Community College Internship Program Application Assistance Workshop

Presenter: Dr. Brandi Toliver
CCI Program Manager
Breakthroughs at the DOE National Laboratories

- **Advanced Supercomputing** - The National Labs operate some of the most significant high performance computing resources available, including 32 of the 500 fastest supercomputers in the world. The Summit supercomputer at Oak Ridge National Laboratory is capable of 200 petaflops, or 200,000 trillion calculations per second.

- **Put the Jolt in Volt** - Chevy’s Volt would not be able to cruise on battery power were it not for the advanced cathode technology that emerged from a National Lab (specifically, Argonne National Lab).

- **Decoded DNA** - In 1990, the National Labs joined with the National Institutes of Health and other laboratories to kick off the Human Genome Project, an international collaboration to identify and map all of the genes of the human genome.

- **Brought the web to the U.S.** - National Lab scientists, seeking to share particle physics information, were first to install a web server in North America, kick-starting the development of the worldwide web as we know it.

- **Unmasked a dinosaur killer** - Natural history’s greatest whodunit was solved in 1980 when a team of National Lab scientists pinned the dinosaurs’ abrupt extinction on an asteroid collision with Earth. Case closed.

- **World’s First Video Game** - Before there was Atari or Nintendo, there was Tennis for Two, which may have been the first video game ever created, Brookhaven National Lab scientists built the pioneering system to entertain visitors to the Lab in 1958.

- **Launched the LED lighting revolution** - In the 1990s, scientists at a National Lab saw the need for energy-efficient solid-state lighting and worked with industry to develop white LEDs. Today, white LEDs are about 30 percent efficient, with the potential to reach 70 percent to 80 percent efficiency.

- **3D Printing Bigger and Better** - A large-scale additive manufacturing platform developed by a National Lab and an industry partner printed 3D components 10 times larger and 200 times faster than previous processes. So far, the system has produced a 3D-printed sports car, SUV, house, excavator and aviation components.

- **Discovered 22 elements** - To date the National Labs have discovered: technetium, promethium, astatine, neptunium, plutonium, americium, curium, berkelium, californium, einsteinium, fermium, mendelevium, nobelium, lawrencium, rutherfordium, dubnium, seaborgium, flerovium, moscovium, livermorium, tennessine and oganesson.

Additional breakthroughs are available at https://www.energy.gov/downloads/75-breakthroughs-americas-national-laboratories
Office of Science at a Glance ([https://science.osti.gov/](https://science.osti.gov/))

- Lead federal agency supporting fundamental scientific research for energy and the largest supporter of basic research in the physical sciences in the United States
- FY 2023 Funding Requested: $7.799B

- **Largest Supporter of Physical Sciences in the U.S.**
- **Funding at >300 Institutions, including 17 DOE Labs**
- **~29,000 Researchers Supported**
- **~34,000 Users of 28 SC Scientific Facilities**

- **Research:**
  - ~42.8%, $3.334B
- **Facility Operations:**
  - ~34.5%, $2.689B
- **Projects/Other:**
  - ~22.6%, $1.776B

- ~35% of Research to Universities
The 17 DOE National Laboratories comprise a preeminent federal research system, providing the Nation with strategic scientific and technological capabilities.

SC stewards 10 DOE laboratories that provide essential support to the missions of the SC science programs.
FY 2023
28 scientific user facilities
~34,000 users
### The Office of Science Research Portfolio

https://science.osti.gov/Programs/

<table>
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<tr>
<th>Research Domain</th>
<th>Objectives</th>
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<td>Advanced Scientific Computing Research</td>
<td>• Delivering world leading computational and networking capabilities to extend the frontiers of science and technology</td>
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<tr>
<td>Basic Energy Sciences</td>
<td>• Understanding, predicting, and ultimately controlling matter and energy flow at the electronic, atomic, and molecular levels</td>
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<tr>
<td>Biological and Environmental Research</td>
<td>• Understanding complex biological, earth, and environmental systems</td>
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<tr>
<td>Fusion Energy Sciences</td>
<td>• Building the scientific foundations for a fusion energy source</td>
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<tr>
<td>High Energy Physics</td>
<td>• Understanding how the universe works at its most fundamental level</td>
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<tr>
<td>Nuclear Physics</td>
<td>• Discovering, exploring, and understanding all forms of nuclear matter</td>
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<tr>
<td>Isotope R&amp;D and Production</td>
<td>• Supporting National Preparedness for isotope production and distribution during national crisis</td>
</tr>
<tr>
<td>Accelerator R&amp;D and Production</td>
<td>• Supporting new technologies for use in SC’s scientific facilities and in commercial products</td>
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DOE workforce development mandates

Energy Reorganization Act of 1974

Dept. of Energy Organization Act, 1977

DOE Science Education Enhancement Act, 1990

“…The Secretary is authorized to establish programs to enhance the quality of [STEM] education. Any such programs shall be operated at or through the support of Department research and development facilities, shall use the scientific resources of the Department…”
DOE has a more than 60-year history of training and educating scientists, engineers, and technicians in the United States

Thousands of undergraduates, graduate students, and postdocs supported annually on DOE R&D awards at universities and national laboratories

- SC research awards support over 4,400 graduate students and many postdocs annually
- Tailored training opportunities in mission areas not adequately addressed by other Federal programs, including computational science, accelerator science, instrumentation, nuclear physics, nuclear chemistry, and isotope R&D

As a collaborative partner of the SC Workforce Development ecosystem, WDTS strives for a sustained pipeline for the science, technology, engineering, and mathematics (STEM) workforce to support DOE mission. WDTS programs expand the reach of SC Workforce Development efforts by:

- Leading a national-level portfolio of laboratory-based workforce training programs in partnership with all 17 DOE national labs (~1,400 participants at DOE laboratories annually)
  - Science Undergraduate Laboratory Internship (SULI): 2-/4-year colleges and universities
  - Community College Internship (CCI): dedicated to community colleges
  - Visiting Faculty Program (VFP): under-represented institutions in STEM, including all HBCUs
  - Office of Science Graduate Student Research Program (SCGSR): SC mission priority areas

- Promoting science/energy literacy and academic achievements in STEM
  - National Science Bowl® (NSB): coordinate on regionals, host the National Championships final
  - Albert Einstein Distinguished Educator Fellowship (AEF): K–12 STEM teachers, hosted by SC/WDTS, Congressional Offices, and other federal agencies (established under P.L. 103-382)
The Community College Internships (CCI) program seeks to encourage community college students to enter technical careers relevant to the DOE mission by providing technical training experiences at the DOE laboratories.

Applications are accepted for the Fall, Spring, and Summer terms
- Fall (August-December): 10-weeks @ 40 hrs/week or flex-schedule for 16-weeks
- Spring (January-May): 10-weeks @ 40 hrs/week or flex-schedule for 16-weeks
- **Summer (May-August): 10-weeks @ 40 hrs/week**

Paid internship
- $650/week or $6500 total stipend
- Housing and travel allowance provided

Full details: [https://science.osti.gov/wdts/cci](https://science.osti.gov/wdts/cci)
Eligibility Requirements

- **Citizenship** - Must be a United States Citizen or Lawful Permanent Resident at the time of applying.
- **Age** - Must be 18 years or older at the time the internship begins.
- **Enrollment** - Must be currently enrolled as a full-time student at a community college or accredited two-year college and completed at least one semester at the time of applying.
- **High School Diploma or GED** - Must have earned a high school diploma or General Educational Development (GED) equivalent at the time of applying.
- **Grade Point Average (GPA)** - Must have an undergraduate cumulative minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale for all completed courses taken as a matriculated student at the applicant's current (or recently-graduated) institution and at any undergraduate institutions attended as a matriculated postsecondary student during the 5 years preceding the start of the current enrollment. *College courses completed during high school are not required to be reported.*
- **Coursework** - Must have completed at least 6 credit hours in science, mathematics, engineering, or technology course areas, and completed at least 12 credits hours towards a degree.
- **Participation and Application Limit** - Applicants are limited to participation in CCI program to no more than two internships. Applicants can apply to the CCI program a maximum of three times.

The first step in submitting a successful application is meeting the eligibility requirements.

Eligibility requirements: [https://science.osti.gov/wdts/cci/Eligibility](https://science.osti.gov/wdts/cci/Eligibility)
Key Dates

<table>
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<th>CCI Internship Term:</th>
<th>Summer 2023</th>
<th>Fall 2023</th>
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<tr>
<td>On-line Application Opens</td>
<td>October 18, 2022</td>
<td>March 15, 2023</td>
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<tr>
<td>Applications Due</td>
<td>January 10, 2023 5:00 PM ET</td>
<td>May 25, 2023 5:00 PM ET</td>
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<td>Offer Notification Period Begins on or around</td>
<td>February 1, 2023</td>
<td>June 12, 2023</td>
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<tr>
<td>All DOE Offers and Notifications Complete</td>
<td>On or around April 10, 2023</td>
<td>On or around August 7, 2023</td>
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***The Application System closes at 5:00 PM Eastern Time. Materials will not be accepted after the system has closed.

More details available [https://science.osti.gov/wdts/cci/Key-Dates](https://science.osti.gov/wdts/cci/Key-Dates)
Application Requirements

Completed applications must be submitted by 5:00 p.m. ET on January 10, 2023.

- All applications must be completed online through the online application system. You will need to register as a user to access the online application system.
- Only complete applications submitted by the deadline will be considered for evaluation and placement.
- The application system is not compatible with smartphones. Completion of applications and letters of recommendation requires use of a computer and web browser.

How to apply: https://science.osti.gov/wdts/cci/How-to-Apply
Navigating the Application

To apply for CCI Summer 2023, complete these four steps before the application deadline of 1/10/2023 5:00 PM Eastern Time:

1. **Complete Your Application**
   Provide all the required information in the application form. For assistance in selecting DOE Laboratories, please see the Laboratory Selection Tool.
   - Complete Your Application

2. **Request Recommendations**
   Make requests for recommendations as soon as possible, then verify that they have been received on the status page.
Components of the Complete Your Application Menu

- Applicant Profile
- Educational Background
- Work Experience and Skills
- Program Information
- Essays

Credit: Lawrence Berkeley National Laboratory
Applicant Profile
Applicant Profile

- Will you be 18 years or older by the start of the internship?
- Are you a U.S. citizen or U.S. permanent resident?
- What is your primary language?

Response “No”
- Not Eligible

Response “No”
- Not Eligible
Educational Background
Select “no” = not eligible
Educational Background: Academic Institutions

- List your current institution first, and then enter any other institutions you have attended. This includes all institutions which you are received transfer credit not completed as a high school student.
- Upload a transcript in Pdf format in the application system for each postsecondary institution enrolled within the last 5 years of most recent enrollment.
  - Ensure the transcript includes the applicant’s name, institution name, and course names and grades.
  - Redact personal identifiable information (PII) such as date of birth and social security number.
  - Unofficial transcripts are acceptable for submission to the application system.
  - Watch this video to assist with transcript uploads.
Education Background: Awards

- Include all awards you received during your academic career. Some awards may include:
  - Dean’s List
  - Membership in Honor’s Society
  - Merit Scholarships
  - Honors Program
  - Winner of contests, challenges, and tournaments
Work Experience
Work Experience and Skills: Work Experience

- Include paid and volunteer work experience
  - STEM internships or research experiences
  - Tutoring appointments
  - Teaching Assistance
  - Mentoring
Work Experience and Skills: Computer Skills

- List all computer skills including programming languages, standard software applications, statistical analysis software, and certifications.

Credit: NREL Photo by Amy Glickson

Work Experience and Skills: Laboratory and Technical Skills

- Describe your research and technical skills in detail
- The skills may be obtained through employment or coursework.

Credit: Oak Ridge National Laboratory
Program Information

From left: PPPL physicist Ahmed Diallo, SULI student Jalal Butt, and PPPL physicist Egemen Kolemen. Photo by Raphael Rosen.

Accessed 1/9/2019
Program Information: Eligibility

- Held more than 2 appointments? Not Eligible
- Applied more than 3 times? Not Eligible
• Applicants must select a first-choice and second-choice laboratory to be considered for placement.
• Additionally, applicants may choose a third option to be considered by all labs within their interests.
• Applicants are encouraged to review laboratory websites and contact DOE researchers to learn about their research.
Essays
Essays: Technical and Research Experience

• Describe all prior research and technical experience including:
  • Research experiences (paid and unpaid)
  • Special projects
  • Skills obtained during coursework count!
  • No previous research experience beyond coursework is required!
Elaborate on why you wish to participate in the CCI Program.
Which labs are you interested in conducting research and how your interest align with those labs.
What do you hope to gain from the experience?
Essays: Personal and Professional Goals

- Share your skills or experience, outside of research, that are applicable to CCI.
- What life experiences motivated or inspired you to pursue your major?
- Think of your employment, academic, extracurricular, and life experiences, and how they've led to you applying to CCI.
- Include unique qualities which may influence your participation in CCI such as being a first-generation college student, working student etc.
Essays: Professional Interests

- How will the program advance your career and professional goals?
- What are your career interests?
- Do you plan to pursue a bachelor’s degree after you graduate?
- It’s acceptable to mention that this program will help determine if a career at lab is right for you!
Letters of Recommendation
Letters of Recommendations

• A completed CCI application requires recommendations from two individuals familiar with the applicant’s education, training, experience, aptitude, or promise relevant to the CCI Program.

• An applicant will be asked to provide contact information for individuals indicated in the online application system. Applicants are encouraged to make the requests for recommendations as soon as possible.

• Letter of reference must be submitted through the application portal by the application deadline (i.e. 5:00 p.m. Eastern Time on January 10, 2023 for the Summer 2023 term).
Resources To Assist With Application Components

- Application checklist
- Submitting transcripts
- Tips for preparing essays
- Requesting letters of reference
Selection and Notification

- **Eligibility and Compliance Check** - All applications must pass eligibility and compliance check.

- **Merit Review** - Assessment by first and second choice labs selected by the applicant.
  - Applications will be assessed based upon performance in completed academic coursework, strength of recommendations letters; expressed scientific or technical interests; and the applicant's background, experience, accomplishments, and interests as they relate to the host laboratories.

- **Notifications** - Offers made by a host Laboratory Education Director via e-mail. Applicant has 10 calendar days to respond to offer. **Only one offer will be extended to an applicant.**

All appointments are contingent upon proof of citizenship or citizenship status and the outcome of a formal background check.
Participant Obligations

 › Commit to 10-weeks (40 hrs/week) in the program.
 › Maintain health insurance during the appointment.
 › Complete deliverables
   › Pre-survey
   › Post-survey
   › Research paper (6-8 pages)
   › Poster presentation
 › Maintain professional behavior.

More details: https://science.osti.gov/wdts/cci/participant-obligations
Benefits to Participating in CCI

- Contribute to exciting, real world, innovative, ongoing projects in the DOE national laboratories.
- Build professional networks with scientist and engineers.
- Opportunity to establish a mentor.
- Enrichment opportunities through professional development and technical seminars.
- Enhance science communication skills.
- Decide if a career in research is right for you.
- Land a permanent position.
Don’t forget!!

- Plan early. Submit your application ahead of the deadline.
- The application deadline is January 10, 2023 at 5:00 p.m. Eastern Time.
- Contact your reference letter writers as soon as possible.
- Redact personal identifiable information from your transcript.
Join Us for An Application Assistance Workshop!!

Next Workshop Scheduled
November 7, 2022 at 3:00 pm (ET)
Office Hours with DOE Lab Staff

Register here.
Dr. Toliver receiving her certificate of completion during her appointment as an intern at NASA’s Johnson Space Center.
After this session, e-mail us sc.cci@science.doe.gov if you have questions.

CCI LinkedIn