Guide for Summer Student Participants

PREM, REU, SERCCS, SUNRiSE

Summer 2023
CLASSE is a team of scientists, students, researchers, engineers, technicians and personnel that studies our world and universe using x-rays and high energy electrons and proton beams. Our research aims to increase the scientific reach of future accelerators and open new doors for industry.

At CLASSE, we study the Higgs boson with the Large Hadron Collider, glimpse the early universe with the Atacama Cosmology Telescope, and develop organic solar cells and study the folding of long DNA strands at the CHESS national x-ray user facility. CLASSE also advances the frontiers of beam science, and develops the technology needed to produce and accelerate ultra-bright, high power beams for research, medicine and industry.

CLASSE - More than a sum of its parts

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PARTICLE PHYSICS AND ASTROPHYSICS
Cornell scientists develop and explore the theories that might have been operative in the early universe using the Large Hadron Collider (LHC) in Geneva Switzerland, where the conditions of the early universe are created briefly in collisions, and a high precision experiment at Fermilab. They also apply general relativity to the dynamics of stars.

BRIGHT SOURCES OF ELECTRONS
The photoinjector at CLASSE holds records for both beam current and brightness and meets the needs of future accelerators, including an Energy Recovery Linac. Further advances on photocathode technology and beam halo will enable even better performance, and new applications such as ultrafast electron diffraction.

STORAGE RING DYNAMICS
Using CESR, lab scientists study ultra-compact electron and positron beams, advancing accelerator performance for future light sources and particle physics colliders. This work takes advantage of superb beam instrumentation, feedback and control systems as well as sophisticated accelerator models. CESR is recognized internationally as an outstanding training ground for graduate students and post-docs who become leaders at accelerator laboratories around the world.

SUPERCONDUCTING PARTICLE ACCELERATION
Cornell is a leader in particle beam acceleration based on superconducting radio frequency (SRF) cavities, a technology of choice in modern accelerators. CLASSE scientists work to improve cavity energy efficiency, reliability and performance. Cornell has developed and industrialized the cavities chosen to power seven facilities around the world, and is currently working on a prototype Energy Recovery Linac (ERL) named CBETA with Brookhaven National Lab.

PRODUCTION, ACCELERATION AND TRANSPORT OF ELECTRON BEAMS
The Center for Bright Beams is one of 12 NSF Science and Technology Centers. It joins scientists from multiple Cornell departments, other universities and national labs to address major challenges in the production, acceleration and transport of electron beams. CBB aims to revolutionize the brightness of electron beams, extending the reach of science, medicine and industry.
Greetings!

Welcome to the Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE) and the Cornell High Energy Synchrotron Source (CHESS) at Cornell University. We all hope that your time at Cornell will be interesting, stimulating, and enjoyable.

If you have questions, comments or suggestions, please let us know!

Katerina Malysheva (evm23@cornell.edu) in Newman 130 (607-255-4951)
Florianna Blanton (fgb29@cornell.edu) in Room 114 of 391 Pine Tree Road;
Louise Debefve (lmd252@cornell.edu) in Wilson 275

Orientation Day - AGENDA

Monday, June 5: 120 Physical Sciences Building
9:30 – 10:00am  Welcome!
10:00 – 11:00am  CLASSE & CHESS Facility Overviews
11:15 – 11:45am  Summer Programs and Important Program Details
11:45 – 12:15pm  Student & Mentor “One-on-One”
12:30 – 1:30pm  Lunch
1:30 – 2:30pm  Explore Cornell
2:30 – 3:30pm  Synchrotron & X-ray Basics - Discussion

Important Dates

Monday June 5
9:30am – 2:15pm  Welcome & Orientation
Physical Sciences Building, Room 120

Tuesday, June 13
12:30pm – 2:00pm  CESR, CHESS & Wilson Lab Tour
Wilson Lab - Conference Room 301

June 28 & 30*
10:00am – 1:00pm  3-Week Presentations & Lunch
Wilson Lab (301), Physical Sciences Bldg. (401)

August 10 & 11*
10:00am – 2:00pm  Final Presentations & Lunch
Physical Sciences Building, Atrium & 401

EVENT CALENDAR

* Please make sure to regularly consult the calendar. Some items are listed as mandatory and attendance is required, while others are listed as optional. Some events are specific to individual programs.

The program staff, participants and calendar are listed on our web page:
www.classe.cornell.edu/StudentOpportunities/SummerProgramResources
You will submit a brief written Project Report. The details of the project report will be determined by your mentor. Reports/ final presentations/posters are due at the end of the program, please see your program calendar for specific dates.

Beginning on Tuesday, June 13, there will be an optional once-a-week CLASSE coffee hours from 9:30 - 10:30 AM on Tuesdays in room 401 of the Physical Sciences Building (PSB). These are chances to catch up with other summer researcher participants and staff, discussing science and engineering and practicalities of summer life and fun in Ithaca. Snacks will be provided.

These science communication seminars are designed to provide students with the skills necessary to present their research to colleagues at the end of the summer and to become future voices for scientific advancements.

Overall, this seminar series will equip participants with the skills, knowledge, and confidence to communicate science effectively to a range of audiences and to build a successful career through science communication. By the end of the ten weeks, participants will have the tools they need to present their research effectively, engage with the media and the public, and establish themselves as science communicators in their own right.

Led by the Science Communications team at CLASSE, along with scientists and engineers of the lab, students will learn how to communicate their science to various audiences using multiple channels effectively.

We are striving to make the summer student program as beneficial as possible. Please expect an anonymous survey via email that will help us achieve this goal.

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www.classe.cornell.edu/StudentOpportunities/SummerProgramResources
LGBTQIA+ RESOURCES

https://scl.cornell.edu/LGBTRC

The LGBT Resource Center is the hub of LGBTQ+ student life and resources at Cornell. We provided advocacy, outreach, education, support, and community to LGBTQ+ students of all identities, backgrounds, and experiences. We envision a community where individuals experience a sense of community, empowerment, and inclusion and can thrive as their whole authentic selves.

The resource center is located on North Campus in the 626 Thurston Avenue building on the 3rd floor. The physical space includes a beautiful lounge to socialize and a multipurpose room perfect for studying or holding a meeting. Professional staff is confidential and available for individual support during business hours or by scheduling an appointment using the links on our “About Us” page. The LGBT Resource Center also hosts events and programs that provide community building and educational opportunities throughout the year.

HUMAN RESOURCES AND BIAS REPORTING

For any human resources questions or concerns please email our CLASSE HR team at:
classehr@cornell.edu

For reporting a bias incident:
diversity.cornell.edu/our-commitments/bias-reporting-cornell

GANNETT HEALTH CENTER

www.health.cornell.edu
mentalhealth.cornell.edu

Location: 10 Central Avenue, next to Willard Straight Hall, phone 607-255-5155

Gannett Health Center offers emergency medical services with access to emergency care at the Cayuga Medical Center of Ithaca and referral to specialty medical care. Summer hours are Monday through Friday, 8:30 a.m. to 4:30 p.m. Students visiting for the summer are not covered under any Cornell insurance plan, and are expected to pay for any medical and emergency services while they are here.

STUDENT SUPPORT AND ADVOCACY SERVICES

Student Support and Advocacy Services is a newly reimagined organization within the Office of the Dean of Students, in Student and Campus Life. We strive to help students navigate challenging issues in all facets of their lives. We utilize non-clinical, trauma-informed, and identity-conscious approaches to our work with students. Our team of dedicated professionals focuses on creating a welcoming, non-judgmental, and caring environment that aims to facilitate access to holistic support services and campus and local resources.

Our focus areas include campus-wide case management and crisis response services. Case management consists of building 1-on-1 helping relationships with students while coaching them toward resources, self-care, and self-advocacy.

ADDRESS
Elizabeth C. Staley Center
200 Willard Straight Hall

CONTACT
studentsupport@cornell.edu

OFFICE HOURS
Monday - Friday
8:00 am - 5:00 pm

DROP IN HOURS
Monday - Friday
10:00 am - 3:30 pm.

STUDENT DISABILITY SERVICES

https://sds.cornell.edu

Student Disability Services works in partnership with Cornell faculty, staff, and students to ensure that all aspects of student life are accessible, equitable, and inclusive of individuals with disabilities.

We recognize the historical and systemic disparities that exist within our healthcare systems and society at large. These disparities can often have adverse and unintended consequences that further marginalize populations. We recognize these disparities exist among our student population, and can directly affect a student's ability to provide documentation of a disability. We are committed to working with every student to find appropriate and creative ways of ensuring access in every aspect of their Cornell experience.

CONTACT
sds_cu@cornell.edu

STAFF HOURS
Mon - Fri
8:30 am - 5:00 pm

www.classe.cornell.edu/StudentOpportunities/SummerProgramResources
TRANSPORTATION

Car Registration Information
All vehicles registered in New York State must get a safety inspection at a DMV-licensed station every year. A valid inspection sticker must be displayed on your vehicle. Learn more at www2.tompkins-countyny.gov/dmv

Taxis
Collegetown Cab: (607) 588-8888
Ithaca Dispatch: (607) 277-7777 or (607) 272-3333

Uber and Lyft are also present in Ithaca.

Buses
All Cornell students and employees are granted free access to TCAT Bus System. Students can access their bus riding privileges with their CU photo ID card.

“Campus2Campus” provides transportation between the Ithaca and NYC campuses twice daily while the university is open.

Biking and Walking
Ithaca strives to make walking and biking safe for people of all ages and abilities.
Learn more at www.bikewalktompkins.org/

For information about local events and things to do in and around Ithaca, please check out: Visitithaca.com

Summer Mealplans can be purchased here:
https://mealplan.scl.cornell.edu/summer/welcome
SOCIAL MEDIA

This is going to be a great summer filled with amazing experiences and awesome photo opportunities. We encourage you to keep in touch with your family and friends back home with social media, as well as connect with our growing social media platforms.

During the summer of 2023, we are using #CornellAccelerates to highlight our research and educational opportunities!

@Cornell-CLASSE
@CornellAcceleratorLab
@CornellCLASSE

For all CHESS social accounts just scan the QR code to follow us!