantitative Skills and Science Identity (QSSI)

This group discussed and is working to develop a methodology to assess the effectiveness of Data Nugget/Scientist Spotlight activities. They're interested in measuring the impact of these lessons on quantitative skills, interest in developing quantitative skills, and a sense of belonging in STEM, and will be offering a Faculty Mentoring Network to BIOME 2021 participants in the spring! Post a comment or question to the QSSI group.

Got Milk?

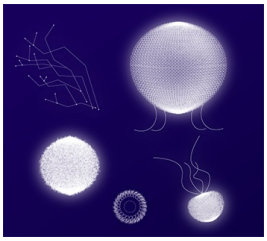
Inspired by Brian Donovan's keynote, this group aimed to update a current Evo-Ed resource, "The Evolution of Lactase Persistence," with an eye toward making sure the language and images don't perpetuate misconceptions about genetics and race. The group will then use the module as source material for developing case studies, slide decks, and assessment materials to be used across the biology major undergraduate curriculum at Penn State University. Post a comment or question to the Got Milk? group.

Undergraduate Research and Microbiology Science Community (µRAMS)

A group of faculty from Colorado State University created a semester-long course that aims to build and support a community of undergraduate researchers. Post a comment or question to the µRAMS group.

Sharing Stories: Developing OER around Podcasts

This group shared resources for using podcasts in courses, as course content as well as having students create podcasts. They are continuing to work together to create lessons around podcasts and to draft and share guidelines for assessment. Post a comment or question for the Sharing Stories group.



Failing to Succeed

This group of instructors explored tools to connect with students who are under-performing in class. By the end of the semester, they found two areas of focus and are splitting into two ongoing working groups: one focused on test anxiety and the other on exam wrappers. Post a question or comment for the Failing to Succeed group.

Microbiome Analysis with Nanopore Sequencing Data

This group zeroed in on developing bioinformatics tools and protocols designed specifically for microbiome analysis using nanopore data. Post a comment or question for the Microbiome Analysis group!

Science Communication, Misinformation and Quantitative Training (from the lens of SARS-CoV-2)

Members of this working group worked to edit and modularize an existing lab experimental report, originally designed for freshman biological science majors, to make it easily usable at multiple levels of education and in public science. They aimed to break the report up into easily separated modules, allow teachers to customize based on course foci, and allow public science communicators to generate public science events using those modules. Stay tuned for more from this group!

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