







Visit QUBES Hub

Community Spotlight:



HITS (Highthroughput Discovery Science & Inquiry-based Case Studies for Today's Students)

A wonderful BioQUEST/QUBES partner and repeat presenter at BIOME, HITS has been an incredible resource for educators who want to provide active, applied, real-world learning experiences for students.

Learn about what the project has accomplished over the last five years.

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

Dear BQ/QUBES Community,

On June 6, BioQUEST turned 36 - we are very proud of our age (!) and our longstanding commitment to STEM education reform. With a new director taking the reins last year and our transition to full stewards of the QUBES platform, we didn't have a



chance to celebrate our 35th-year milestone. We are making up for it now! And are celebrating in a few ways:

- the launch of a belated 35th anniversary page, complete with BioQUEST stories
 - · see the full stories from BioQUESTers here
 - · read about BioQUEST's origin story here
- a T-shirt fundraiser with a fun design by our very own Deb Rook
- and a SAVE-THE-DATE for a virtual birthday party!

We hope you will join us in celebrating an organization that has always (for a very long time!) worked with faculty to empower students - from every type of institution, from all backgrounds - in their own learning, from the very first modules in the BioQUEST Library, to promoting and supporting Investigative Cases, CURES, integrating data and math with biology, and much more. Along the way, we've supported a community of educators committed to self-reflection, self-improvement, and providing the most powerful learning experiences for their students.

Thank you for being a part of this community - we look forward to many more years.

Caitlin

Caitlin Hayes

Communications Manager, BioQUEST

P.S.

If you're coming across this newsletter on the QUBES website, <u>you can subscribe here</u> to keep in touch!

In this newsletter:

BioQUEST News

- · Happy Birthday, BioQUEST!
- Featured Publications

Partner Corner

New Partners

Learn more about these recent/recently funded partners and how to get involved!

Headwaters Science Institute

<u>The Biological and Environmental Data Education</u>
(BEDE) Network

News and Opportunities

- CourseSource is hiring a managing editor!
- Apply for BEDE's inaugural annual meeting by June 24
- ESA's Biodiversity Fall 2022 FMN opens applications
- CarpentryCon opens registration June 24
- Two opportunities to learn from RIOS leadership
- Build A Genome Network hosts 5th Build-a-Genome Synthetic Biology Workshop
- · Registration and upcoming deadlines for NABT

Other Opportunities

 Georgia Tech seeks two adjunct professors in biological sciences

QUBES Corner

- 325 open educational resources were published to the QUBES Library in May! The high number is in part thanks to <u>SIMIODE's migration to QUBES</u>. <u>Browse the</u> new resources here.
- Featured Resources
 - (from CourseSource): <u>Diversifying and</u>
 Humanizing Scientist Role Models Through
 Interviews and Constructing Slide Decks on
 Researchers' Research and Life Experiences

This lesson includes materials that will help students create their own slide deck of information about the research and outside interests of scientists at their own institution. The lesson also includes materials that can be used to help initiate discussions about representation and inclusion in

science. https://doi.org/10.24918/cs.2022.1

• Project EDDIE*: Prairie Eco Services

This module aims to equip students with the decision making skills necessary to be powerful influences in their communities and in the fight to make sustainability a global effort. This module introduces students to real-world, relevant data from recent flooding events in the greater-Houston area, and forces students to weave

together disparate forms of data. doi:10.25334/3J1B-K508

*Project EDDIE is currently publishing products from their spring FMN! Check out their resources and adaptions here.

Event Round-Up

Link directly to featured events below or <u>browse all</u> <u>events on our calendar</u>.

June 21, July 5 - NSF IUSE Office Hours

June 30 - Workshop: Got Vaccinations? Using HHMI BioInteractive's Immune System Interactive to Understand How Vaccines Work

July 18 - Workshop: BioInteractive Across Scales:
Using Lactase and Trophic Cascades to Unite
Molecular and Ecological Concepts on Regulation

July 18-29 - BIOME Institute!!!

July 19 - Workshop: Exploring the Mystery of Terrestrial Biomes with HHMI BioInteractive BiomeViewer and Minicases

BioQUEST News

Happy Birthday, BioQUEST!

On June 6, 2021,
BioQUEST reached the
ripe old age (for an
organization!) of 35! 2021
was so busy - with a new
director taking the reins
and QUBES officially
coming under our
stewardship - that we didn't
have a chance to
celebrate. We are making
up for it now!!

We're celebrating with...

- the launch of a
 belated 35th
 anniversary page,
 complete with
 BioQUEST stories
- a T-shirt fundraiser with a fun design by our very own Deb Rook
- and a SAVE-THEDATE for a birthday party at the BIOME institute!

A very big thanks and virtual cheers to all who make BioQUEST amazing (and enduring).



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.

Science, June 2022

"Achieving STEM diversity: Fix the classrooms"

Jo Handelsman, Sarah Elgin, Mica Estrada, Shan Hays, Tracy Johnson, Sarah Miller, Vida Mingo, Christopher Shaffer, and Jason Williams

This "policy forum" essay lays out the ongoing challenges associated with achieving STEM diversity and proposes a set of principles for creating more inclusive classrooms.

Journal of microbiology & biology education, 2021

"There is more than multiple choice: crowd-sourced assessment tips for online, hybrid, and face-to-face environments"

Jennifer C. Drew, Neal Grandgenett, Elizabeth A. Dinsdale, Luis E. Vázquez Quiñones, Sebastian Galindo, William R. Morgan, Mark Pauley, Anne Rosenwald, Eric W. Triplett, William Tapprich, Adam J. Kleinschmit

The <u>NIBLSE team</u> is at it again with another great example of sharing RCN products. In this "tips and tools" article, they share examples of 10 assessment types as a resource for helping you (and your students) track their learning.

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 Caitlin)!

Partner News and Opportunities

Featured Partner: Headwaters Science Institute

Headwaters Science Institute is a non-profit organization focused on offering an alternative modality of science education through hands-on, student-led research. We create and offer free content to aid teachers in



providing a more effective learning experience for their students, conduct long-form interviews with scientists across

the globe, and offer a variety of programs that provide students with an exciting research experience.

During the current information age, it is important that we help students develop the skills to think for themselves, collect and analyze data, evaluate information, and communicate findings with peers. The foundational knowledge like terminology, biological processes, principles, etc., are all covered in the classroom, but programs like ours address this critical thinking knowledge gap that typically exists in the classroom setting today.

A note from the group:



To improve open access to scientific learning materials for educators, we are utilizing the QUBES platform to disseminate all of the content we create. You likely have noticed recent resources being published such as our *Lunch with a Scientist*

series where we interview scientists of all fields covering not only their research, but their journey through life. We have also begun to upload issues of our <u>Student Research Journal</u> which highlights all of the impressive research students in our 10-week Headwaters Research Experience. We will continue to regularly upload science related months into the future! We encourage everyone to utilize the content we provide and build upon it.

<u>Check out our most recent upload with Dr. David Gallo</u> here.

How can our community get involved?



Join our group on QUBES! Explore the Forum where we have created numerous discussion topics with the goal of encouraging the community to share their experiences in science! Please contribute and interact.

You can find all social media profiles, program information, and donation information <u>via our Link Tree</u>.

Other useful links:

https://headwatersscienceinstitute.org/

Featured Partner: Biological and Environmental Data Education (BEDE) Network

The Biological and
Environmental Data
Education (BEDE)
Network is a motivated
community of scientists
and educators dedicated to
integrating and normalizing



data science approaches in undergraduate biology and

environmental science curricula. Our mission is to provide training and resources for educators to empower them to teach data science skills in their classrooms. Our network first assembled in 2018, with support from NSF through an RCN-UBE Incubator award, and we are continuing our work with further NSF support from the RCN-UBE program.

How can our community get involved?

If you are interested in participating in our network or learning more about our work, <u>checkout our website on the QUBES Hub</u>. Announcements of upcoming events, teaching and learning materials, and a link to join our mailing list (coming soon!) can be found there.

We'll be holding a network meeting on August 12-13, just before the ESA-CSEE meeting, and <u>invite everyone to apply to attend</u> (due June 24). <u>Learn more about this event below</u>.

Other useful links:

NSF Award

CourseSource is hiring a managing editor!

This is a unique job opportunity merging two projects that involve developing, managing, and evaluating resources for teaching at the college level.

Find more information and apply.

Apply for BEDE's inaugural annual meeting by June 24

BEDE invites you to apply for their inaugural annual meeting of the Biological and Environmental Data Education (BEDE) Network, held from August 12-13 at the Palais des congrès in Montreal, Quebec, Canada. The meeting is scheduled to precede the ESA-CSEE Joint Meeting 2022 (August 14-19). They can provide travel support and can host virtual attendees.

The themes of this year's meeting are Inclusive Pedagogy and Bridging International Borders. With these themes in mind, they will be approaching the topics of curriculum mapping of data science skills, international collaboration, and overcoming barriers to inclusive data science teaching in biology and environmental science curricula. Dr. Laura McDonald (Hendrix College) will be the guest speaker.

The application process will be competitive based on the number of applications received and they anticipate the meeting will have approximately 30 in-person attendees. All biology and environmental science faculty, university- and college-level instructors, and post-doctoral researchers are welcome to apply. A limited number of spots are available for graduate students who have a passion for teaching. Funding is available from the National Science Foundation to support in-person participants, with a virtual participation option for those unable to attend in person. Full financial

support is available, including transportation, three nights accommodation, and meals to successful applicants for inperson attendance.

The deadline to apply is June 24 and successful applicants will be informed by July 1.

PLEASE APPLY HERE.

Not ready to commit to a two-day meeting? BEDE is offering a "train-the-teachers" workshop on August 14 as a part of the ESA-CSEE Joint Meeting. Register for the workshop when you register for ESA-CSEE 2022 Joint Meeting here.

Questions can be directed to bedenetwork@gmail.com

ESA's Biodiversity Fall 2022 FMN opens applications







Work with <u>BLUE</u> and Ecological Society of America to publish your educational materials that use biodiversity data. Six meetings to optimize your educational resources and incorporate <u>4DEE</u>.

Applicants should have a draft version of an educational module that uses biodiversity data to teach an ecological concept (could be an adaptation or new materials). Over the six meetings participants will work in small teams on the modules to optimize the modules and align learning objectives with the 4DEE Framework.

Participants will receive \$1000 stipend and \$2200 to travel to the meeting of your choice.

Organizers welcome participation from individuals and teams, graduate students to tenured professors, and educators at all types of higher ed institutions including CCs, TCUs, MSIs, HSIs, HBCUs, PUIs and Research Intensive institutions.

<u>Find more information about the FMN.</u> Applications due June 24.

If you have any questions reach out to Anna Monfils.

CarpentryCon opens registration June 24



CarpentryCon is happening 1-12 August, and registration will be opening 24 June. <u>More</u>

<u>information can be found on the CarpentryCon website</u>, and this is where individuals can sign up to receive updates.

Two opportunities to learn from RIOS leadership

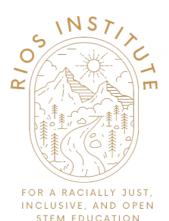
RIOS is excited to share these two upcoming events:

1) "Creating a Socially Just Open Education," Open Education Network Summit 2022

Dr. Jasmine Roberts-

Crews, RIOS'

Communication Fellow, will be addressing what a "socially just open



education" means, why it is so important, and how we can begin to work towards that goal.

#OENSUMMIT22 runs from July 25-29th; Dr. Roberts' Crews talk is on July 26th. Registration is free, and open until July 8th. To view the full event schedule and register, see OEN's website here.

2) "Critical, Socially Just, and Open Pedagogies in STEM," Equity Unbound's Mid-Year Festival 2022

This workshop series is co-sponsored by RIOS & Equity Unbound, and led by two of our leadership Dr. Karen Cangialosi & Dr. Bryan Dewsbury! It will explore why and how we can improve STEM students' experiences and learning by transforming curricular materials and teaching practices to be anti-racist, socially-just, learner-centered, and open.

#MYFest22 is open from June-August 2022, with a variety of events within that duration. This workshop will be offered in three sessions, from August 1st to the 3rd. To learn more and register, see MYFest22's website here.

Build A Genome Network hosts 5th Build-a-Genome Synthetic Biology Workshop



The <u>Build-a-Genome</u>
(<u>BAG</u>) <u>Network</u> invites you to join them for their 5th
Annual Workshop, July 29August 1st at Hartwick
College in Oneonta, NY.

BAG is a course-based undergraduate research experience centered on synthetic biology education. Synthetic biology allows students to be creative as they design novel biological systems while learning the fundamentals of molecular biology, genetics, genomics, and bioengineering. Build-a-Genome was developed as part of the International and groundbreaking Synthetic Yeast Project and focuses on the design and creation of synthetic genomes, like yeast

and bacteriophages, and this opportunity may be of interest to those already working with bacteriophages as part of the SEA-PHAGES program.

Our network's goal is to make these techniques easy to incorporate into a diverse range of courses. This workshop will provide an introduction to the field, opportunities to engage in hands-on lab activities, and materials that can be easily incorporated directly into relevant courses or research projects.

Participation from individual faculty, faculty teams, and faculty/student teams is welcome. More information and applications are available at the BAG QUBES site, or reach out to Lisa Scheifele.

Registration and upcoming deadlines for NABT

Registration for NABT is now open!

Join NABT in Indianapolis from November 10-13 for a great program of



educational sessions, engaging speakers, an interactive exhibit hall, special events, and more! <u>Look for program updates at NABTConference.com</u>

Early-bird savings end on July 31st, and it's easy to <u>register</u> online or by downloading the <u>2022 Registration Form</u>.

NABT is offering discounts for groups of three or more attendees who make a single payment transaction using a credit card, check, or PO. The group can be teachers in a single school or district, or it can be you and your biology buddies. Contact NABT at conference@nabt.org for details.

Biology Education Poster Session - submit by 8/15

The popular <u>NABT Poster Session</u> highlights practices, programs, and research in three distinct categories: general strategies for teaching biology, the scholarship of teaching, and mentored student research. Posters presented by students are eligible for two competitions, and winners will be announced onsite in Indianapolis.

Learn more at 2022 Call for Posters.

Other Opportunities

Georgia Tech seeks two teaching adjuncts in biological sciences

The School of Biological Sciences at Georgia Tech has paid in-person teaching opportunities available for the Fall 2022 semester. Responsibilities include course content delivery and assessment, supported by graduate or undergraduate teaching assistant(s) who will assist with course management under your mentorship. Ideal candidates will have a PhD in a related area of biological science. Georgia Tech undergraduates are amazing to work with, and teaching materials and mentorship are available for each of these courses. If you are interested in teaching only half a course, please reach out to discuss.

To learn more, please email Chrissy Spencer.

Below are the courses and position details:

The Biology of Sex and Death (BIOS 1220), a nonmajors intro bio lecture.

Position: Instructor, teaching a 3 credit lecture course

Meets TR 9:30 am-10:45 am from Aug 22, 2022 - Dec 15, 2022.

This introductory biology course for non-science majors uses questions pertaining to life, sex, and death to introduce students to biological concepts including evolution, genetics, and ecology.

Genetics (BIOS 2600)

Position: Instructor, teaching a 3 credit lecture course

Meets at TR 9:30 am-10:45 am from Aug 22, 2022 - Dec 15, 2022.

This sophomore level lecture course is required for the Biology degree and is popular with students from other majors. The course covers Mendelian and molecular genetics; principles of inheritance, gene structure and function, foundations of recombinant DNA technology, genetic basis of variation and evolution.







