Publishing Conference Materials on QUBES

A BioQUEST Community Conversation
Shared 5/26/22

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This webinar discusses ways to leverage the QUBES platform to support professional meetings for both organizers and participants.

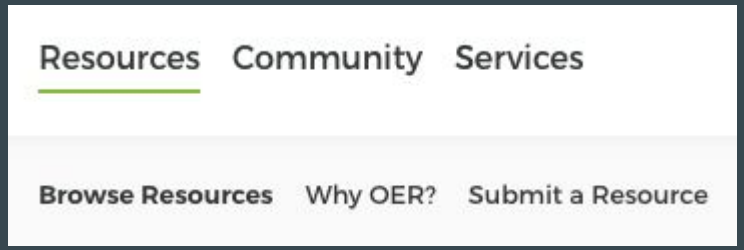
This webinar will address:

1. Brief overview of publishing on QUBES

   Tagging, versioning, adapting, commenting

2. Conference/workshop related publishing
   a. Conference participants
   b. Conference organizers
3. Additional resources and examples
4. Questions, discussion and hands-on help

Overview of publishing on QUBES

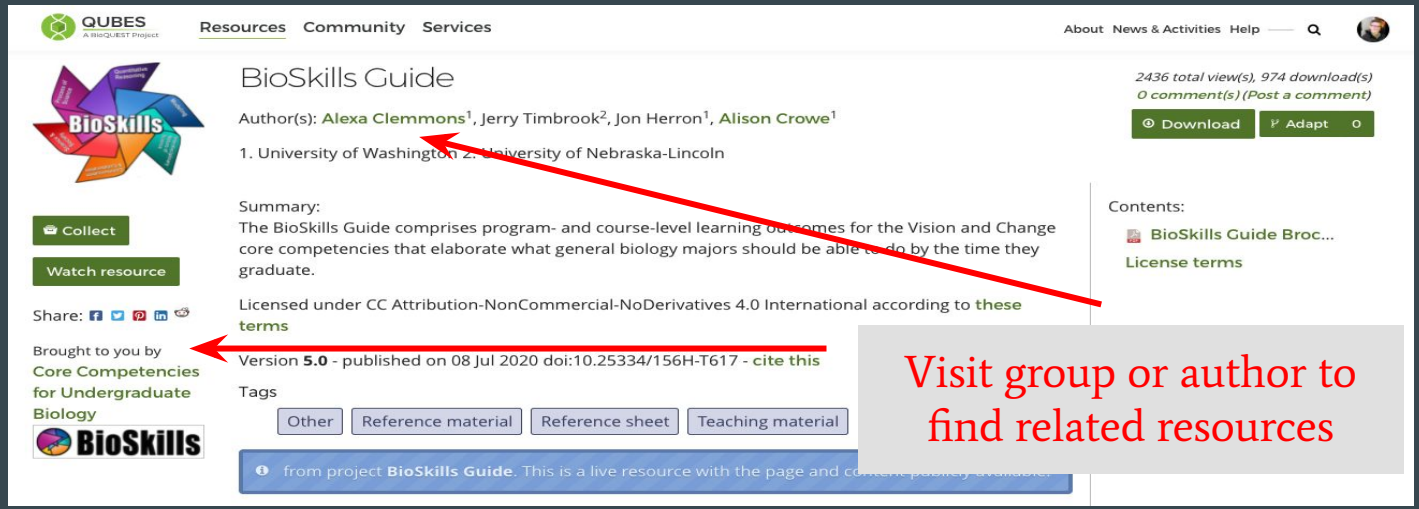


Full support for the OER lifecycle including versioning and adaptations.

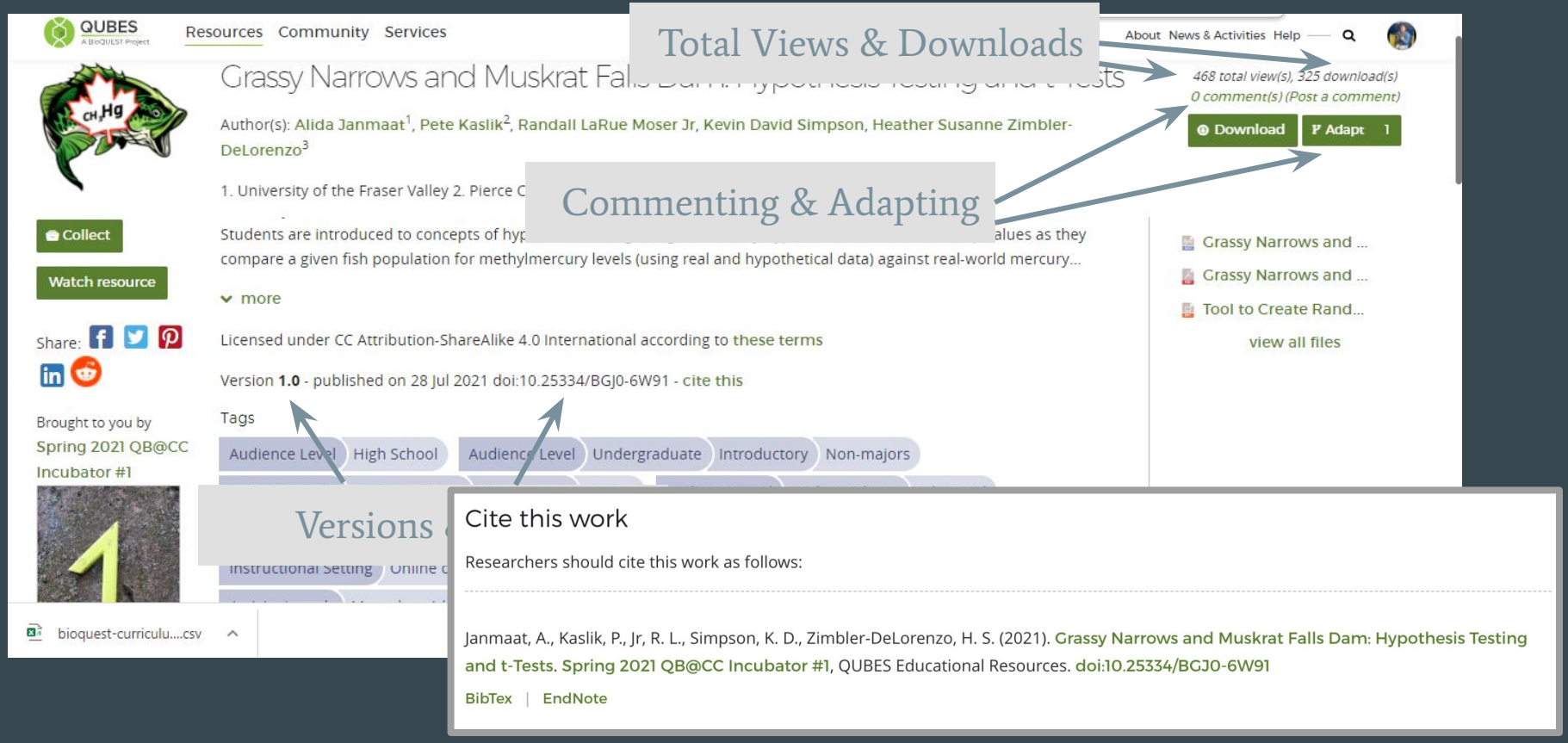
Today (5/26/22) there are 1947 resources available.

Every resource is associated with authors and a group.

Resources draw many visitors to QUBES.



QUBES OER Library- For Authors



Publishing conference and workshop materials

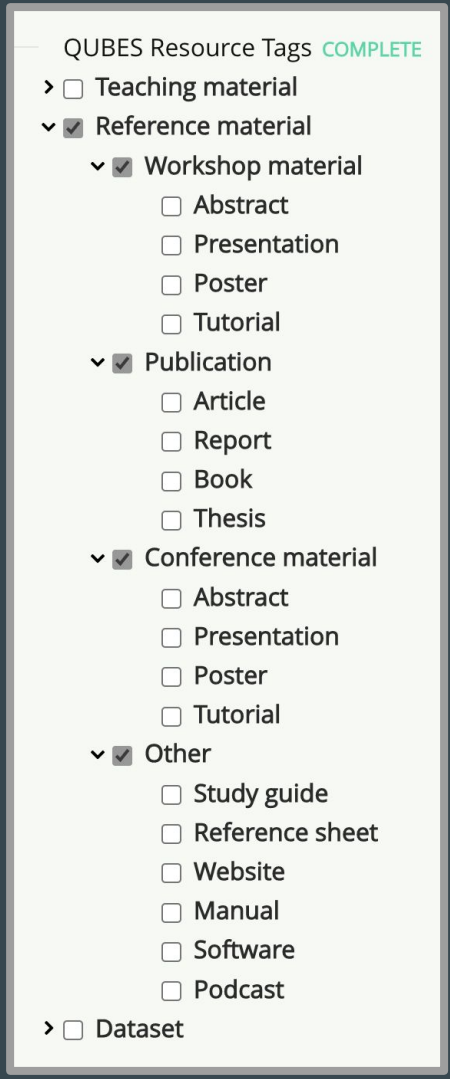
Most people think about publishing teaching materials.

Reference materials offer other metadata.

You can make custom tags for your meetings

NABT2022

ASMCUE2022



Reasons for publishing conference and workshop materials

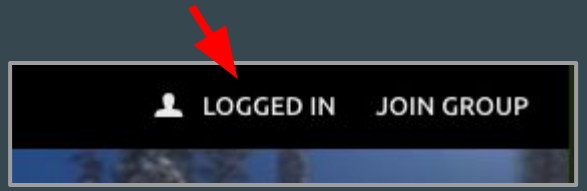
Individuals

- Get a publication citation and stable, public citation for your scholarship.
- Use versioning and adaptations to evolve your materials.
- Use the comments to solicit input and make connections with others.

Meeting Organizers

- Create a permanent record of your event (very helpful for reporting to funders).
- Foster pre- and post- meeting work and collaboration.

You can access your profile through the mini-dashboard.



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Join us for 2022 BioQUEST Office Hours and Webinars!

BioQUEST is hosting Partner Office Hours this spring on Wednesdays at 12:00 PM ET and Thursdays at 2:00 PM ET. Stop by to connect, ask a question, or tell us what you need!

We're also continuing a webinar series. Visit our Office Hours and Webinars page to register for the next webinar or to view past sessions.

Thank you and happy new year!

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BioQUEST/QUBES Newsletter - January 2022

Community Spotlight

BioQUEST/QUBES Community Spotlight - BIOME Fall Working Groups

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iDigBio
@iDigBio

iDigTRIO Biology Career Conference and Fair is right around the corner but you still have plenty of time to join in the fun! Virtual conference registration, & virtual mentoring sign-ups are open & the 2022 conference agenda is LIVE. idigtrio.org 1/3

4h

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Sam Donovan
SSDONOVA@GMAIL.COM

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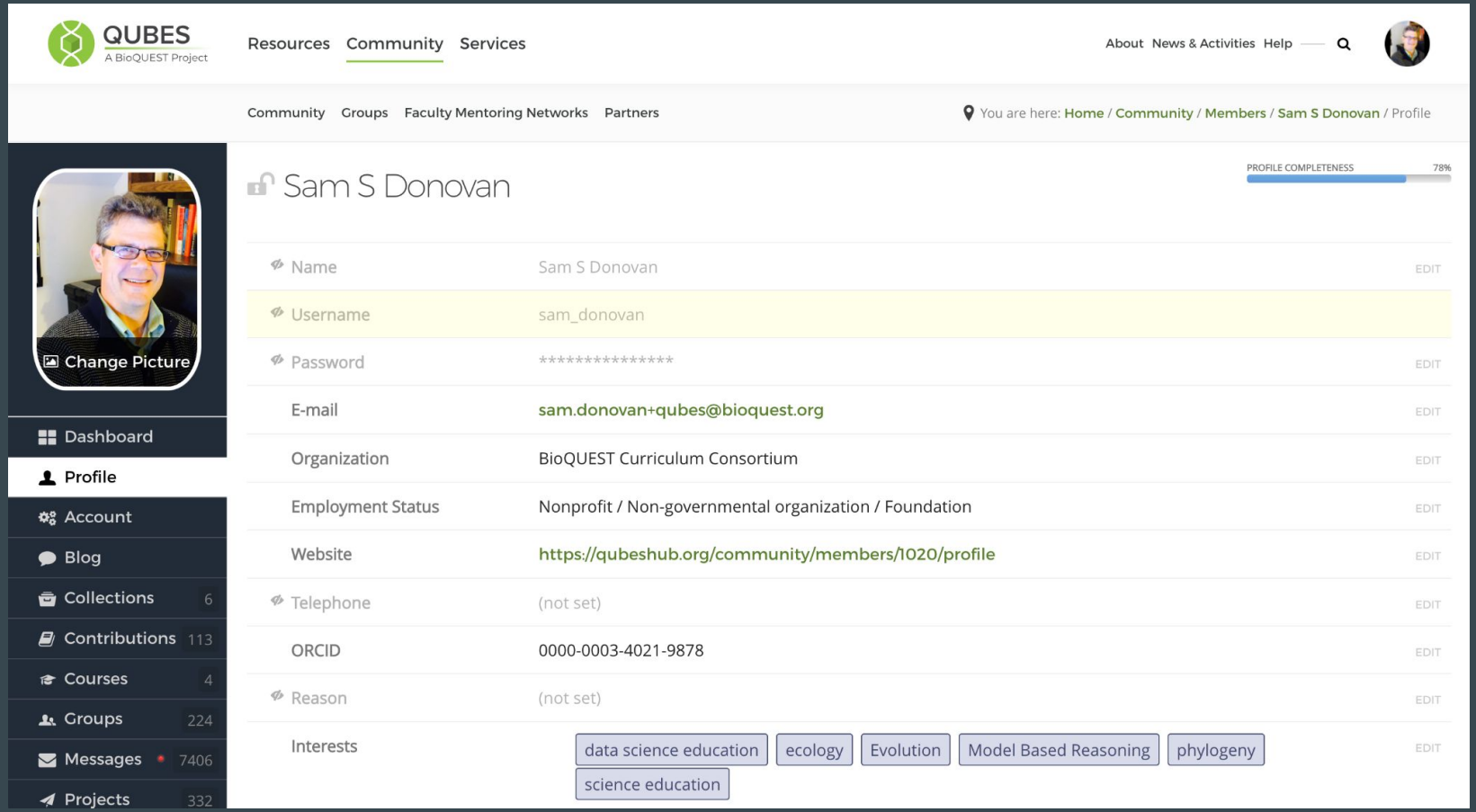
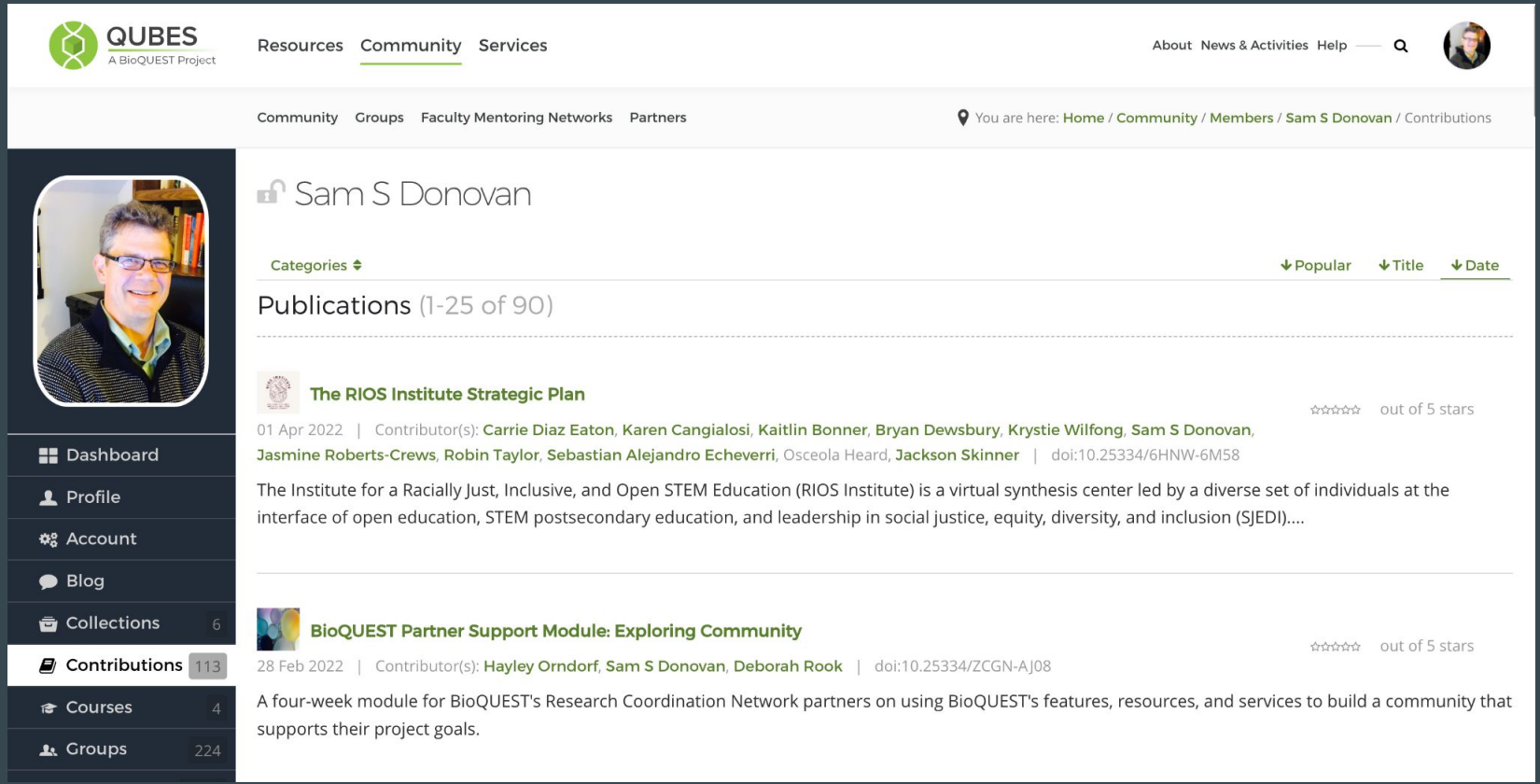
My Projects
My Collections
Logout

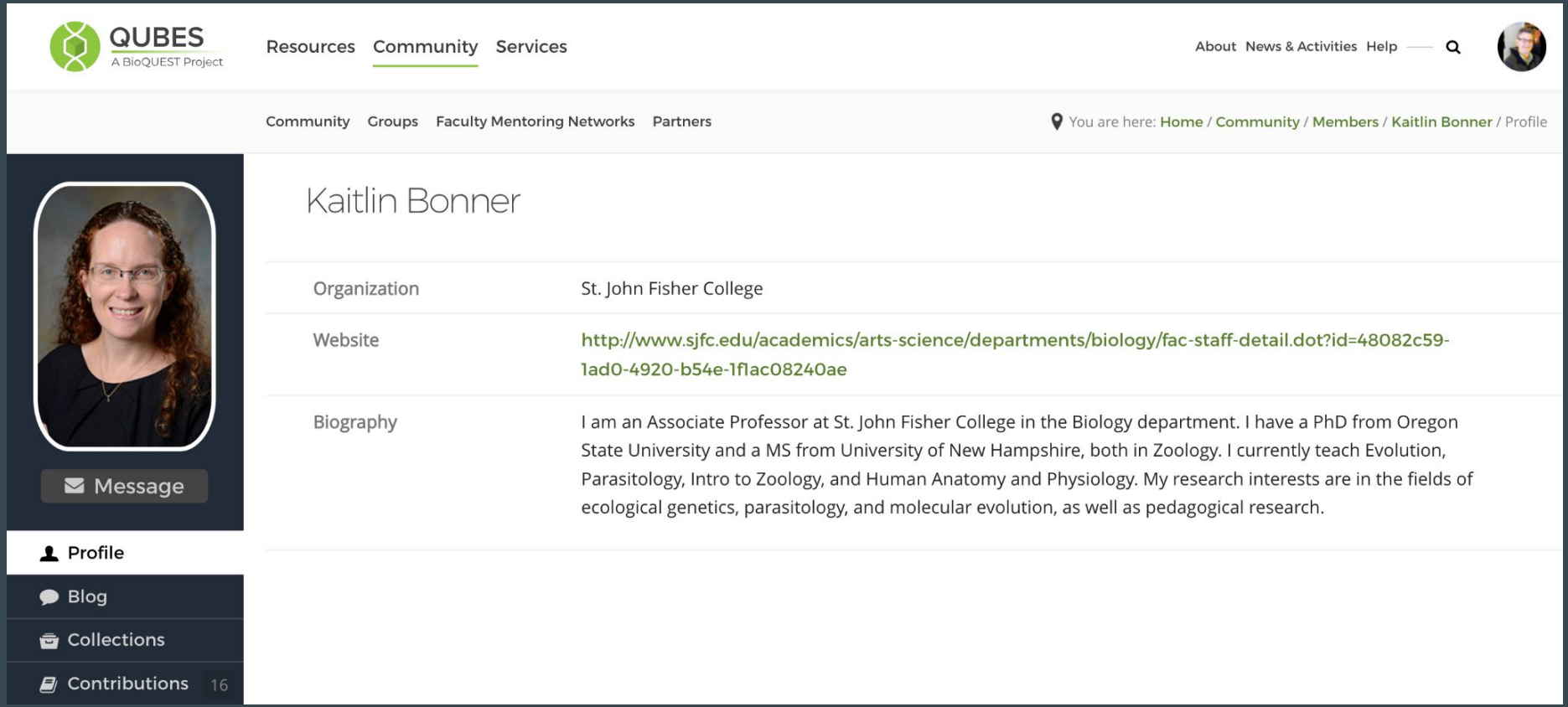
While you are there - you can make sure your profile is up to date



Your profile has a summary of activities - including publications



Search by author to see what else they have published



Search by author to see what else they have published

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Kaitlin Bonner

Categories ↕ | Popular | Title | Date

Publications (1-5 of 16) See more results

The RIOS Institute Strategic Plan

☆☆☆☆☆ out of 5 stars

01 Apr 2022 | Contributor(s): Carrie Diaz Eaton, Karen Cangialosi, Kaitlin Bonner, Bryan Dewsbury, Krystie Wilfong, Sam S Donovan, Jasmine Roberts-Crews, Robin Taylor, Sebastian Alejandro Echeverri, Osceola Heard, Jackson Skinner | doi:10.25334/6HNW-6M58

The Institute for a Racially Just, Inclusive, and Open STEM Education (RIOS Institute) is a virtual synthesis center led by a diverse set of individuals at the interface of open education, STEM postsecondary education, and leadership in social justice, equity, diversity, and inclusion (SJEDI)....

Sustainability and Justice: Challenges and Opportunities for an Open STEM Education

☆☆☆☆☆ out of 5 stars

08 Feb 2022 | Contributor(s): Carrie Diaz Eaton, Kaitlin Bonner, Karen Cangialosi, Bryan Dewsbury, Maggie Diamond-Stanic, Jason Douma,

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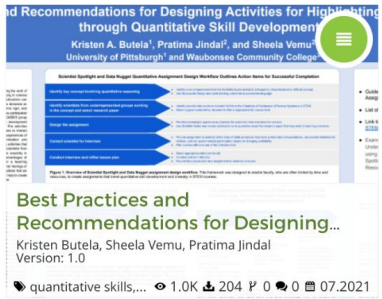
Organize an online poster session

Best Practices and Recommendations for Designing Activities for Highlighting Diverse Scientists Through Quantitative Skill Development



Meet the presenter during Community Hour

July 30th from 11 am - 12 pm ET

Zoom Information

Forum Discussion

Faculty Mentoring Networks: Community Professional Development for the Digital Age

Meet the presenter during Community Hour

July 30th from 11 am - 12 pm ET

Zoom Information

Forum Discussion

Easy to access posters

Students Authoring Molecular Case Studies

Author(s): Elizabeth Pollock[1], Kasandra Riley (She/Her)[2], Didem Vardar-Ulu[3], Shuchismita Dutta[4]

1. Stockton University 2. Rollins College 3. Boston University, Chemistry Department 4. RCSB Protein Data Bank, Rutgers University

Summary:
Poster on using case studies to help students develop their skills in reading primary literature and identifying authentic scientific problems by authoring their own case studies. Presented at the 2021 BIOME Institute.

Version **1.0** - published on 22 Jul 2021 doi:10.25334/M0P7-DQ22 - cite this

Tags

Workshop material | Poster | case studies | Protein Structure | Protein Data Bank | Molecular Case Study | 2021 BIOME

Contents:

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Students Authoring Molecular Case Studies

Elizabeth Pollock[1#], Kasandra J. Riley[2], Didem Vardar-Ulu[3] and Shuchismita Dutta[4]

[1] Chemistry Program, Stockton University, [2] Department of Chemistry, Rollins College

[3] Department of Chemistry, Boston University, [4] Institute for Quantitative Biomedicine Rutgers University

(#corresponding author Elizabeth.Pollock@stockton.edu)

Introduction

Case studies are high impact ways to engage students more fully with course material by giving real world context to critical course content. Molecular case studies (MCSs) focus explicitly on visualizing and exploring the shapes and interactions of macromolecules as well as applying bioinformatics approaches to make connections between structure and function. Here, we describe an extension of the use of MCSs suitable for upper-level students which gets them to delve more deeply into the literature and think critically about scientific questions by authoring their own such case studies. For a description of molecular case studies and their use in courses from the introductory to advanced levels see both the poster introducing MCSs and the WIP on successful implementation of MCSs in class.

Motivation

The sudden shift to remote learning in Spring of 2020 presented challenges, particularly in retaining authentic research experiences in laboratory courses. We were engaged in pilot testing MCSs that semester, so we decided to involve our students in authoring MCSs as a replacement for planned lab-based CUREs. Encouraged by high student engagement, we continued to refine the guidelines for such an assignment during the past academic year, prioritizing discovery, iteration, and student ownership.

Assignment Design

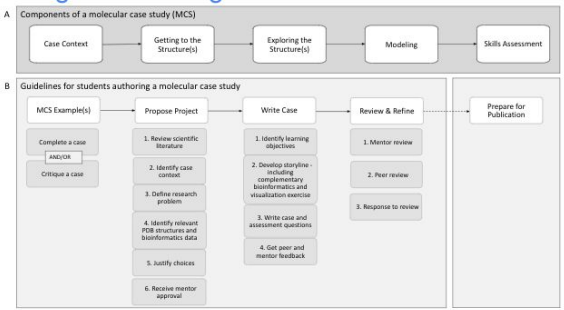


Figure 1. Structure of a molecular case study. A. All such cases use an exploration of protein structure via visualization of atomic level interactions to better understand functional aspects. B. Steps involved in having students write their own molecular case studies.

Implementation

Institution	Course/Term/# students	Assigned Topic	Course Context Notes
Boston University	Biochemistry Lab Fall 2020 30 students	One student-purified enzyme	Related to and replaced wet lab CURE components
Rollins College (PUI)	Advanced biochemistry Spring 2021 7 students	One type of organism	Replaced wet lab CURE components on an unrelated topic
	Advanced biochemistry elective Fall 2020 8 students	One metabolic pathway	Supplemented a wet lab CURE completed at home
Stockton University (PUI)	Advanced biochemistry Spring 2020 5 students	Student-selected from PDB	Extension of a literature assignment
	Biochemistry Lab Spring 2021 14 students	Student-selected from PDB	Replaced wet lab CURE component on an unrelated topic

Examples of Student Authored Cases:

Links made between protein structure and use of various bioinformatics resources

- Lysosomal hydrolase (Sanfilippo's syndrome)
  - Genetic testing
  - KEGG database to explore metabolic pathways
  - Chemical mechanism from literature
- Cytochrome P450s and Vitamin D deficiency
  - Analyzing data from literature
  - Sequence alignment
- Mpro from SARS-CoV2
  - BLAST searches to identify proteins with similar sequences
  - Analyzing data from literature
- Lactate dehydrogenase
  - Analyzing literature and/or student-generated data

Notes

- Reviewing a published case study gets students thinking critically about what makes a case effective.
- The most challenging part for students writing a case are steps 1 and 3, both of which may be new to students. Students are encouraged to look at learning goals from national standards. Writing learning objectives helps them better articulate how and why each component of their case study is relevant to the scientific questions addressed. It also guides the writing of assessment questions.
- Students found both giving and receiving peer feedback valuable while developing their case studies. Generally, much of the feedback received was addressed and necessary edits were incorporated. Peer feedback also lessens the amount of time faculty need to spend reviewing the submitted work.

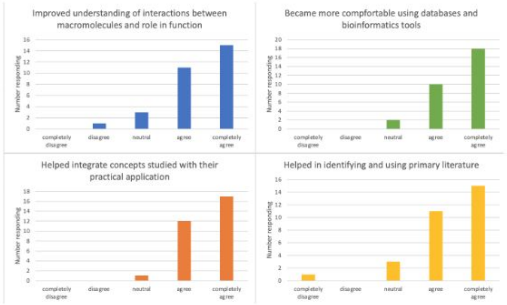


Figure 2. Responses to some of the student self-reported gains after writing a case study. The 30 students surveyed were at Boston University in Fall 2020, who wrote a case on lactate dehydrogenase as part of their biochemistry lab. Student responds were positive on key learning objectives.

Summary

Challenges presented during the COVID-19 pandemic inspired an innovative alternative to traditional lab-based CUREs that is applicable for both in-person and remote instruction models in upper-level courses. Our pilot worked remarkably in cultivating a scientific community of students working toward a common goal within the guided, but flexible remote working spaces. Testing the assignment in several different curricular settings and varying class sizes allowed us to revise the student and teacher guidelines for running such assignments. The revised guidelines and resources for implementation are available for reuse.

Available Resources

Can be made available upon request

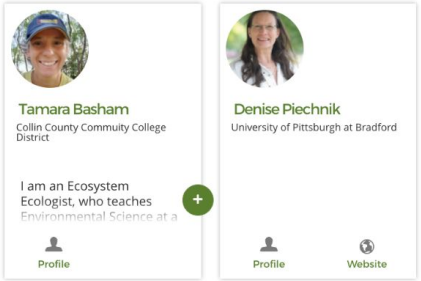
Writing a Molecular Case Study - Student Handout
Writing a Molecular Case Study - Teacher guide
Draft rubric for evaluating a case study for publication on Molecular CaseNet

Acknowledgements

Molecular CaseNet is funded by the National Science Foundation.

Share Workshop materials and pre-work

Integrating Social Justice into your STEM Classroom: Redlining & Environmental Science



Monday, July 26

1:00 - 2:30 pm ET

Recording

Forum Discussion

Co-Authors: Durrain Ansari-Yan, Diablo Valley College, Mackenzie Boyer, Arizona State University, Marci Cole Ekberg, Diablo Valley College, Matthew Heard, Belmont University, Adriane Jones, Mount Saint Mary's University, Shannon Jones, University of Richmond, Jennifer Kovacs, Agnes Scott College, Erica Lannan, Prairie State College, Pat Marsteller, Emory University, Mary Mulcahy, University of Pittsburgh at Bradford, Denise Piechnik, University of Pittsburgh at Bradford, Sarah Prescott, University of New Hampshire, Gustavo Requena Santos, Science Yourself organization, Ethell Vereen, Morehouse College

Description: By intentionally incorporating social justice activities and conversations in your classroom, you afford your students opportunities to engage in authentic examinations of their world and to make positive changes. This spring, our Faculty Mentoring Network (FMN) created models for introducing social justice issues into a variety of classes (introductory to upper-level STEM majors, non-STEM majors, and first-year experience). In this interactive workshop, our FMN members will discuss promises and pitfalls of design and integration for activities that they developed. Maximizing interactivity in smaller breakout groups, participants will be able to gain hands-on experience with some of the tools that can be used to explore social justice issues in STEM classrooms. Participants will also be encouraged to consider and provided guidance for adapting the presented tools and activities within their own communities. This workshop is one of two that use the historical practice of redlining as a gateway to discussing social justice issues in STEM courses. This first workshop introduces redlining in the context of Environmental Science, and a second complementary workshop is offered that focuses on redlining in the context of human health. Participants are encouraged to attend both workshops, as the two will discuss different tools and educational resources.

Pre-Workshop Assignment: Complete the handout, Incorporating Social Justice into STEM Classrooms: Environmental Justice Workshop

Workshop Materials

Additional Resources

Links to Publishing Help Files
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Thanks for joining us. Please feel free to share questions and comments.

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Executive Director

Sam S. Donovan, PhD

Director of Outreach and Strategic Engagement

Drew LaMar, PhD

Director of Cyberinfrastructure

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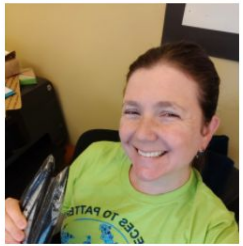

Deborah Rook, PhD

Deputy Director

Katrina Wells

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