



HITS

High-throughput Discovery
Science & **I**nquiry-based Case
Studies for **T**oday's **S**tudents

HITS 2019 Summer Workshop
 at Elon University

June 10-12th, 2019

Overview

Overview of the 2019 HITS Workshop. <i>Thanks to our sponsors!</i>		
<u>Scientific Sessions</u>	<u>Case Study Sessions</u>	<u>Case Study Development</u>
<p>Speakers include high-throughput (HT) experts from industry, government, and academia.</p>	<p>Speakers include experienced case study users who have created and implemented case studies in college classrooms.</p>	<p>Groups will present their plans for their case studies and provide updates. Groups will share their goals and timelines on QUBES for accountability.</p>
<p>Attendees include educators and case fellows, HT experts, and HT researchers.</p>	<p>Attendees include case study experts, case study fellows, and HT researchers.</p>	<p>Attendees include case study fellows, educators, and HT researchers.</p>
<p>Attendees will learn about HT approaches. Collaborations are expected to emerge through interactions at this small but focused meeting.</p>	<p>Attendees will learn the value of well-designed educational case studies. Second-year case fellows will provide updates on their cases and mentor new cohort members.</p>	<p>Groups will work to design and write new case studies using HT approaches/datasets that can be implemented in college classrooms.</p>

Schedule

Monday, June 10th, 2019.

Day 1: High-throughput (HT) Discovery Science

Times	Sessions
7:00-9:00 am	Transport to Elon University. Lakeside 212/213 in the Moseley Building . Breakfast 8-9:30 am.
9:30-10:00 am	<p>Welcome to HITS. Overview of HITS and goals.</p> <ul style="list-style-type: none"> - Goals of HITS - Carlos Goller - Student learning outcomes [updates, webpage resource] - Carlos Goller - Introduce steering committee - Sabrina Robertson - Icebreaker activity - Sabrina Robertson
10:00-11:00 am	<p>“Teaching neuroscience with big data: conducting virtual experiments with the Allen Brain Atlas”</p> <p>Kaitlyn Casimo, PhD Training and Outreach Specialist, Allen Institute</p>
11:00-11:30 am	<p>Discussion: <i>What are high-throughput (HT) approaches?</i></p> <ul style="list-style-type: none"> - Use yellow sheets and explain to audience purpose of reflections - Carlos Goller/Sabrina Robertson <ul style="list-style-type: none"> - Writing helps consolidate and learn - Notes they can keep - Formative feedback - Will see if HT opinions change - We will give you time to do these reflections throughout workshop - Define high-throughput science. - What kinds of techniques do you consider HT and what kinds of approaches are NOT HT? - Five minutes to write, then ten minutes to discuss in small groups on pads, then group discussion.

11:30 am-12:00pm	<p>“Metal Adaptation in <i>Escherichia coli</i>” Misty Thomas, Assistant Professor, North Carolina A&T State University</p>
12:00-1:30 pm	<i>Lunch break and mixer!</i>
1:30-2:30 pm	<p>“Cell Data in the Classroom potential allencell.org resources for HITS” Lisa Schaeffbauer UX Designer III, Allen Institute for Cell Science</p>
2:30-3:00 pm	<i>Break coffee and snack break.</i>
3:00-4:30 pm	<p>QIAGEN will demo a series of instruments and describe a pipeline that can be used to go from “sample to insight”. They will share authentic data to create a new case. Sample → Genomic DNA → Sequencing McMichael 110</p>
4:30-5:00 pm	<p>Reflection & Wrap-up for the day.</p> <ul style="list-style-type: none"> - Please fill out yellow reflection sheets. <ul style="list-style-type: none"> - What did you learn today that you hope to use in a classroom? - What did you learn today that you hope to use in your research?
5:00-7:00 pm	<p>Dinner in Elon, NC Pandora's Pies 6:00 pm Reservation Walking directions</p>

Tuesday, June 11th, 2019.

Day 2: Case Studies

Times	Sessions
7:00-8:30 am	Transport to Elon University. Lakeside 212/213 in the Moseley Building . Breakfast 8-8:45 am
8:30-8:45 am am	<p>Welcome and introduction to goals for the day.</p> <ul style="list-style-type: none"> - Use yellow sheets and explain to audience purpose of reflections - Sabrina Robertson <ul style="list-style-type: none"> - Writing helps consolidate and learn - Notes they can keep - Formative feedback - Will see if case study opinions change - We will give you time to do these reflections throughout workshop - Define case studies. Share some resources and direct to HITS website resources page. - What kinds of educational activities do you consider case studies and what kinds of approaches are NOT case studies? - Five minutes to write, then ten minutes to discuss in small groups on pads, then group discussion.
8:45-10:00 am	<p>“Developing Case Studies” Brian Rybarczyk, Teaching Professor, Assistant Dean for Academic and Professional Development of the Graduate School Associate Director SPIRE Postdoctoral Fellowship University of North Carolina</p>
10:00-11:30 am	<p>“Adapting Published Case Studies” Misty Thomas, Assistant Professor North Carolina A&T State University</p>
11:30-12:00 pm	<p>Discussion of goals of HITS RCN and timeline</p> <ul style="list-style-type: none"> - Discuss timeline beyond workshop - Carlos Goller

	<ul style="list-style-type: none"> - Share student learning outcomes again - Sabrina Robertson - Expectation that many outcomes should be included as outcomes for your case (not all!) - Sabrina Robertson - Start to brainstorm about which LOs they are interested in (yellow papers)
12:00-1:15 pm	<i>Lunch break and QUBES resources</i>
1:15-3:00 pm	<p>Case updates from 2018 Case Fellows:</p> <ul style="list-style-type: none"> ● Alfred Simkin's group <ul style="list-style-type: none"> ○ Sequencing Terminology ● Mel/Heather/Sabrina group update ● Stephanie Matthews' group
3:00-3:15 pm	<i>Break coffee and snack break!</i>
3:15-4:45 pm	<p>Discussion about implementation and dissemination of cases.</p> <ul style="list-style-type: none"> - Brainstorm classes and timeline for implementation
4:45-5:00 pm	<p>Wrap-up for the day and group assignments</p> <ul style="list-style-type: none"> - Brainstorm case scenarios and datasets
5:00-7:00 pm	<p>Dinner in Elon, NC (<i>walking distance</i>)</p> <p>The Root 6:00 pm reservation</p> <p>Walking directions</p>

Wednesday, June 12th, 2019.

Day 3: Case Study Development

Times	Sessions
7:00-9:00 am	Transport to Elon University. Lakeside 212/213 in the Moseley Building . Breakfast 8-9:30 am
9:30-10:00 am	Overview of goals for the day and team assignments. <ul style="list-style-type: none">- Goal: Let you work to create a five-minute presentation on your case with some of the shared learning outcomes - Carlos and Sabrina- We have identified themes for groups to develop cases- Go to the table you are interested in and brainstorm- Previous case fellows will help groups
10:00-11:00 am	Pat Marsteller writing a case kickoff
11:00-12:00 pm	Dedicated time to work in groups to delineate goals of their cases and identify data sets.
12:00-1:30 pm	<i>Lunch break and group photograph.</i>
1:30-3:00 pm	Dedicated time to work on case studies in groups. Time to prepare for mini presentations of case study projects.
3:00-3:30 pm	<i>Break coffee and snack break!</i>
3:30-4:30 pm	Presentations of group projects and future directions.
4:30-5:00 pm	Wrap up <ul style="list-style-type: none">- Demo of QUBES support network. - Sam Donovan- Discuss timeline beyond workshop and expectations - Carlos Goller- A few minutes to set group timelines and goals (yellow sheets)
	For those of you still in town, dinner at Tangent Eat and Bar Walking directions .

Directions to campus and parking

1. Take Interstate 85/40 to Exit 140 (University Drive) and head north on University Drive.
2. Turn right onto Boone Station Drive, and then immediately left at St. Mark's Church Road.
3. Follow this road for 1.4 miles. Note the road's name changes to Williamson Avenue after crossing S. Church Street. You will cross railroad tracks as you enter campus.
4. Turn right at the stoplight on Haggard Avenue.
5. Take first left onto N. O'Kelly Avenue and first right into [McMichael parking](#) lot. Moseley Center is across the street from the parking lot. It has a small fountain at its entrance at the far side of the grass/path covered quad. Lakeside 212/213 is at the opposite end of the building from where you will enter.

Guest access to wireless service:

Wireless Network: elonu-guest

Username: hitsevent

Password: Event2019!

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