BioQUEST QUBES

Visit QUBES Hub

Dear BQ/QUBES Community,

Many of us just spent a couple of fun and fruitful days at the National Association of Biology Teachers meeting in Indianapolis. One of the big events was the awards lunch where John Jungck and Davida Smyth (among many others) were recognized. Check out the Community Spotlight in the sidebar for more information. We have pulled together some pictures (and you can share yours) in this Google collection. We are also encouraging everyone to publish their posters, talks, and workshop materials on the QUBES platform and tag them with NABT 2022. That will make them easy to access and share. There is a short video discussing conference publications and we will be helping folks publish during office hours (Weds @ Noon ET; Thurs @ 2pm ET, resuming the week of November 28th after a holiday hiatus) over the next couple of weeks. You can check out the conference hashtag on Twitter and BioQUEST. With the shift back to face-to-face professional meetings, we at BioQUEST are very interested in exploring ways that the QUBES infrastructure can be used to deepen the experience for those who attend in person and broaden access to the incredible teaching and learning resources shared at meetings.

Best,

Sam
Sam Donovan

P.S. If you're coming across this newsletter on the QUBES website or on social media, you can subscribe here to keep in touch!

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Community Spotlight:

November 2022 Community Spotlight

The National Association of Biology Teachers honored John Jungck and Davida Smyth this year for their contributions to biology education. John recieved the NABT Honorary Membership, the highest award conferred by the association, for his distinction in teaching, research, or service in the biological sciences. Davida Smyth, Associate Professor of Biology in the Department of Life Sciences at Texas A&M University-San Antonio, Texas and BioQUEST Board Member, was also recognized with the Four-Year College & University Section Research in Biology Education Award. This award, sponsored by NABT's Four-Year College & University Section, recognizes creativity and innovation in research that furthers our understanding of undergraduate biology teaching and education. These innovations may include, but are not limited to, scholarship and research in biology education.

See our latest Community Spotlight for BioQUEST-related NABT participation and NABT's full press release for John.

Subscribe to the Community Spotlight to receive the full text each month!

QUBES Corner

- **20 open educational resources** were published to the QUBES Library in October with **2111** resources in total. Browse the new resources here.

- **Featured Resources**

  - Make You Move: Interpreting Graphs of Pollinator Behavior
    In this lesson, students interpret graphs of pollinator movement behavior. Then, students view and reflect on an interview with community ecologist Dr. Suann Yang, who collected the data that they interpreted. doi:10.25334/18J4-YE78

  - A Pandemic Pivot: Podcast as an Active Engagement Tool in the Classroom and Beyond
    This article outlines the basics of using podcasting in the classroom including recommendations for selection of podcast topics, formation of student groups, and production of a podcast, and highlights the anticipated student benefits along with potential applications. https://doi.org/10.24918/cs.2022.34

Consider Partnering With Us!

NSF Proposal deadlines are around the corner, including IUSE - January 18th and RCN-UBE - January 24th.

BioQUEST has a long history of supporting transformative STEM education projects. By using the QUBES platform, your project will benefit from a close association with an active community of education reformers.

Learn more about how BioQUEST and the QUBES platform can support your projects here.

Featured Publications

We are so proud of the amazing scholarly work that is coming out of our community. Congratulations to the authors and thank you for your work.

CBE—Life Sciences Education, September, 2022

["Increased Pass Rates in Introductory Biology: Benefits and Potential Costs of Implementing a Mathematics Prerequisite in a Community College Setting"](#)

Stacey L. Kiser, Christine M. Andrews, Shannon B. Seidel, Matthew R. Fisher, Natalie A. Wright, and Elli J. Theobald

The impacts of mathematics prerequisite on biology student success are traced over a 10 year period in a community college setting. The study provides a model for assessing the outcomes of mathematics prerequisites in local settings.

CBE—Life Sciences Education, May, 2022

["Engaging with CC Bio INSITES: Experiences of Barriers, Supports, and Belonging in Community College Faculty Participating in Biology Education Research"](#)

Miranda M. Chen Musgrove, Savannah Nied, Alyssa Cooley, Jeffrey N. Schinske, and Lisa A. Corwin

This article outlines the basics of using podcasting in the classroom including recommendations for selection of podcast topics, formation of student groups, and production of a podcast, and highlights the anticipated student benefits along with potential applications.

If you have published a paper related to your work with BioQUEST and/or the QUBES platform, please let us know ([send the link to Molly](#))!

Partner News and Opportunities

Spring FMN Opportunities

Quantitative Biology at Community Colleges Mid-Cycle Network Meeting

February 23-25, 2023
Offered by BioQUEST and Montgomery College at Howard Hughes Medical Institute, MD

Quantitative Biology at Community Colleges (QB@CC) is a 5-Year NSF supported project designed to bring together life sciences and mathematics faculty from community colleges to integrate more quantitative concepts and skills in life science courses and biological applications in math courses. We launched this community in February 2020 and continue to grow by recruiting faculty to develop educational materials appropriate for a wide range of quantitative biology skills from basic dilutions to working with big data. Following an in person meeting, participants will form teams of 3-5 that include both life sciences and mathematics faculty. Groups will work together virtually for twelve to sixteen weeks to identify and adapt existing OERs on topics in any life science course where quantitative biology could be more effectively integrated. If this sounds exciting to you, apply to join QB@CC for a semester of community-driven development of quantitative biology OERs.

Who should apply? Full and part time life science and mathematics faculty at community colleges. Interdisciplinary institutional teams are encouraged to apply. Learn more and apply here. Applications are due by December 19, 2022.
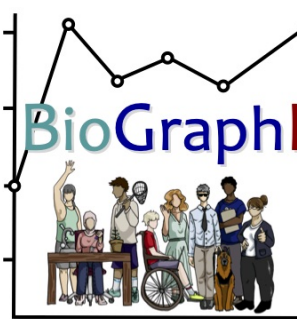
OCELOTS FMN: Implementing a module in tropical biology

Are you interested in adopting online modules that internationalize your curriculum by focusing on authentic research in tropical biology? Apply now to join us for the OCELOTS Spring 2023 Faculty Mentoring Network (FMN), run with the OCELOTS Network (for facilitating Online Content for Experiential Learning of Tropical Systems) and BioQUEST/QUBES. Participants in this FMN will focus on adopting OCELOTS modules in undergraduate biology courses. Accepted applicants will customize and implement newly designed online educational modules in tropical biology, many of which incorporate interactive data tools. While doing this, they will participate in virtual sessions every other week to collaborate with and support others in the network and receive mentoring from our team of tropical researchers and specialists in active learning methods, the 4DEE (Four Dimensional Ecology Education), media, and interactive data tools.

Please visit the OCELOTS group page for additional information and instructions on how to apply. Applications are due December 1, 2022.
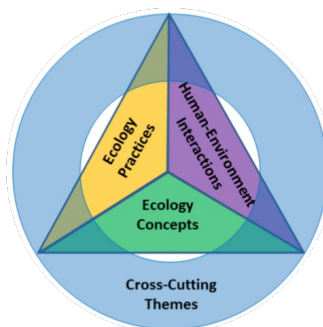
BioGraphI FMN

The [BioGraphI](#) (Biologists and Graph Interpretation) project is now accepting applications from interested faculty to participate in our Spring 2023 Faculty Mentoring Network (FMN). During this semester-long professional development opportunity, participants will learn how to prepare and implement their own BioGraphI modules into their courses. BioGraphI modules are designed to address data literacy skills while fostering diversity in undergraduate biology classrooms. These modules are lessons about graph and data interpretation that feature the scientific contributions of counterstereotypical biologists who are members of underrepresented groups. BioGraphI lessons include video interviews with these biologists, allowing students to hear directly from counterstereotypical scientists about their discoveries.

Please visit the [BioGraphI Group Page](#) for more details and to apply. Applications are due on December 2, 2022.

ESA FMN: Teaching Figure Sets in Ecology

The Ecological Society of America's (ESA) Transforming Ecology Education to 4D is teaming up with ecology education journal, Teaching Issues and Experiments in Ecology (TIEE), to host a Faculty Mentoring Network (FMN) in Spring 2023. Collaborate with your peers on ways to incorporate multidimensional learning into popular TIEE modules on Figure Sets.

Benefits of Participating include:

- Receive a stipend of $1,000 for full participation.

- Receive an ESA Education Scholar Certificate in recognition of your work for your professional portfolio.

- Be eligible for additional travel support of up to $2,200 to share modules at selected conferences in the next year.

- And [much more](#)!

Learn more and apply [here](#). Applications are due November 27, 2022.

Project EDDIE Faculty Mentoring Network Spring 2023: Now Accepting Applications

Teaching Scientific Concepts and Quantitative Reasoning with Large-Datasets and

Inquiry-Driven Learning

Are you looking to teach scientific concepts using data exploration and open inquiry? Are you interested in teaching quantitative reasoning in your classroom? Project EDDIE is excited to offer a suite teaching Modules to use in your biology, geology, climatology, oceanography, and sustainability courses. This spring we will be supporting faculty who would like to teach with modules featuring climate change and sustainability topics. We encourage you to apply individually or with colleagues that you know share your interests, so please spread the word!

Apply Now to join the Spring 2023 Project EDDIE Faculty Mentoring Network (FMN). Applications are due December 16, 2022.

Other ESA Opportunities

ESA's Teaching of Undergraduate Ecology Survey

ESA invites all faculty who have been teaching ecology to any degree at the undergraduate level within the last three years to take our first of-its-kind survey including those teaching:

- Introductory biology

- Environmental science, and

- Other courses for STEM majors or non-majors or

- Ecology-embedded in courses in other disciplines e.g. sustainability, wildlife management etc.

Find the survey here.

Now Accepting Proposals for the Education Share Fair!

We are especially interested in ideas around:

- Adapting to and teaching disease ecology

- Fake news, Real Science, or somewhere in between

- Research innovation and careers

Submit a proposal here.

CourseSource Announcement

Since its inception, publishing in CourseSource has been free! We regret that the time has come to charge for publications; CourseSource is supported by grants and donations, and our budget no longer allows us to take on the full burden of publication charges. We will be implementing a flat fee of $400 per article beginning in January 2023. We have budgeted some funds to assist authors with costs—both a reduced fee of

$250 or a complete waiver, depending on circumstances. We also will implement a group discount program in which an institution or a group from a collaborative grant can pay $1000 per year and publish as many articles as they would like. Thank you for your continued support.

Find the original announcement here.

NIMBioS is Seeking Stories

Did a project you are proud of get started at a NIMBioS activity? Are you working on a current project through NIMBioS? Did you start a new math bio collaboration because of a NIMBioS activity? We would love to help promote your work! Submit stories to Lfarabau AT utk DOT edu.
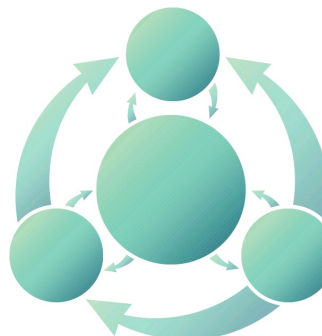
NSF Introduces a ExLENT, a New Workforce Development Program

The U.S. National Science Foundation today launches a new $30 million workforce development program, Experiential Learning for Emerging and Novel Technologies, or ExLENT. The program will expand practical learning opportunities for individuals interested in entering or gaining more experience in emerging and novel technology areas such as advanced manufacturing, artificial intelligence, biotechnology, quantum information science, and semiconductors and microelectronics. With awards of up to $1 million over three years, the program will promote partnerships between organizations in emerging technology fields and those with expertise in workforce development. Read more about the ExLENT program here.

Visit the new Understanding Science

If you haven't yet checked it out, be sure to visit the website, Understanding Science. It's packed with content and resources for teaching the nature and process of science. Do your students need to know why evolution isn't "just" a theory, how we test hypotheses about ancient history, or why our changing ideas about relationships on the Tree of Life don't mean that science is untrustworthy? Understanding Science has answers!

AAAS: Leveraging Institutional Data to Advance Equity in STEM Courses

How do faculty learn about the historical equity landscape in their courses when they have neither the time nor the data access to perform analyses themselves? Many institutions face this challenge which is not easy to address. If instructors and administrators are to understand where their efforts to advance student learning and equity in their courses are succeeding, they need to measure it. That approach needs to be adaptable to specific questions, and also scalable to cover different types of courses at the university.

This problem turned into the underlying motivation for creating what we call course equity reports. Building on our expertise as researchers and instructors, we've developed a standardized set of analyses to help instructors understand what is happening in their courses for different groups of students and reflect on whether the outcomes are aligned with their equity goals. By developing these reports centrally rather than requiring each instructor to obtain data access and conduct the analysis independently, we have lowered the barriers to engaging with this information. Read the full article here.