



Colorado State University, June 3-12, 2017

Registration (5-6 PM) Room 304-306 Lory Center

June 3, 2017

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

June 3, 2017

Lory Center Room 304-315 and Longs Peak Room

6:30-7:00

Welcome and Opening Remarks

Jill Pecon Slattery and Sue Vandewoude

7:00-8:00

!2 Attendee Presentations

Attendees

6:30-9:30

Refreshments and Social Time

Day 1: NGS Introduction and Overview

June 4, 2017

Lory Center Room 304-315

Evening Plenary Talks Lory Center Long's Peak Room

| | | |
|--------------------|---|-------------------------|
| 7:00 – 8:00 | Breakfast | Corbitt Dining Hall |
| 8:15–8:40 | Introduction to Workshop and Datasets Jill Pecon Slattery | |
| 8:40–9:30 | An Overview of NGS Data Mark Stenglein and Bob Fitak | |
| 9:30–10:00 | CSU Flash Talk Christie Mayo | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–10:35 | Course Computers Joe Strecker | |
| 10:35–12:15 | Genome Mining Host and Pathogen Mark Stenglein and Bob Fitak | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–2:15 | 12 Attendee Presentations | |
| 2:15–3:15 | Exercises in Genome Mining Mark Stenglein and Bob Fitak | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Exercises in Genome Mining Mark Stenglein and Bob Fitak | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Evening Plenary Speaker Series Christine K. Johnson, University of California-Davis | Longs Peak Room |

8:30–9:30

Social Hour with Plenary Speaker

Longs Peak Room

Day 2: NGS evaluation, Quality and Genome assembly

June 5, 2017

Lory Center Room 304-315

Evening Plenary Talks Lory Center Long's Peak Room

| | | |
|--------------------|--|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–9:30 | Evaluating and Processing Raw Data Mark Stenglein and Bob Fitak | |
| 9:30–10:00 | CSU Flash Talk Mike Antolin | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–12:15 | Genome Assemblies: Mapping to Reference and De Novo Mark Stenglein and Bob Fitak | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Practice Assembly of Host and Pathogen Mark Stenglein and Bob Fitak | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Intro to Metagenomics and Disease Mark Stenglein | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Optional Computer Lab with Instructor | |

Day 3: Multiple Sequence Alignments

June 6, 2017

Lory Center Room 304-315

Evening Plenary Talks Lory Center Long's Peak Room

| | | |
|-------------|---|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–8:50 | Introduction to Multiple Sequence Alignments Jill Pecon Slattery | |
| 8:50–9:30 | Whole genome alignments of related taxa or population data Bob Fitak | |
| 9:30–10:00 | CSU Flash Talk Justin Lee | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–12:15 | Alignment Programs Jill Pecon Slattery | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Computer Lab Alignment Programs Host/Pathogen Jill Pecon Slattery | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Computer Lab Whole Genome Alignments Host/Pathogen Bob Fitak | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Evening Plenary Speaker Series Kelly Zamudio, Cornell University | Longs Peak Room |
| 8:30–9:30 | Social Hour with Plenary Speaker | Longs Peak Room |

Day 4: Phylogenomics of Host and Pathogen

June 7, 2017

Lory Center Room 304-315

Evening Plenary Talks: Lory Center Long's Peak Room

| | | |
|-------------|---|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–8:50 | Applications of Molecular Phylogenomics Jill Pecon Slattery | |
| 8:50–9:30 | Molecular Clocks Jill Pecon Slattery | |
| 9:30–10:00 | CSU Flash Talk Sue VandeWoude | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–12:15 | Overview of Phylogenomic & Bayesian Methods Jim Wilgenbusch | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Computer Lab Phylogenomics Jim Wilgenbusch | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Computer Lab Dating Nodes with BEAST Justin Lee | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Social Hour with Jim Wilgenbusch | Longs Peak Room |

Day 5: Signals of Selection and Adaptation

June 8, 2017

Lory Center Room 304-315

Evening Plenary Talks: Lory Center Long's Peak Room

| | | |
|-------------|---|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–8:50 | Whole Genome Perspective Bob Fitak | |
| 8:50–9:30 | Genes of Host Jill Pecon Slattery | |
| 9:30–10:00 | CSU Flash Talk Rebekah Kading | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–10:40 | Genes of Pathogen Jill Pecon Slattery | |
| 10:40–11:15 | A Case Study in the Wild Jenn Malmberg/Justin Lee | |
| 11:15–12:15 | Overview of Methods Jill Pecon Slattery | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Computer Lab: Host Jill Pecon Slattery & Bob Fitak | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Computer Lab: Pathogen Jill Pecon Slattery & Bob Fitak | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Evening Plenary Series Jeff Foster | Longs Peak Room |

8:30–9:30

Social Hour With Plenary Speaker

Longs Peak Room

Day 6: Population Genomics Day

June 9, 2017

Lory Center Room 304-315

Evening Plenary Talks: Lory Center Long's Peak Room

| | | |
|-------------|--|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–9:30 | Population Genomics 101 Chris Funk | |
| 9:30–10:00 | CSU Flash Talk Daryl Trumbo | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–10:40 | Population Genomics 101 (cont) Chris Funk | |
| 10:40–11:40 | Host Population Genomics in Disease Chris Funk | |
| 11:40–12:15 | Pathogen Population Genomics Jill Pecon Slattery | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Computer Lab: Population Genomics Chris Funk and Daryl Trumbo | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Computer Lab: Population Genomics Chris Funk and Daryl Trumbo | |
| 5:00–7:00 | FREE TIME AND DINNER | Rams Horn Dining Center |
| 7:30–8:30 | Optional Computer Time with Instructor | |

Day 7: Variant Discovery and Interpretation

June 10, 2017

Lory Center Room 304-315

Evening Plenary Talks: Lory Center Long's Peak Room

| | | |
|-------------|---|-------------------------|
| 7:00 – 8:00 | Breakfast | Rams Horn Dining Center |
| 8:15–9:30 | Critical Evaluation of Candidate Genes Jill Pecon Slattery | |
| 9:30–10:00 | CSU Flash Talk Greg Ebel | |
| 10:00–10:20 | Coffee Break and Meet Invited Speaker | |
| 10:20–11:15 | Evolutionary Genomics and Variants Jill Pecon Slattery | |
| 11:15–12:15 | Thought Exercise: Systems Biology Jill Pecon Slattery & Attendees | |
| 12:15–1:15 | Lunch Provided Onsite | |
| 1:15–3:15 | Computer Lab: Creating a Workflow Jill Pecon Slattery, Bob Fitak, Mark Stenglein & Attendees | |
| 3:15–3:35 | Coffee Break | |
| 3:35–5:00 | Computer Lab: Intra-host Pools Mark Stenglein | |
| 5:30–8:00 | OffSite BBQ (Buses depart from Academic Village) | |
| 8:30–? | Mainline in Fort Collins (All Invited! but others can opt to return to dorms on bus) | |

Workshop Wrap-Up and Evaluations

June 11, 2017

| | | |
|------------------|---------------------------------------|----------------------------|
| 7:00-8:15 | Breakfast | |
| 8:15–9:30 | Wrap-Up and Concluding Remarks | Horsetooth Room |
| | Instructors & Attendees | Rams Horn Dining Center |
| 9:30 | Departure | |