



Colorado State University, June 4-10, 2023

Pre-Workshop Clinic (10 AM- 4 PM)-Smith Alumni Center June 4, 2023

Registration (6:00 – 6:30 PM) Smith Alumni Center

Sunday June 4, 2023

Welcome and Opening Reception (6:30-9:30 PM)

June 4, 2023

Smith Alumni Center

6:30-6:45

Welcome and Opening Remarks

Jill Pecon Slattery and Sue VandeWoude

6:45-7:30

10 Attendee Presentations

Attendees

Jill as MC

7:30-8:00ish

Introduction to Group Projects

Bob Fitak

6:30-9:30

Refreshments and Social Time

Day 1: NGS Data Overview, Genome Mining

June 5, 2023

Smith Alumni Center

7:00 - 8:00	Breakfast	Ram's Horn Dining Center
8:15-8:25	Step 1: What are my NGS tools for wildlife disease research? Jill Pecon-Slattery	
8:25-8:35	Introduction to computers Joe Strecker	
8:35-9:30	Intro to genomics and NGS Mark Stenglein	
9:30-10:00	CSU Flash talk Erick Gagne, UPenn Vet School, former Alumni	
10:00-10:20	Coffee Break and Meet Invited Speaker	
10:20-12:15	Command Line and BLAST Bob Fitak and Mark Stenglein	
12:15-1:15	Lunch Provided Onsite	
1:15-2:30	12 Attendee Presentations Jill as MC	
2:30 -3:15	BLAST exercises Bob Fitak and Mark Stenglein	
3:15-3:35	Coffee Break	
3:35-5:00	Data: Quality Control and Processing (Lecture and Lab) Mark Stenglein and Bob Fitak	

5:00-7:00	Free Time and Dinner	Ram's Horn Dining Center
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7:15-9:00	Take vote! Optional individual sessions with instructors Or intro to GitHub	Smith Alumni Center

Day 2: Genome Assembly, Whole Genome Alignments, Metagenomics

June 6, 2023

Smith Alumni Center

7:00 – 8:00	Breakfast	Ram's Horn Dining Center
8:15-8:25	Step 2: Best Practices of Quality Genomes for Host And Pathogen-Where Are We?	
	Jill Pecon-Slattery	
8:25-9:30	Mapping to Reference Genome: Good, Bad Ugly	
	Mark Stenglein and Bob Fitak	
9:30-10:00	CSU Flash talk	
	Lexi Keene, and Mark Stenglein	
10:00-10:20	Coffee Break and Meet Invited Speaker	
10:20-11:15	Mapping Exercises	
	Bob Fitak and Mark Stenglein	
11:15-12:15	Genome Assembly Lecture	
	Mark Stenglein	
12:15-1:15	Lunch Provided Onsite	
1:15-3:15	Genome Assembly Exercises	
	Mark Stenglein and Bob Fitak	
3:15-3:35	Coffee Break	
3:35-4:15	intro to R/ggplot/tidyverse	
	Mark Stenglein and Bob Fitak	
4:15-4:35	Introduction to Metagenomics and Disease	
	Mark Stenglein	

4:35-5:00	Group Project Time	
5:00-7:00	FREE TIME AND DINNER	Ram's Horn Dining Center
7:15-9:00	Take a vote! Optional individual sessions with instructors Or What does it mean to do reproducible computational research?	Smith Alumni Center

Day 3: Comparative Genomic and Phylogenomic Inferences

June 7, 2023
Smith Alumni Center

7:00-8:00	Breakfast	Ram's Horn Dining Center
8:15-9:30	Step 3: Comparing Differences Within and Between Genomes Jill Pecon Slattery	
	Best Practices in Multiple Sequence Alignments Alignment Computer Lab Jill Pecon-Slattery	
9:30-10:00	CSU Flash Talk Karen Fox, Colorado Parks and Wildlife	
10:00-10:20	Coffee Break and Meet Invited Speaker	
10:20-11:30	Alignment Computer Lab	
11:30-12:15	Group Projects Sessions	
12:15-1:15	Lunch Provided Onsite	
1:15-3:15	Phylogenomic Reconstruction Lectures and Lab Jill Pecon-Slattery	

3:15-3:35	Coffee Break	
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3:35-4:30	Phylogenomic Reconstruction Lectures and Lab Jill Pecon-Slattery	
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4:30-5:00	Molecular Clocks & Selection (Part1) Jill Pecon-Slattery	
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5:00-7:00	FREE TIME AND DINNER	
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7:30-8:30	Plenary Speaker Louise Moncla, Assistant Professor, UPenn	Ram's Horn Dining Center
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8:30-10:00	Social Hour with Invited Speaker	Smith Alumni Center
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Day 4: Tree-based Inferences in Host-Pathogen Ecology and Evolution

June 8, 2023

Smith Alumni Center

7:00 – 8:00	Breakfast	Ram's Horn Dining Center
8:15-8:25	Step 5: Genomics of Host-pathogen Interaction	
8:35-9:30	Phylodynamics and Nextstrain lecture Louise Moncla	
9:30-10:00	CSU Flash Talk Christie Mayo, CSU	
10:00-10:20	Coffee Break and Meet Invited Speaker	
10:20-12:15	Nextstrain Lab: Louise Moncla	
12:15-1:15	Lunch Provided Onsite	
1:15-2:45	BEAST Lecture and Lab Louise Moncla	
2:45-3:45	Selection in Host Genome (part 2) Jill Pecon-Slattery	
4:00-6:00	HIKE-Weather Permitting Lexi Keene	
5:30-7:00	FREE TIME AND DINNER (no evening session)	Ram's Horn Dining Center

Day 5: Population Genomics and Landscape Genomics

June 9, 2023

Smith Alumni Center

7:00 – 8:00	Breakfast	Ram's Horn Dining Center
8:15-8:25	Step 6: Applying Genomic Tools Across Populations Within Host & Pathogen Jill Pecon Slattery	
8:25-9:30	Population Genomics 101: Population Size, Genetic Drift, and Inbreeding Alex Ochoa	
9:30-10:00	CSU Flash Talk Elizabeth Hemming-Schroeder, CSU	
10:00-10:20	Coffee Break	
10:20-11:00	Population Genomics 101: Genetic Structure, Selection, and Mutation Load Alex Ochoa	
11:00-12:15	Lectures and Labs Population Genomics (Part 1) Alex Ochoa	
12:15-1:15	Lunch Provided Onsite/ Group Discussions	
1:15-2:00	Bob Fitak Special Presentation	
2:00-3:15	Lectures and Labs Population Genomics (Part 2) Alex Ochoa	
3:15-3:35	Coffee Break	
3:35-5:00	Lectures and Labs Population Genomics (Part 3) and Final Discussion of Results Alex Ochoa	

6:00-?**Party-Down Town Fort Collins Location**

DAY 6: Putting it all together: Your Group Projects

June 10, 2023
Smith Alumni Center

7:00-8:00	Breakfast	Ram's Horn Dining Center
8:15-8:20	Step 6: Review of Our Workflow Jill, Bob, Sue, Chris, Mark	
8:20-8:50	Presentation Group 1	
8:50-9:20	Presentation Group 2	
9:20-9:50	Presentation Group 3	
9:50-10:20	Presentation Group 4	
10:20-10:50	Presentation Group 5	
10:50-11:20	Presentation Group 6	
11:20- 12:00	Conclusions and Farewells	
