

## Guidelines for Data Usage, Determining Authorship, and Acknowledging Contributions in SEA Research

The datasets and resources generated by the SEA-PHAGES and SEA-GENES projects offer tremendous opportunities for continued exploration by SEA scientists. When initiating, conducting, and publishing SEA research, whether it be the core SEA research products (i.e., annotation of a genome discovered by SEA students or construction and screening a GENES library for a program-assigned phage) or projects that go beyond the scope of these, it is important that decisions on project collaborations, data usage, authorship, and acknowledgements honor the collegiality and community spirit of the SEA and

- be made transparently,
- be respectful of the ideas and plans of others,
- foster collaboration not competition,
- be inclusive of all who contributed significantly to the project conception, data collection and analysis, and manuscript preparation,
- be decided at the initiation of a project and reviewed and modified as needed over the lifespan of a project.

The SEA program has developed the following guidelines to help you navigate decisions around collaborations and publications. These guidelines likely do not cover all possible scenarios that will be encountered within the SEA community. Always feel free to reach out to the SEA team directly ([info@seaphages.org](mailto:info@seaphages.org)) if you have questions or want to talk about your specific scenario as you plan for your research. These guidelines are also subject to change as the SEA community continues to grow and evolve.

### Terms of Use for SEA Data and Reagents in Research

- Data that are deposited into SEA databases (i.e., PhagesDB, Phamerator, GenesDB) are available for all to view and download for classroom use.
- Deposited data are also available for use in research analyses (e.g., annotation, bioinformatic comparative analyses). When initiating these projects, we ask that you keep all relevant parties informed of your work (***review the specific terms of use for each program database posted on the website and see the guidelines in the next section of this document***).
- Data that are published in GenBank or in journal articles can be used according to the terms of those publication venues and with proper citation.
- Publications that rely heavily on data found in program databases (i.e., PhagesDB, Phamerator, GenesDB) should cite the papers describing these resources ([PhagesDB](#); [Phamerator](#)) or give the URL ([genesDB.org](http://genesDB.org)).
- Archived phages and GENES pExTra plasmids are available for further exploration upon request to the program and will require completion of a Material Transfer Agreement.
  - Contact [info@seaphages.org](mailto:info@seaphages.org) to request these materials and make sure that the shipping address and legal contact info for your institution are up to date on [seaphages.org](http://seaphages.org).
  - When making requests to the SEA program, please keep in mind that our aim is to support faculty in successfully conducting PHAGES and GENES core research. Additional requests for research reagents and support outside the scope of these projects will be accommodated on a case-by-case basis, as our capacity allows.
  - If requested reagents will be used directly for the PHAGES or GENES projects, program staff will notify faculty from the original finding institutions.
  - If requested reagents will be used for research that goes beyond the scope of core SEA projects, it is your responsibility to notify faculty from the original finding institutions of your plans for these reagents (**see next section**).

### Initiating Research Projects and Collaborations in the SEA

- For core SEA research projects that (i.e., PHAGES genome annotations and GENES screens), keep the SEA program informed of your intention to publish to ensure that you can participate in journal partnerships. It is strongly advised to collect student author information (including a

permanent, personal email address) and publication consent early in your research semester to ensure that all students can be included in resulting pre-prints and publications.

- If you are planning to conduct research that utilizes SEA reagents and/or data and goes beyond the scope of the core SEA research, we ask that you take the following steps as you initiate this work:
  - Draft a brief research plan using the following template:
    - a. What are the scope and specific aims of the proposed project?
    - b. What are the set of phages, genomes, or genes that you plan to study?
    - c. Are you looking for collaborators?
    - d. What will qualify for authorship on this project?
    - e. What is your tentative timeline for this work?
  - Email your project plan to the SEA team ([info@seaphages.org](mailto:info@seaphages.org)) for feedback and to arrange material transfers. Our intention is not to gatekeep your research but to provide input on potential research overlaps in the community, facilitate collaboration, offer advice on project feasibility, and help ensure scientific alignment across the program.
  - Email your revised project plan to inform any primary SEA faculty who have generated reagents (i.e., phages and plasmids) of your plans to utilize them for this project.
  - Post your project plan on the new seaphages.org faculty lounge forum space [Plans for Additional Research Explorations](#). The goal of this is to make others aware of your research plans, to solicit collaborators, get feedback from the community, and to avoid project ‘scooping.’ Feel free to provide updates on the topic thread throughout the lifespan of the project!

## Authorship and Acknowledgements for Resulting Publications

- For a **genome announcement** publication resulting from your annotation work,
  - All faculty and students who were involved in the isolation, purification, and annotation of your phage genome should be included as authors.
  - SEA team members involved in the research should be acknowledged (e.g., Debbie and Dan).
- For a **SEA-GENES G3 Mutant Screen Report**,
  - All SEA faculty and students involved in library construction and phenotypic data collection, data curation, and manuscript prep should be included as authors.
  - As part of each GENES school’s training process, the program will support publication of your first mutant screen report, with Danielle included as a co-corresponding author.
  - Other SEA team members can be included in the acknowledgements section as appropriate.
- For additional research publications **using reagents and data generated at your institution**,
  - All faculty, students, and SEA staff that contributed significantly to study conception, data collection and analysis, and manuscript preparation should be included as authors.
- For additional research publications **using reagents and/or data generated at another institution**,
  - All faculty, students, and SEA staff that contributed significantly to study conception, data collection and analysis, and manuscript preparation should be included as authors.
  - Published works detailing data from other SEA institutions (e.g., a GenBank accession number or genome announcement) should be cited.
  - Unpublished observations listed in SEA databases should be cited by listing the appropriate database URL.
  - SEA researchers from other institutions who contributed the reagents and/or specific data that were utilized in the study should be acknowledged, listing individuals where possible or a general acknowledgement (e.g., SEA-GENES researchers at SEA University)

## Publishing your Research

- Confirm authorship plans once project is completed and ready for write-up.
- Once you have a manuscript draft, send it to co-authors and the SEA team for scientific review and feedback.

- Make sure you have gathered written consent and contact info from all authors to preprint and/or publish.
- Submit to the preprint server and/or journal of your choice.
- Notify the SEA team of your publication so we can update the publication list on seaphages.org!

### Example Scenario

Dr. Jones (primary SEA faculty contact at institution A) and her students discovered phage Howard at Institution A. The next semester, a different set of students at Institution A work with Dr. Russell to annotate the phage Howard genome and write an MRA. Since both faculty and both classes contributed to the discovery and characterization of phage Howard's genome, both Dr. Jones and Dr. Russell, and all their Phage Discovery and Phage Genomics students are included as authors on the GenBank submission. Dr. Russell drafts an MRA which he submits to Dr. Jones for feedback and then to the SEA team for scientific review as outlined in the MRA publishing process for that academic year. He and Dr. Jones have already gotten consent from their students to publish and so submit their revised manuscript to the journal using the SEA discount, ultimately getting it successfully published.

The next year, while annotating a different phage genome with her students, another SEA faculty at Institution B, Dr. Amaya, becomes interested in a particular family of genes found in many phage genomes that she hypothesizes are involved in prophage mediated defense. She develops a research plan to raise lysogens of 3 different phages containing this pham, including phage Howard and two phages from her institution, and to screen these lysogens for defense against a panel of 10 different phages found at a variety of institutions. She also wants to test expressing the genes from this phamily by themselves to see if they confer a defense phenotype against the same panel of 10 phages.

Dr. Amaya first sends her research plan to the SEA team to get feedback on her hypothesis and experimental plan and to initiate an MTA so she can acquire the phages she needs from the Hatfull lab archive. Phage Howard is now being studied in the SEA-GENES program by Dr. Jones too, and so SEA staff at HHMI also initiate an MTA so she can acquire the appropriate pExTra plasmids containing her gene of interest from phage Howard.

Dr. Amaya then sends the same plan via email notifying Dr. Jones and the other primary faculty contacts for the finding institutions of the 10 phages on her panel to notify them of her intentions to study these phages further. She also posts this research plan on the seaphages.org forum indicating that she is open to collaboration.

Dr. Jones is super excited about this project as she had a similar hypothesis, and she writes back to Dr. Amaya about collaborating. At the same time, Dr. Wise from Institution C has been doing similar work on defense genes and comments on the forum post expressing her interest in collaborating. Together, the three of them determine a plan for how they'll proceed with the research and how they'll decide authorship on any resulting publications.

After a year of hard work, the project is ready for publication! Unfortunately, Dr. Jones was not able to contribute to the research as planned, and as such has discussed and agreed with Dr. Amaya and Dr. Wise that she will not be included in the author list. Dr. Amaya drafts the manuscript, citing the MRA describing phage Howard as appropriate, and acknowledging the contributions of Dr. Jones and her SEA-GENES students for their pExTra plasmids, along with the "SEA-PHAGES researchers" at the institutions that found all the phages used in the study. She sends this draft to the SEA team and Dr. Wise for their scientific suggestions. After incorporating this feedback, Dr. Wise and the three students who contributed to the research all give their consent for authorship to Dr. Amaya, and she submits the manuscript to *Cool Science Journal*, ultimately getting it published after a round of successful peer review!

### Give us your feedback!

Survey link: <https://www.surveymonkey.com/r/DWW3HTZ>

## SEA Research Project

## Initiating your Project

## Publishing your Research

Core SEA research

Genome  
Announcement

GENES Mutant  
Screen Report

Inform SEA  
team if you  
intend to  
participate in  
journal  
partnerships

Draft  
manuscript  
authorship  
plans

Additional research explorations

Research  
involving  
reagents and/or  
data from your  
institution

Research  
involving **data**  
from another  
institution

Research  
involving  
**reagents** from  
another  
institution

Develop your  
**research plan**:

- What are the scope and specific aims of the proposed project?
- What are the set of phages, genomes, or genes that you plan to study?
- Are you looking for collaborators?
- What will qualify for authorship on this project?
- What is your tentative timeline for this work?

Send  
your plan  
to the SEA  
team

Post  
your plan  
on the  
forums

Send your  
plan to  
the SEA  
team

Notify  
relevant  
SEA  
faculty

Post  
your plan  
on the  
forums

Complete  
MTA

1. Confirm  
authorship plans

2. Draft  
manuscript

3. Send  
manuscript draft  
to co-authors and  
SEA team for  
scientific review

4. Gather consent  
and contact info  
from all co-  
authors to  
preprint or  
publish

5. Submit to  
preprint server or  
journal

6. Notify SEA  
team of  
publication to add  
to website