

QUBES: Building a community to promote undergraduate quantitative biology education

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QUBES Goals

Quantitative skills have been recognized as core competencies for career success in biology, and many faculty are interested in teaching more quantitative biology in their courses. The QUBES project is designed to:

- Improve communication among educators.
- Assist-faculty in understanding and implementing novel content and teaching strategies in their unique classroom settings
- Create an academic reward system that emphasizes teaching as well as research

To meet these goals, QUBES is building a diverse online community of educators interested in quantitative biology.

QUBES supports meetings and workshops

Participants in the 2015 Quantitative Biology Education Summit

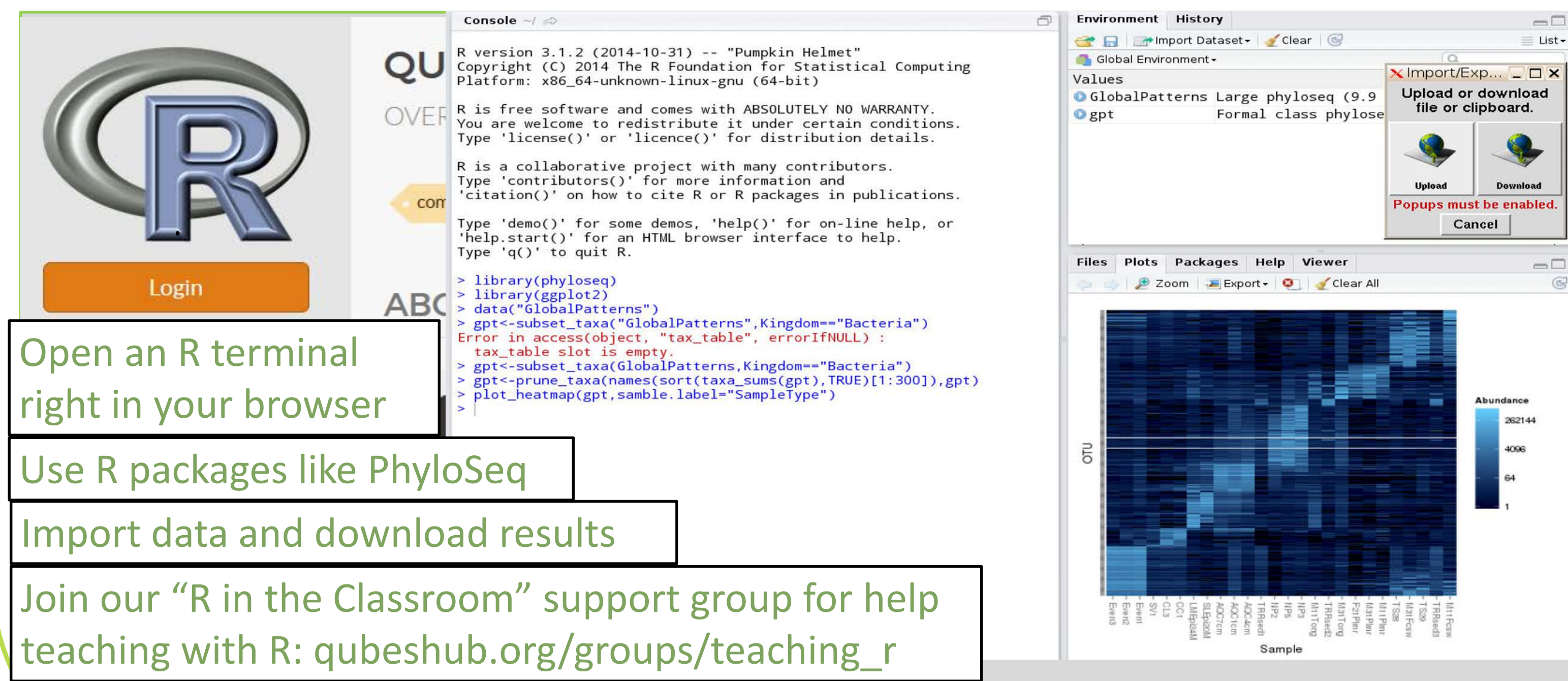


The QUBESHub website provides tools to increase visibility, collaborations, and follow-up for in-person meetings and workshops. Planning a meeting? Contact us about providing an online collaborative space: qubeshub.org/groups/supportmeetings.

Computational tools let students run quantitative software on-site

On-site software:

- Students can use cloud-based software
- Features many popular programs like RStudio, FastQC, Netlogo
- Faculty can upload data files for student use



Open an R terminal right in your browser

Use R packages like PhyloSeq

Import data and download results

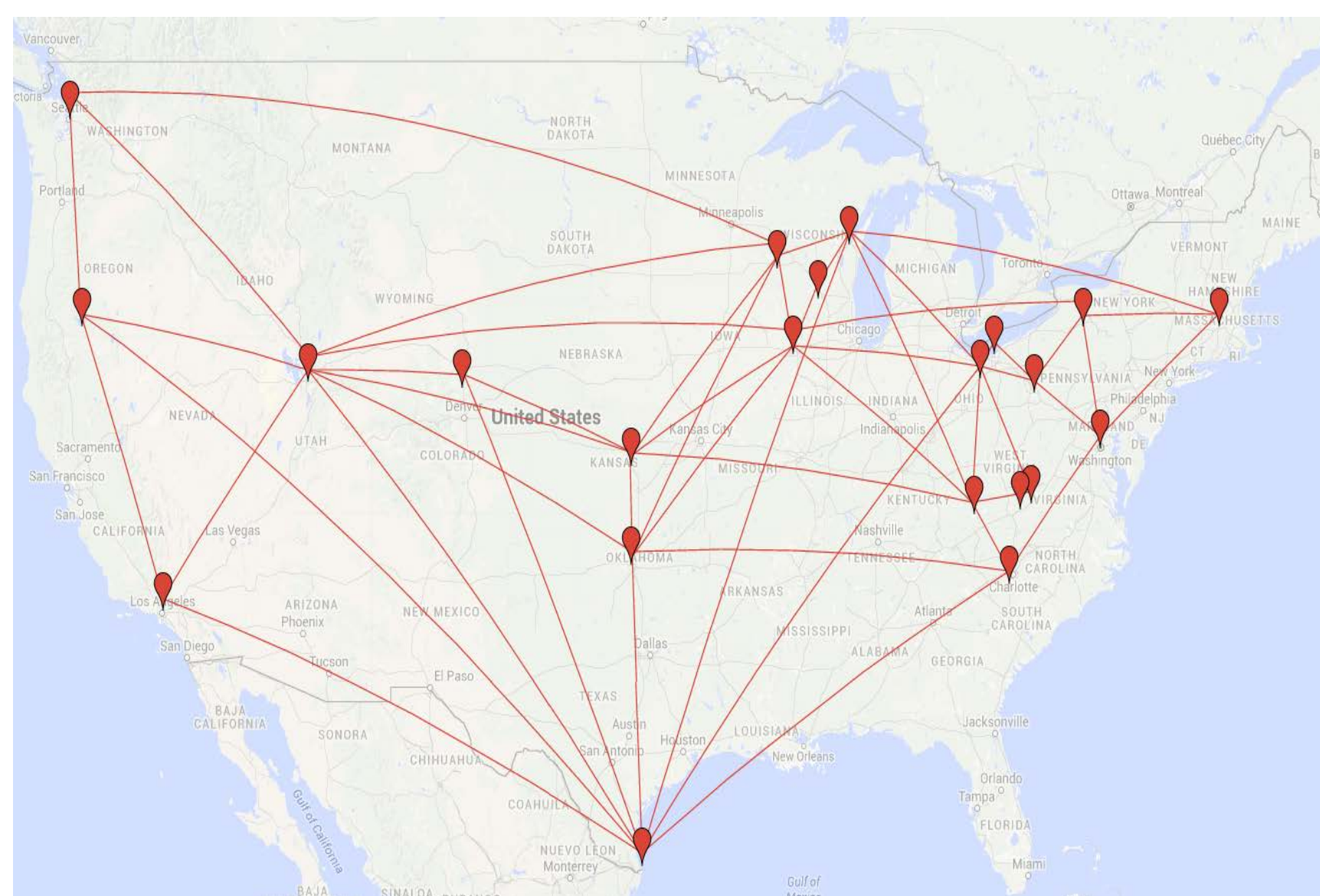
Join our “R in the Classroom” support group for help teaching with R: qubeshub.org/groups/teaching_r

qubeshub.org/resources/software

Faculty mentoring networks support faculty adoption of quantitative biology teaching

Faculty mentoring networks are:

- Online groups of 10-15 faculty members
- Focused on specific topics
- Led by teams of experts in biology, math, and pedagogy
- Intensive support over a short time period



Examples of Past FMNs:

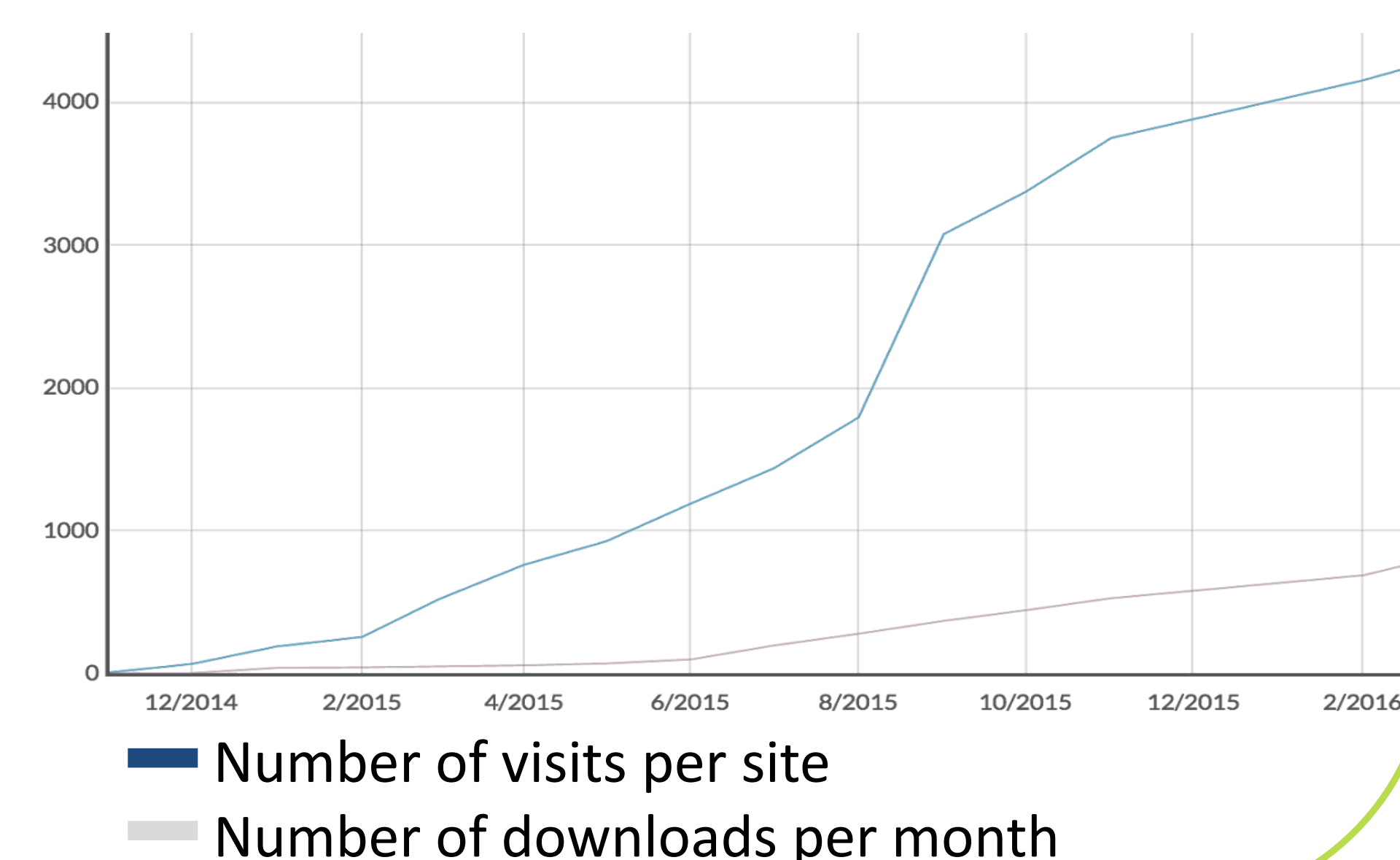
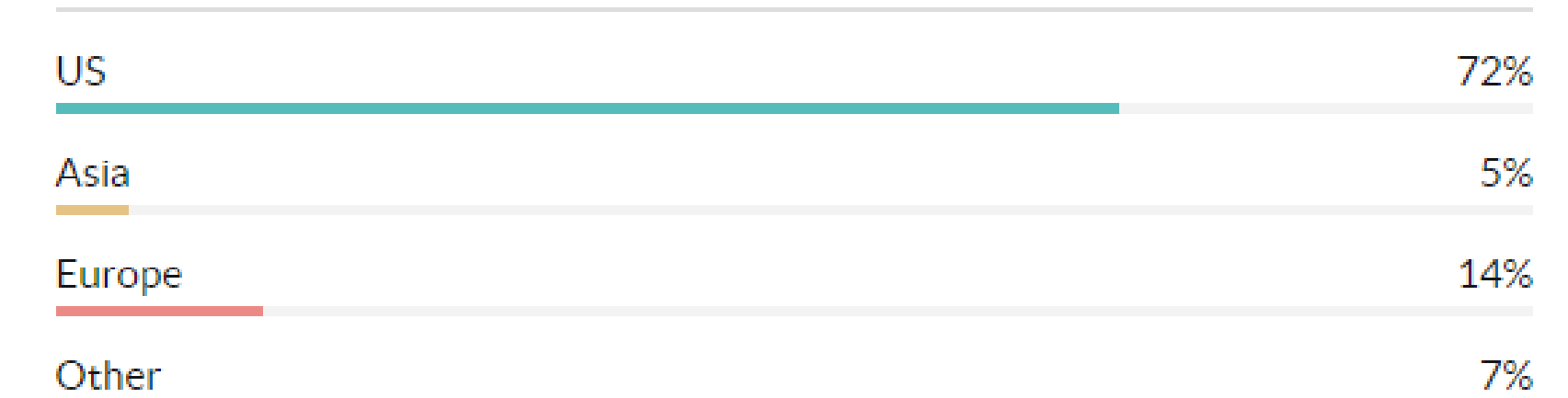


qubeshub.org/facultymentoringnetworks

The QUBES community is diverse and growing

- QUBES is very diverse, appealing to multiple countries world wide.
- Although QUBES is for faculty, Undergraduate students are welcome to join the QUBES website to use the on-site simulations and software. There are no fees to join!

Identified by Residence

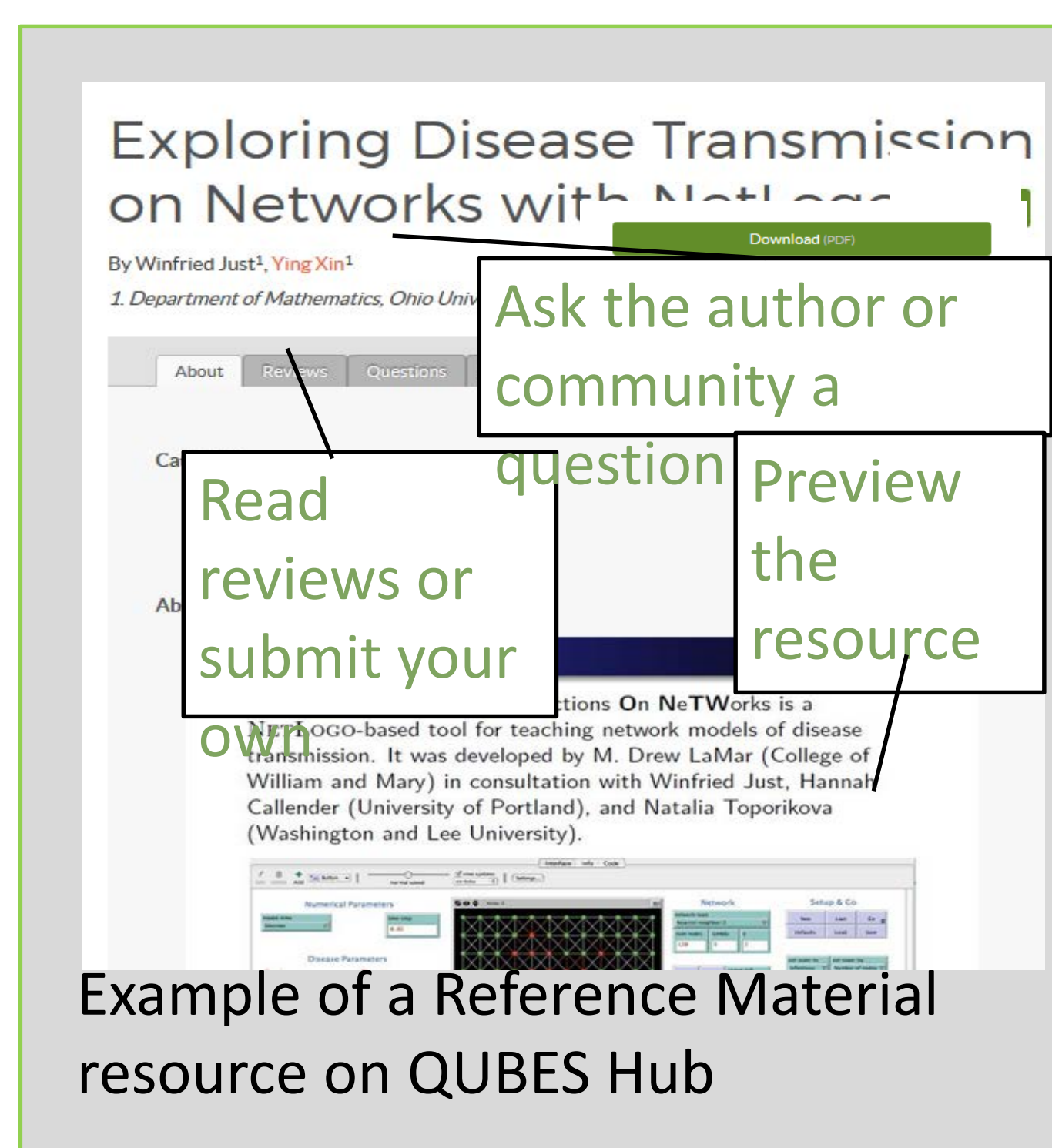
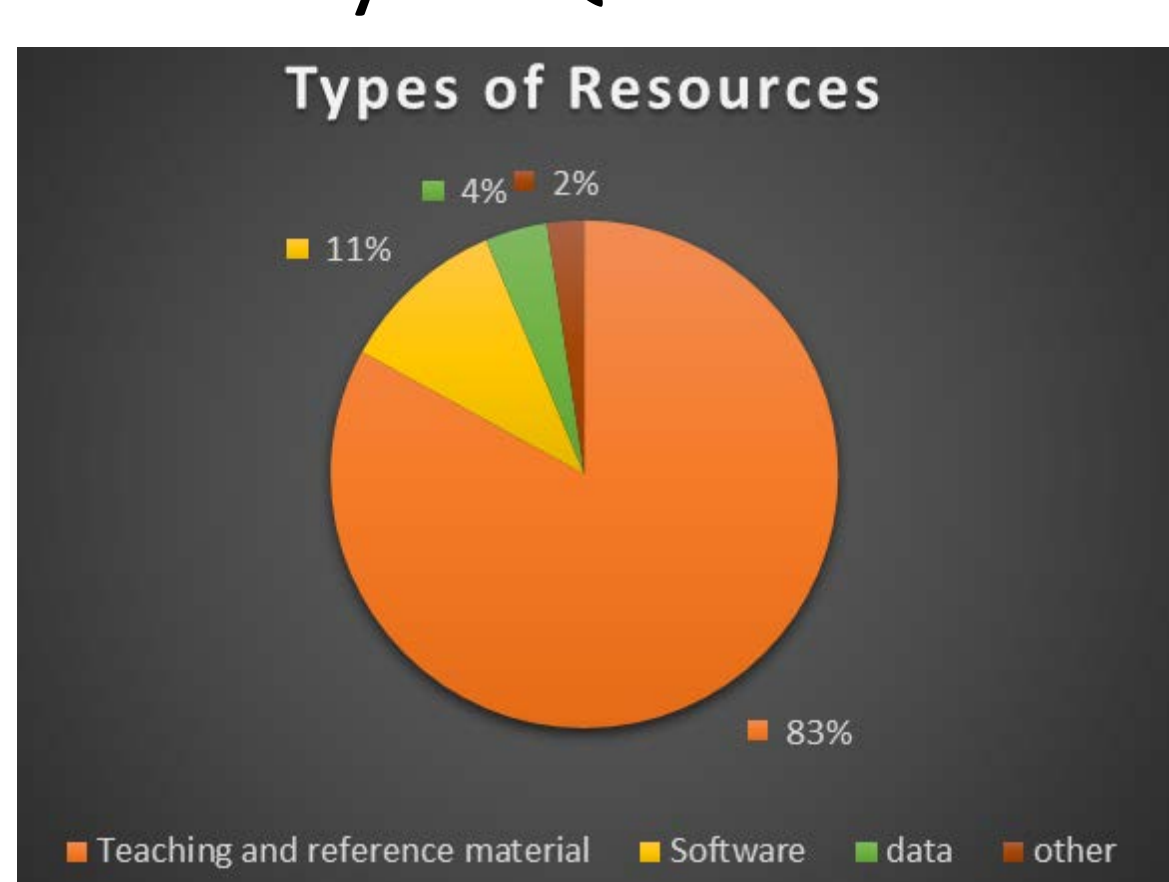


Resources help faculty find quantitative biology teaching materials

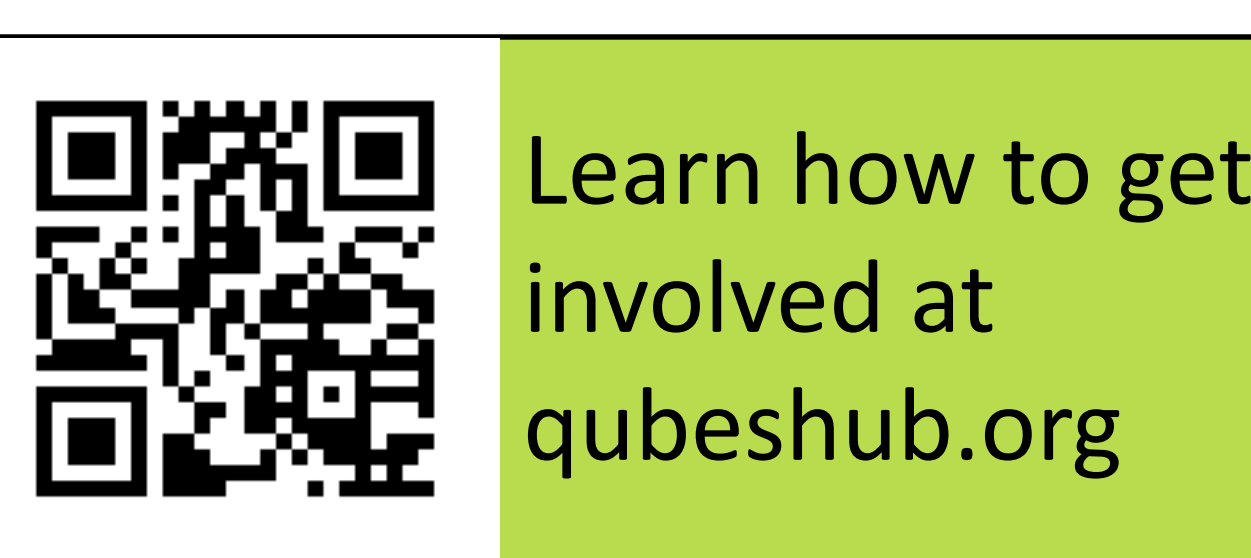
Resources are:

- Submitted by community members
- Ranked and reviewed by users
- Interactive – users can ask a question
- Tagged with key search words
- Free!

Distribution of resource types currently on QUBES Hub:



Example of a Reference Material resource on QUBES Hub



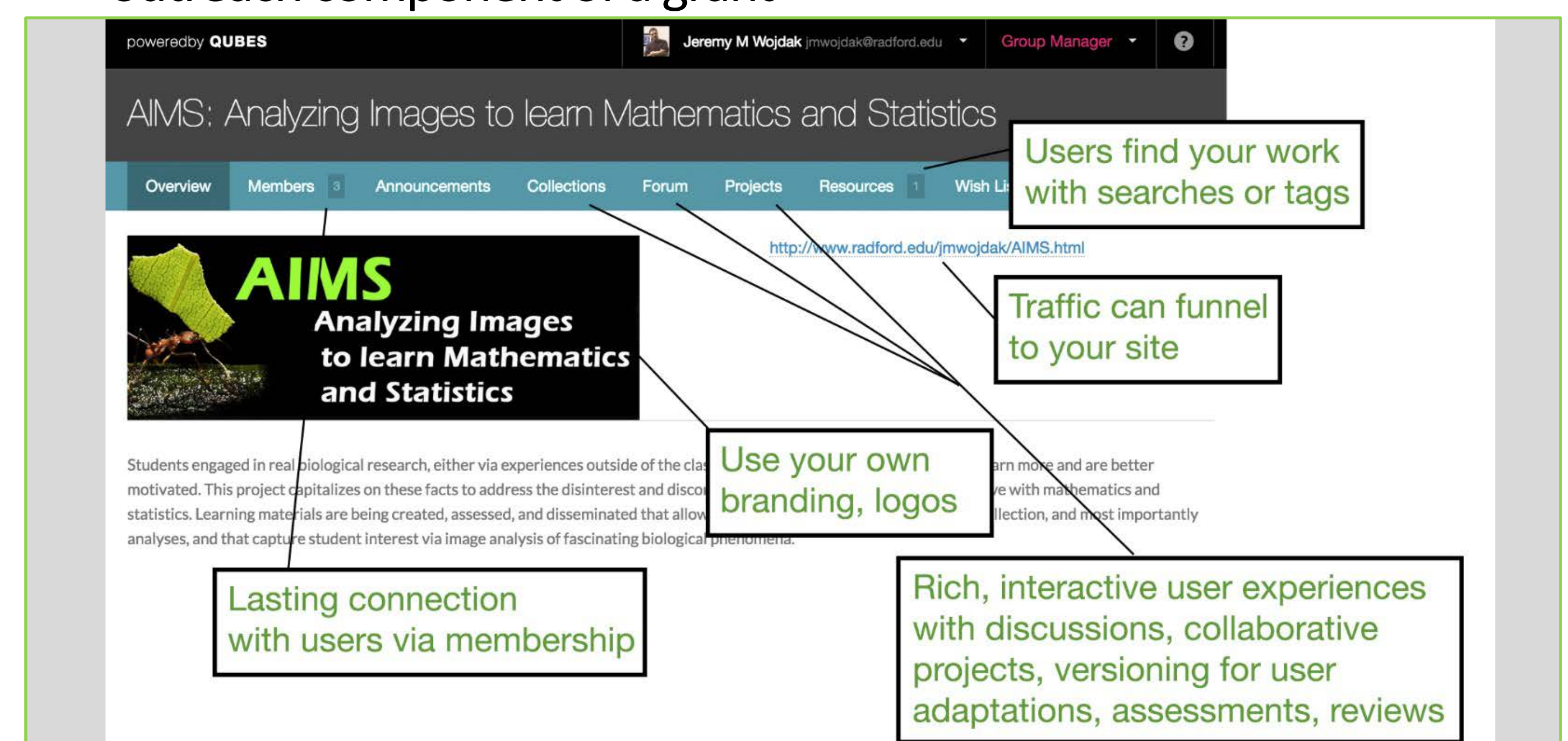
Learn how to get involved at qubeshub.org

qubeshub.org/resources

Partner pages help promote faculty projects and materials

Partner pages:

- Bring faculty projects directly to the target audience
- Encourage community interaction with materials
- Use the project's own look and branding
- Can support a customized site for a textbook, short course, or outreach component of a grant



qubeshub.org/projectpartnership



QUBES

The Power of Biology × Math × Community

Acknowledgements

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