QUBES
The Power of Biology × Math × Community

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Best of the Blog

Reflections on the 2018 QUBES/BioQUEST Summer Workshop

Four highly motivated future faculty volunteers attended the 2018 QUBES/BioQUEST Summer workshop. Over the next few months, they will be sharing their experience with the QUBES Community in a series of blog posts. Future faculty and guest blogger, Mark Slabodnick, shares his experience with the QUBES Community in the second post in this series.

Learn more...

QUBES Near You

Look for QUBES PI and Director of QUBES Alliance, Carrie Diaz Eaton, at the following conferences this month:

1. International Symposium on Biomathematics and Ecology Education and Research (BEER), which is being held at Arizona State University in Tempe, AZ on October 5–7, 2018. QUBES Partner Biology Students Math Anxiety and Attitudes Program (BIOMAAP) will also present a minisymposium at BEER. View the abstract.
2. 2018 Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS): The National Diversity in STEM Conference in San Antonio, TX on October 11-13, 2018.

Last month, QUBES Partner High-throughput Discovery Science & Inquiry-based Case Studies for Today's Students (HITS),was represented at the 2018 Annual Fall Conference for the National Center for Case Study Teaching In Science in Buffalo, NY where Carlos Goller, Stefanie Chen, and Sabrina Robertson presented a posted titled, *HITS: A network to promote high-throughput (HT) approaches through inquiry-based case studies*.
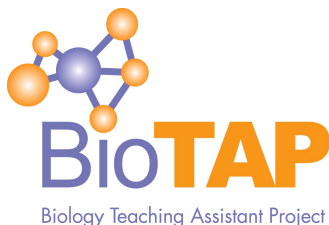
Meetings, Workshops, and Webinars

Undergraduate Biology Education Research Gordon Research Conference
Achieving Widespread Improvement in Undergraduate Education

June 23 - 28, 2019
Bates College, Lewiston, ME

Application Deadline: May 26, 2019 (But you are encouraged to apply early)

Learn more…
Apply now!

Biology Teaching Assistant Project (BioTAP) 2018 Virtual Conference

Monday, October 29, Noon – 4:00 PM EST

Attend or submit a talk. Deadline for submitting a talk is Oct. 8, 2018.

Learn more…

Closing the Gap in the Open Educational Resources (OER) Life Cycle with HHMI BioInteractive Resources

Kristine Grayson presented a poster titled, *Closing the Gap in the Open Educational Resources (OER) Life Cycle with HHMI BioInteractive Resources*, to the HHMI teaching community this past summer. Her poster describes how the HHMI BioInteractive Educator Publications page on QUBES addresses common barriers that impede the Open Education Resources (OER) life cycle in which faculty find, use, customize, and share education materials. Further demonstrating her support for the OER life cycle, Kristine Grayson has made her poster available as a resource for the QUBES community via the QUBES Resources System for sharing OER.

Click here to view her poster.

Learn more about OER on QUBES.

Opportunities for Graduate Students

CIENCIA PUERTO RICO

FREE Professional Development Opportunity for Doctoral Students
Yale Ciencia Academy (YCA) for Professional Development
Enhancing Biomedical Training and Diversity Through Networks, Community, and Outreach

January to December 2019

Application Deadline: Nov. 2, 2018

Learn more…
Apply now!

neon
National Ecological Observatory Network

Opportunity for Graduate Students Interested in Using NEON Da
Explore NEON Workshop

November 8-9, 2018
Boulder, CO
Travel funding available.

Hurry! Application Deadline: October 5, 2018 at 23:59 MT.

Learn more…
Apply now!

hhmi | BioInteractive

BioInteractive Faculty Mentoring Network

bit.ly/BIFMNHAPS2019
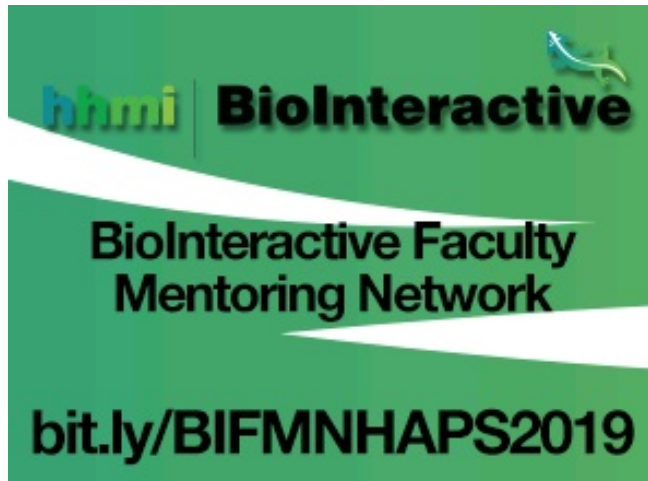
Apply for the Spring 2019 HHMI BioInteractive Faculty Mentoring Network in Anatomy & Physiology

HHMI BioInteractive is pleased to offer a unique networking and professional development opportunity from December 2018 – May 2019. Faculty participants in this network will work in small groups to produce teaching resources in content areas related to physiology that support existing HHMI BioInteractive stories. To qualify, participants must be willing to incorporate their teaching resource in their **Physiology** or **Anatomy & Physiology** course during 2019, and collect and share data (examples include survey responses and/or student artefacts) on implementation.

Please visit https://qubeshub.org/community/groups/hhmibiointeractive2019 for additional information and instructions on how to apply. Application deadline is October 22, 2018.

New feature of the FMN page - a Gantt chart showing all past FMNs.

Faculty Mentoring Networks (FMNs) bring together faculty from across the country who are interested in using new educational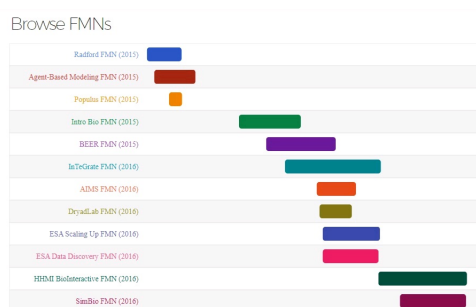 resources in their classroom. During an FMN, participating faculty work collaboratively with mentors and peers to adapt or create new open education resources. Visit our recently updated FMN page to learn more about FMNs, browse current and upcoming FMNs, and browse featured resources that have been produce by FMN participants. We also encourage you to check out a new feature of the FMN page - a Gantt chart that provides a unique way to browse all past FMNs. Click here to view the chart.

Browse FMNs

Radford FMN (2015)	▅
Agent-Based Modeling FMN (2015)	▅
Populus FMN (2015)	▪
Intro Bio FMN (2015)	▅
BEER FMN (2015)	▅
InTeGrate FMN (2016)	▅
AIMS FMN (2016)	▅
DryadLab FMN (2016)	▪
ESA Scaling Up FMN (2016)	▅
ESA Data Discovery FMN (2016)	▅
HHMI BioInteractive FMN (2016)	▅
SimBio FMN (2016)	▅

To date, QUBES has hosted 24 FMNs including 319 faculty from across the country and an additional 8 FMNs are running this Fall semester. Applications are already being accepted for the Ecological Society of America (ESA)-sponsored Data Explorers: Using ecological data in undergraduate biology classrooms FMN that will be running in the Spring 2019 semester and other Spring FMNs will be announced soon. If you are interested in staying up to date on the latest FMN information, be sure to subscribe to the QUBES Hub newsletter. Browse current and upcoming FMNs. Learn how participating in an FMN can help your professionally.

Attention QUBES Partners: If you are interested in sponsoring an FMN, please contact Deborah Rook at deb.rook "at" bioquest.org. Learn how running your own FMN can further your project's goals.

Announcing Resource of the Week - a new weekly QUBES feature highlighting an educational resource that is freely available on QUBES

The Resource of the Week (ROW) is a new feature at QUBES where, each week, we shine the spotlight on an outstanding QUBES resource. The resources featured in the ROW are drawn from the larger collection of openly licensed materials shared by QUBES users and partners. Each ROW includes a brief description of the education resource along with related materials and opportunities that might be of interest to faculty.

We've been sharing ROWs for the last few weeks while in the soft launch stage. ROWs shared so far 1) address a variety of topics including population dynamics, global temperature change, animal and plant phenology, and UNIX command line, 2) are designed to help students build a variety of skills including the estimation of population size, proposing functions that meet certain conditions, performing linear regression, writing code, and performing analyses in R, and 3) have been used in a variety of teaching settings including lecture and lab courses for high school students through undergraduates in introductory, quantitative biology, and ecology courses.
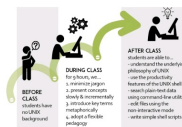

Food Chain Dynamics In A Simple Ecosystem

Author(s): Jessica Joyner, J. Phil Gibson, and Anna Petrovicheva

Neighborhood Fences and Gates

Author(s): Ricardo Cortez, Cynthia Anhalt, Susan Staats, and Marta Civil

Introduction to UNIX command line (Version 1.0)

Author(s): Serghei Mangul

Salamander Mark–Recapture using SPARCnet plots with the Schnabel Method (Version 2.0)

**Author(s):** Kristine Grayson and Raisa Hernández Pacheco

Investigating the footprint of climate change on phenology and ecological interactions in north–central North America

Author(s): Kellen Calinger

This week we've featured *Coral Reefs in Hot Water (Version 1.0)* by Kaitlin Bonner, an activity in which students analyze sea surface temperature data to explore coral bleaching due to thermal stress.

Coral Reefs in Hot Water (Version 1.0)
By Kaitlin Bonner
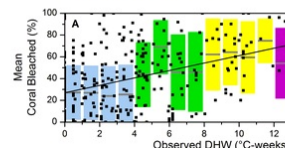
- Check out this week's ROW and browse past ROWs.
- Subscribe to the ROW to get is automatically send to your email inbox. You do not need a QUBES account in order to subscribe!
- Please share this announcement with interested colleagues.
- Please feel free to forward ROWs to colleagues who might find the resource useful.
- If you are interested in sharing your teaching materials on the QUBES Resource System or nominating a resource for ROW, please contact Elia Crisucci (emc22@pitt.edu).

The BIMODALS project invites undergraduate biology instructors to participate in a study investigating their views on teaching mathematics.

The BIMODALS project is an internally funded University of Minnesota-Twin Cities project that aims to examine mathematics instruction and how students make sense of mathematics in the biological sciences at the undergraduate level. We are inviting undergraduate biology instructors to participate in a study investigating their views on teaching mathematics. Learn more about our project and find out how you can participate below.

As QUBES members are acutely aware, quantitative skills are becoming increasingly important to biological research. As biology researchers and educators, we need to develop an understanding of how to develop mathematical skills in undergraduates to prepare them for the future. It has been shown that the ability to make connections between mathematical expressions and scientific phenomena (sensemaking) increases quantitative problem-solving and conceptual understanding. However, it is not yet known what factors underlie the development of sensemaking or what types of instruction facilitates sensemaking.

If you are an instructor of an **undergraduate** biology course at a University/College in the United States of America, we are asking for your help in developing this understanding.

The lowest level of participation is to share your experience and attitudes on mathematics in biology by completing this survey anonymously (approximately 10 minutes).

https://umn.qualtrics.com/jfe/form/SV_9Esb4P20Ipi9uLz

This survey will be closed on **Monday, October 19 at 11:59 pm CST**.

In addition to the survey, there are three additional ways to participate.

1. Distribute the BIMODALS survey to students of a biology course in which you are teaching mathematical expressions.
2. Send us an audio recording of you teaching a lesson or series of lessons on a mathematical expression in biology.
3. Participate in a 30 minute interview about your attitudes about mathematical expressions and teaching of those expressions.

At the end of the survey, we will ask if you would be willing to participate in these additional ways. If you are, we will collect your e-mail address so that we can contact you.

If you have any questions concerning the research, please contact Linh Chau (lchau@umn.edu) or the PI, Anita Schuchardt (aschucha@umn.edu). All elements of the research study have received approval by the IRB board at the University of Minnesota.

Thank you for supporting this research and please share this opportunity with your colleagues!

Enter Now! The NSF 2026 Idea Machine

Help the National Science Foundation think outside the box! The National Science Foundation is launching a prize competition called the **NSF 2026 Idea Machine**. Join this opportunity for researchers, the public, students and other interested parties to suggest pressing research questions that need to be answered in the coming decade and help set the U.S. agenda for fundamental research in science and engineering!

Deadline: October 26, 2018, 5pm EST.

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View newsletter on QUBES Hub
BioQUEST/QUBES Newsletter: Issue 10