

Message in a Bottle

A communication of the Science Education Alliance

Dear SEA Faculty,

As the new academic year gets underway, we wanted to share with you some of the exciting things that are taking place in the SEA and beyond. We look forward to another year collaborating with you and your students and can't wait to see what new discoveries this year will hold!

The SEA Team

Celebrating the SEA

Over the past year, the SEA set sail on a virtual SEA Symposium and had a wonderful homecoming at the in-person SEA Faculty Meeting. We met online to learn, fold, and collaborate. We collectively discovered >2,500 new phages, built hundreds of pExTra plasmids, and flew past the milestone of 4,000 genomes in Genbank!

Thank you all for an excellent year in the SEA!



Welcome new SEA team members!

Pushpa Ramakrishna, PhD
Program Officer II



Pushpa will join HHMI in October. She joins us from Chandler Gilbert Community College in Phoenix, AZ and trained this summer with Cohort 16!

Emily Ginser, MPH
Research Specialist



Emily manages the mighty phage archive in the Hatfull lab and fulfills all our phage requests. Thank you, Emily!

...and welcome back Becky Garlena!

Becky has returned to the SEA part time to help with sequencing our phages!



September
2023

Learning Opportunities

Observable Office Hours

Steve Cresawn is hosting regular office hours to explore creating cool and useful visualizations of SEA-PHAGES genomics data using Observable notebooks.

[More info and register>](#)

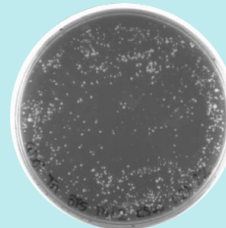
HHMI ARC Seminar Series

SEA faculty are invited to register and tune in for this new virtual seminar series, sponsored by the HHMI Center for the Advancement of Science Leadership and Culture, with invited speakers on topics related to equity in STEMM. The first speaker will be filmmaker, **Thomas Allen Harris**, at **10:00AM ET on September 20, 2023**. Information on this series will be shared by arc@hhmi.org.

[To register>](#)

Read all about it!

Intrigued by the Hatfull team's science at the June faculty meeting? Check out their recent publications to learn more!

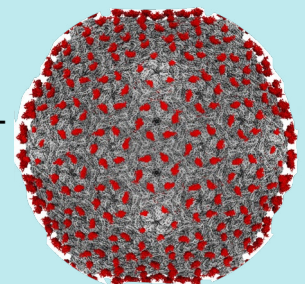


Therapeutically useful mycobacteriophages BPs and Muddy require trehalose polyphleates

Wetzel et al., 2023
[PMID: 37644325](#)

Virion glycosylation influences mycobacteriophage immune recognition

Freeman et al., 2023
[PMID: 37329881](#)



Making waves: recent advances in phage biology

Phages in the clinic

As antimicrobial resistance becomes a global issue, phages hold promise as therapeutics against resistant bacterial pathogens. This year Graham and his team published their findings from treatment of 20 patients

with drug-resistant mycobacterial infections.

[Read more >](#)

For more discussion on the possibilities and challenges of phage therapy check out this new review article!

[Read more >](#)

A growing arsenal

The war between phages and their hosts is heating up! A slew of recent studies have shown that bacteria encode anti-phage defense systems that are very diverse.

[Read more >](#)

It also seems that when it comes to immunity, bacteria paved the way. Many of the defense systems recently found look like ancient versions of mammalian immune factors!

[Read more >](#)

Upcoming SEA Meetings

We appreciate the feedback you provided in this year's gatherings, and we are excited to incorporate your many suggestions for more science and fun in the year ahead!

2024 Virtual SEA Symposium: You and your students are invited to set sail on the yacht, April 12-14, 2024. Look for registration details in early 2024!

2024 In-person Faculty Meeting: We look forward to seeing faculty at HHMI HQ in Chevy Chase, MD June 7-10, 2024. Registration will happen in spring!

Virtual Faculty Meeting Series: This year's series will start in October! Keep an eye out for an email with more info. Last year's session recordings can be found [here](#).

[Timeline >](#)

Does your school need re-training? Write to us about availability at this year's workshops!

Program Updates

New course guides coming soon

A more user-accessible Phage Discovery Guide is almost ready, and soon after, a Spanish version! More info coming soon!

The GENES Database is live!

GENES data can now be explored on genesDB.org. Login with your Phamerator account or create a new account to learn more about phage genes!

Publishing student data:

More faculty and students are authoring genome announcements each year! An updated workflow will be shared in January.

The first GENES mutant screen preprints are now on bioRxiv!

[Amaya et al.>](#)

[Pollenz et al.>](#)

Looking to get more involved in the SEA or host a regional meeting?

[More opportunities >](#)

Joining the SEA!

Welcome PHAGES Cohort 16!

Alfred University
Evangel University
Metropolitan Community College
Skyline College
Southeastern Louisiana University
Texas Tech University
University of North Florida

Four SEA schools joined GENES Cohort 5!

Baylor University
University of California Santa Cruz
University of Massachusetts Amherst
University of North Georgia



2023 Phage Discovery Workshop A

Cool phage alert!

[PineapplePizza](#) is a podovirus isolated on *M. foliorum* by Juan Brito at UMass Amherst!



This singleton has only 23 genes!

The Great DePhTs...

Looking for prophages?

Check out this tool from the Hatfull lab for analyzing prophages in bacterial genomes! [Read more >](#)

Ho-ly Moly!

Annotating holin and lysin genes? Check out this new resource from Pollenz et al. describing the amazing diversity of lysis cassettes in *Gordonia* phages!

[Read more >](#)