



***This newsletter is for BIOME 2023 participants and some materials may be password protected.***

## Greetings from the BioQUEST Team!

Greetings from the BioQUEST Team! Thank you everyone for another great year of BIOME! We hope that you have gained new perspectives, connected with new and old friends, and found a new place for you to find resources to amplify your teaching. As we are closing one door, it is time that we share that BIOME 2024 is just around the corner! This year will be entirely virtual for one week only, held from July 15 - 19, 2024. Be sure to keep an eye out for more information coming soon!

As the BIOME newsletter wraps up, please take a moment to complete this brief [survey to share your feedback](#) on the newsletter.

For anyone that needs confirmation of your attendance and participation at BIOME, please contact Rhianna Kozinski (rkozinski "at" bioquest "dot" org).

### In this Issue:

- [October Working Group Summaries](#)
- [QUBES Corner](#)
- [Connect With Us](#)

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!

## 2023 Working Group October Updates

### [Podcasting in STEM Education](#)

**Group members:** Phil Gibson Sarah Straud, Margaret Goodman, Michael Sitvarin, Christin Monroe

#### **What were your initial goals, mission, and deliverables?**

Our initial goals were to work together to define resources we would like to use and to experiment with using podcasts in a class.

#### **How have those shifted over the past three months?**

We held close to and achieved those goals over the past three months!

#### **What are your group's deliverables?**

We have made initial steps in developing listening guides and associated resources for BioTA podcasts. Two podcasts were also developed and released.

#### **Plans moving forward:**

We plan to continue working together in the spring to keep these efforts going. Resources are



## Assessing Collaboration and Leadership Skills with Project Leadership

**Group members:** Mary Mulcahy, Heather Rissler, Pankaj Mehrotra, Sheela Vemu, Stacey Kiser, John Starnes, Bharti Kaushik, Carlos Goller, Ashley Poole, Laurel Lorenz

### **What were your initial goals, mission, and deliverables?**

- Testing the app in the classroom
- Further developing the features of the app
- Exploring how the app might be used in faculty development
- Learning more about how to effectively support collaboration/group work in the classroom
- Building a rubric to assess collaboration skills



### **How have those shifted over the past three months?**

- Because of time zones, we ended up having two groups. Most of us met on Fridays when we discussed a variety of topics. Bharti and her team met with Laurel on Wednesdays when we discussed how to use Project Leadership for professional development on a faculty team.
- We found that we needed to review resources that would help us to test the App in the classroom, these were resources about providing/receiving feedback, designing roles that help with leadership development, using Project Leadership as a Meta-Analysis tool for Program Evaluation.
- We also spent time creating roles that help with developing leadership skills
- We implemented Project Leadership during our team meetings. Members took on meeting roles (note-taker, contributor, and provided feedback.
- The feedback provided in Project Leadership could help with program evaluation and see how individuals are progressing towards their responsibilities.

### **What are your group's deliverables?**

- We are currently adding to and revising a document for a Qubes Hub Publication. It will be a resources describing the topics that we review this semester: providing feedback, developing roles, using ChatGPT to develop roles, and examples of ways to implement Project Leadership.

### **Plans moving forward:**

- Record a 2 minute video report out
- Submit a Qubes Hub Publication described above
- Support each other in implementing roles in our courses that help students develop leadership skills.

### **Resources:**

- [Meeting Notes](#)
- [Library of leadership roles](#)
- [Google Drive](#)

### **Working Group Connections:**

- AI Group - Our discussions have frequently led to using ChatGPT to help generate effective roles and to help write feedback to motivate someone. To the AI group, did you come across any specialized AI tools or approaches of using AI to generate effect roles or

---

## Revealing Hidden Figures in Natural History Collections

### Working Group Members

- Implementation Working Group: Molly Phillips (BioQUEST), Mary Mulcahy (University of Pittsburgh), Pankaj Mehrotra (University of the People), Shawn Krosnick (Tennessee Tech University)
- Finishing the WIPS: Makenzie Mabry (Florida Museum), Siobhan Leachman (Wikimedian and Data Curator), Jennifer Girón (Texas Tech University), Bunmi Aina
- Storytelling Module: Adania Flemming (Florida Museum), Karina Sanchez (University of New Hampshire), Jennifer Kovacs (Agnes Scott College)



### What were your initial goals, mission, and deliverables?

People are important, and data about people gets considerable attention across disciplines. In biological collections, the names of people that have collected and/or identified specimens are kept alongside other important information like taxonomic information and when and where the specimen was collected. The system of keeping track of who did what is a work in progress however because human names tend to be poor identifiers (not unique or stable). People, as the data creators and managers, also introduce their own biases into the systems they create leading to inequities in who is named, and therefore who receives credit and acclaim, for the collecting and describing of the natural world. New tools are being developed such as ORCID ID, Bionomia, and WikiData to help create and improve tracking and linking the human-side of biodiversity data. These tools are free and open, meaning anyone can help add and improve data about the humans involved in documenting biodiversity.

### What are your group's deliverables?

- Our WIP group finalized the first two modules in our CURE series (Introduction to Hidden Figures in Natural History Collections, and The Importance of an ORCID), and finished the first draft of our Bionomia module.
- Our implementation group implemented the Intro and ORCID modules in a variety of settings and also drafted a pre/post assessment.
- Our storytelling group drafted an outline and learning objectives for the Storytelling in Science module.

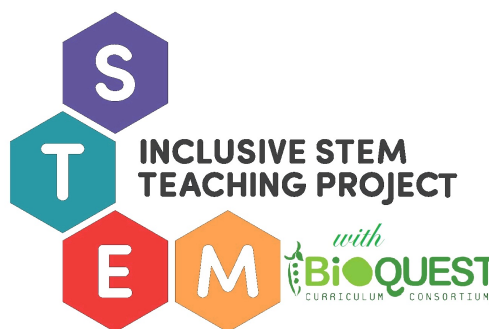
### What are your plans going forward?

We plan to continue to finish drafting the remaining three modules, and promote and support implementation of these resources! Reach out if you have any questions or would like to participate.

---

## Inclusive STEM Teaching Project MOOC and Learning Community

**Group members:** Tamara Basham, Kristen Butela, Brittany Cavazos, Melissa Haswell, Sharon Homer-Drummond, Jennifer Katcher, Melanie Lenahan, Sondra LoRe, Laurel Lorenz, Michelle McWhorter, Ann Showalter, Cora Varas-Nelson, Shawn Zeringue-Krosnick, Sarah Prescott, and Deb Rook.



The group worked all semester long on the modules included in the ISTP course and they are excited to share that the working group is continuing for the spring 2024 semester. Current members and alum from the 2022-2023 school year working groups will be coming together for the spring to take part in these modules. If you are interested in learning more about joining the spring working group, feel free to reach out to Sarah Prescott or Sharon Homer-Drummond.

---

## Using and Abusing AI

Thank you Jen, Tamara, Rhonda, Michael, and Sam for a wonderful semester.

We were not able to meet during finals, but we were able to assemble a couple of files to conclude our Fall working group about the use of artificial intelligence tools in pedagogy

### **What were your initial goals, mission, and deliverables?**

This group of biology instructors will explore the new artificial intelligence technologies and ponder the ramifications on pedagogical environments. We will foster ideas that can benefit instructors and students in learning and production. We will build community guidelines, codes of conduct, and other stores of wisdom to aid our colleagues for the upcoming shifts in education.

### **What are your plans going forward?**

Stemming from literature, discussions, and in-class activities, we will build a combined survey article of lived experiences using artificial intelligence for classroom lessons and other academic endeavors along with providing shareable infographics to encourage conversations about responsible use of AI tools at other institutions.

### **Resources**

- [meeting minutes and notes](#)
- [collection of links](#)
- [Google Drive](#)



---

## DEI and SJ in STEM Teaching Resource Guide

For their primary outcome, they submitted a proposal for the RIOS groups and have proposed

to do the same for the spring semester.

Below you will find some of the work the DEI and SJ working group completed during the fall semester.

### **First draft of the [Faculty Resources Guide for Teaching Controversial Issues in STEM](#)**

As part of the open education resource on Social Justice, Diversity, Equity and Inclusion, we are creating a resource guide for faculty that summarizes the current literature on how to prepare to teach controversial DEI and Social Justice issues.

The group (Kristen Butela, Jen Bunz, Shuchismita Dutta, Melissa Haswell, Sharon

Homer Drummond, Pat Marsteller, Sondra LoRe, Melanie Lanahan, Heather Rissler) has been meeting biweekly in Fall 2023 to gather materials and begin the process. The faculty resource guide assembled by this group will be available as an OER and will contain materials that faculty need to think about as they consider SJEDI for classes, such as:

- Glossary of terms that relate to SJEDI
- Self-work Centering your identity: Historical understanding of system issues - racism, patriarchal and white-centered education system (decolonization);
- Identifying student needs and aspirations
- Syllabi statements
- Setting learning outcomes for SJEDI
- Inclusive teaching strategies
- Class rules and compacts for discussion
- Tools for teaching difficult and potentially controversial topics
- Case studies and examples of how we or others have used the resources for self reflection, identifying student needs and goals, and examples from syllabi.

### **What are your plans going forward?**

#### **Complete and review initial chapters**

Pat Marsteller will meet with each author team every two weeks and will hold writing meetings as well as reports on progress.

- [Breaking stereotypes and diversifying role models in STEM curricula](#): Rachel Pigg, Suann Yang, Cissy Ballen, Robin Costello
- [Reflections on a journey/process to define and implement equity-focused practices and content in introductory biology](#): Bryan Dewsbury, Melissa Haswell, Tess Killpack, Lisa Urry, Stephanie Blumer
- [Open Science as a Tool for Promoting Equitable Access to Research Across STEM Learning Environments](#): Madison Meuler, Carlos Goller, and Kaitlyn Casimo
- Integrating Indigenous knowledge with environmental Justice, for understanding racial identity. Camellia Okopudu.

#### **Identify and Annotate existing materials**

Sonya Doucette, Sharon Homer Drummond, Heather Price will lead the annotation of materials in [collections](#) for Climate Justice, Biology, Chemistry, Environmental Sciences. They will meet every two weeks.

#### **Identify Chapters and collections for future development**

The leadership team will solicit additional chapters from members of ASCN, BioQUEST, RIOS and SENCER communities to increase educational materials for diverse audiences. Our definitions of diversity include all students, especially those who are female, Black, Latina/o,





Indigenous LGBTQ+, veterans, students who are parents, and those with both visible and invisible disabilities as well as those who are from families with low socioeconomic status or who are the first in their families to attend college. We are particularly interested in examples of existing materials and ideas for new materials from allied health, biology, chemistry, computer science, environmental sciences, engineering, mathematics, medicine, physics and other disciplines. Topics and materials can include health disparities, environmental issues, impact of political practices like redlining, impact of racism in science (Tuskegee, genetics, location of chemical plants etc.), impact of pollution, the physics involved in renewable energy technologies, or the physics behind a recent natural disaster, climate justice, especially international implications.

### **Develop and submit a meeting grant by April, 2024.**

Pat Marsteller will develop a meeting grant to bring together members of ASCN, BioQUEST, RIOS, SENCER and other communities to discuss other existing materials, new topics that might require further development and faculty development needs. At this meeting we will also address an outline of a proposal for the creation of faculty mentoring networks to adapt existing materials and to create new ones. Our plan is to use this process to develop a grant to continue this work through professional development sessions, faculty mentoring networks. This would be a collaborative project that includes ASCN, BioQUEST, SENCER, RIOS and representatives of Physics, Math, and Chemistry projects that include social justice curriculum ideas. We will discuss challenges, solutions and potential additional ideas. Each participant would be challenged to reflect on what areas in their particular fields could contribute examples of materials that currently exist or ideas that may need to be developed and created.

---

## **QUBES Corner**

After a full year of work, we are sure you have lots of new materials that can be shared out and published on QUBES. To learn more about how to publish resources, check out this knowledge based article on "[How to Publish a Resource](#)". You may also find "[Additional Information for Authors and Submitters](#)" helpful as you submit resources and browse the many on QUBES.

Have any questions? Come visit us during [office hours](#), or email [info@bioquest.org](mailto:info@bioquest.org)!

---

## **Connect With Us**

Have questions about BIOME or beyond? Join us for BioQUEST's open office hours Wednesdays at 12:00 PM ET & Thursdays at 2:00 PM ET. Visit [this page](#) for Zoom and other info!



---

**Visit BIOME 2023**



