

Learning Objectives	<p>Participants will be able to:</p> <ul style="list-style-type: none"> • Characterize and investigate mycobacteriophage genomes. This includes the details of gene calling evaluation, functional assignments, and preparing a final product of a submission file that meets QC requirements. • Install and use the software for annotation/analyses of mycobacteriophages. The software includes DNA Master, Phamerator, and other web-based tools. • Identify the basic concepts that underpin the bioinformatics of phage biology that is relevant to their students. • Devise a systematic plan for implementation of phage genomics in their classroom.
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Pre-req	<p>Participants will bring a computer with all software installed and tested. See computer requirements and software installation information at http://seaphages.org/faculty/information/#bioinformatics.</p>
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	<i>Time</i>	<i>Location</i>	<i>Topic</i>
Monday December 5	2:00-4:00p	<i>Conference Center</i>	Registration (<i>Guests may get lunch in the Dining Room between 11:30a-1:30p by showing their registration badge to the cashier</i>)
	4:00	<i>Main Auditorium</i>	Welcome from Graham Hatfull
	4:15	<i>Main Auditorium</i>	Workshop Overview & Software Orientation
	5:30	<i>Dining Room</i>	<i>Dinner</i>
	6:45	<i>Main Auditorium</i>	Getting Started: Introduction to Mycobacteriophage (including Auto-Annotation)
	7:30	<i>Main Auditorium</i>	BLASTing the Genome
	8:00	<i>Pilot</i>	Social

	<i>Time</i>	<i>Location</i>	<i>Topic</i>
Tuesday December 6	7:15a	<i>Dining Room</i>	<i>Breakfast</i>
	8:00	<i>Main Auditorium</i>	Gene Calling Guidelines
	9:00	<i>Main Auditorium</i>	Add, Delete, and Modify a Gene
	10:00	<i>Great Hall</i>	<i>Break</i>
	10:15	<i>Main Auditorium</i>	Calling the Genes
	11:00	<i>Main Auditorium</i>	Choosing Starts: Tools and Considerations
	12:30p	<i>Dining Room</i>	<i>Lunch</i>
	1:15	<i>D124&D125</i>	Group Exercise: Annotation and Analysis of Genome
	2:30	<i>Main Auditorium</i>	Annotation Tools at your disposal: Beyond DNA Master
	3:00	<i>Great Hall</i>	<i>Break</i>
	3:15	<i>D124&125</i>	Group Exercise: Annotation and Analysis of Genome (continued)
	5:30	<i>Dining Room</i>	<i>Dinner</i>
6:45	<i>Pilot</i>	Inside the Black Box: Assembling and Finishing	
7:45	<i>Pilot</i>	Social	

Wednesday December 7	Time	Location	Topic
	7:15a	<i>Dining Room</i>	<i>Breakfast</i>
	8:00	<i>Main Auditorium</i>	Assigning Functions
	9:00	<i>D124&125</i>	Group Exercise: Annotation and Analysis of Genome (continued)
	10:15	<i>Great Hall</i>	<i>Break</i>
	10:30	<i>D124&125</i>	Group Exercise: Annotation and Analysis of Genome (continued)
	12:30p	<i>Dining Room</i>	<i>Lunch</i>
	1:15	<i>D124&125</i>	Group Exercise: Annotation and Analysis of Genome (continued)
	3:00	<i>Great Hall</i>	File posted <i>Break</i>
	3:15	<i>Main Auditorium</i> <i>D124&125</i>	Merge I and Examining Merged Data Group Exercise: Resolving Discrepancies
	5:30	<i>Dining Room</i>	<i>Dinner</i>
	6:45	<i>Main Auditorium</i>	HHMI Biointeractive
	6:55	<i>Main Auditorium</i>	Graham Hatfull TBA
7:45	<i>Pilot</i>	Informal Discussions at the Pilot	

Thursday December 8	Time	Location	Topic
	7:15a	<i>Dining Room</i>	File posted <i>Breakfast</i>
	8:00	<i>Main Auditorium</i>	Merge II Resolving Discrepancies in the Merged Data: Several case studies
	9:00	<i>D124&125</i>	Group Exercise: Resolving Discrepancies
	10:15	<i>Great Hall</i>	<i>Break</i>
	10:30	<i>D124&125</i>	Group Exercise: Resolving Discrepancies
	11:45	<i>Main Auditorium</i>	Resolving Discrepancies: Addressing your questions
	12:30p	<i>Dining Room</i>	<i>Lunch</i>
	1:15	<i>Main Auditorium</i>	Phamerator Analyses
	2:00	<i>D124&125</i>	Group Exercise: Phamerator Exercise
	3:00	<i>Great Hall</i>	<i>Break</i>
	3:15	<i>Main Auditorium</i>	Elective: Post Annotation Analyses & Experiments
	5:30	<i>Dining Room</i>	<i>Dinner</i>
6:45	<i>The Pilot</i>	Informal discussions at the Pilot	

	Time	Location	Topic
Friday December 9	7-8:00a	<i>Conference Center</i>	Room Checkout (<i>Participants may store their luggage in the Conference Center</i>)
	7:15	<i>Dining Room</i>	<i>Breakfast</i>
	8:00	<i>Main Auditorium</i>	Final file formatting requirements and submission for QC before May 15, 2016
	8:30	<i>Main Auditorium</i>	Best Classroom Practices to Improve Genome Annotations
	8:35	<i>D124&125</i>	Group Discussions: Best Classroom Practices to Improve Genome Annotations
	9:15	<i>Main Auditorium</i>	Reporting of Group Discussion Information
	10:00	<i>Great Hall</i>	<i>Break</i>
	10:15	<i>Main Auditorium</i>	Panel: Examples of Successful Bioinformatics Implementation Panelists: <i>TBD</i>
	11:45	<i>Main Auditorium</i>	Submit to GenBank, Closing Remarks and Announcements
	12:00p	<i>Dining Room</i>	Lunch
	12:45p	<i>Conference Center</i>	Departure