Welcome to the Application Assistance Workshop for the Science Undergraduate Laboratory Internship (SULI) Program

Presenter: Dr. Brandi Toliver, Program Manager
E-mail: SC.SULI@science.doe.gov
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/)

- 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
- ~35% of Research to Universities
- Research: ~42.8%, $3.334B
- Facility Operations: ~34.5%, $2.689B
- Projects/Other: ~22.6%, $1.776B
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/

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<th>Research Area</th>
<th>Mission Description</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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<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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<td>Nuclear Physics</td>
<td>Discovering, exploring, and understanding all forms of nuclear matter</td>
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<td>Isotope R&amp;D and Production</td>
<td>Supporting National Preparedness for isotope production and distribution during national crisis</td>
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<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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Workforce Development for Teachers and Scientists (WDTS)

- DOE has a more than 60-year history of training and educating scientists, engineers, and technicians in the United States.

- 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):** open to 2-/4-year undergraduate students
  - **Community College Internship (CCI):** dedicated to undergraduates enrolled at community colleges or 2-year accredited institutions
  - **Visiting Faculty Program (VFP):** open to faculty under-represented institutions in STEM, including all HBCUs
  - **Office of Science Graduate Student Research Program (SCGSR):** open to graduate students with research interest in the SC mission priority areas
Science Undergraduate Laboratory Internship (SULI) Program

The SULI program encourages undergraduate students and recent graduates to pursue science, technology, engineering, and mathematics (STEM) careers by providing research experiences at the Department of Energy (DOE) laboratories.

- Applications are accepted for the Fall, Spring, and Summer terms
  - **Fall (August-December): 16-weeks @ 40 hrs/week**
  - Spring (January-May): 16-weeks @ 40 hrs/week
  - Summer (May-August): 10-weeks @ 40 hrs/week
- Paid internship
  - $650/week or $10,400 total for 16-week appointment
  - Housing and travel allowance provided

Full details: [https://science.osti.gov/wdts/suli](https://science.osti.gov/wdts/suli)
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 an accredited two-year or four-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 SULI program to no more than two internships. Applicants can apply to the CCI program a maximum of four times.

Before you apply, verify you meet the eligibility requirements.

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

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<th>SULI Internship Term:</th>
<th>Fall 2023</th>
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<tr>
<td>On-line Application Opens</td>
<td>March 15, 2023</td>
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<tr>
<td><strong>Applications and Recommendations Due</strong></td>
<td><strong>May 25, 2023 5:00 PM ET</strong></td>
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<td>Offer Notification Period Begins on or around</td>
<td>June 12, 2023</td>
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<tr>
<td>All DOE Offers and Notifications Complete</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/suli/Key-Dates](https://science.osti.gov/wdts/suli/Key-Dates)
Application Requirements

Completed applications must be submitted by 5:00 p.m. EDT on May 25, 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. As a reminder, letters of recommendations are a component of a completed application.

- 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/suli/How-to-Apply
Navigating the Application

To apply for SULI 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.

2. **Request Recommendations**
   - Make requests for recommendations as soon as possible, then verify that they have been received on the status page.
   - Note: Applications can be submitted immediately after requests for recommendations have been made; recommendations DO NOT have to be received before applications can be submitted.

3. **Verify & Submit**
   - Verify that all information is complete and correct, then submit your application. After submittal, you will be able to un-submit and edit your application until the application deadline. If you un-submit, you must resubmit your application before the deadline to be considered. After the application deadline, you will only be able to update your contact information in the applicant profile, but you can remove yourself from consideration by selecting “Withdraw” on the status page.

**Application Portal:** [https://apps.orau.gov/cci/Account/Login](https://apps.orau.gov/cci/Account/Login)

Interested in the success rate of applicants? Visit the Laboratory Selection Tool.
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
• Will you be 18 years or older by the start of the internship?  
  Response “No”  
  Not Eligible 

• Are you a U.S. citizen or U.S. permanent resident?  
  Response “No”  
  Not Eligible 

• What is your primary language?
Educational Background
Educational Background

Eligibility for the SULI program requires that all applicants:

- Must be currently enrolled full-time or have recently graduated with an undergraduate degree, as described for the two cases below.
- **Currently-enrolled students:**
  - The applicant must be currently enrolled as a full-time undergraduate student at an accredited institution (including accepted community college or off-campus students). Applicants, including seniors, must have earned at least 6 credits in postsecondary STEM courses and must have earned at least 12 credits in STEM courses.
  - Applicants must have completed at least one full term of academic study with grades reported from the home institution at the time of application.
  - Advanced Placement credits or other undergraduate credits obtained prior to undergraduate enrollment cannot be applied to meet the minimum one-term completion requirement.
  - Full-time enrollment status is determined by the number of hours or courses the school requires for full-time attendance (as defined by the Internal Revenue Service).
- **Recent graduates:**
  - Applicants who will have completed their undergraduate degree prior to starting their internship may apply as a recent graduate. This includes students who have graduated with an associate’s degree or bachelor’s degree, those who have completed a combined 85-hour program, and those who have completed an undergraduate degree and are now enrolled in a graduate studies program. The time period between receipt of an undergraduate degree and starting the SULI term must be less than or equal to:
    - Must have a cumulative 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 institutions attended as a matriculated postsecondary student during the 5 years preceding the start of the most recent enrollment. (This does not include college or university courses taken while solely a high school student.)
    - Must be 18 years or older at the time of the internship begins.
    - Must be a permanent United States citizen or lawful permanent resident at the time of applying. Proof of U.S. citizenship or lawful permanent resident (LPR) status will be required at the time an internship offer is accepted. Acceptable forms of proof of U.S. Citizenship includes, but is not limited to, a Certified Birth Certificate, an U.S. State Government Issued Enhanced Drivers License, U.S. Passport, U.S. Passport Card, Naturalization Certificate, Certificate of Citizenship, Consular Report of Birth (or U.S. citizen), Alien’s or Certification of Birth. Lawful Permanent Residents must have a current United States Permanent Resident Card (USCIS Form I-551).
    - Must have earned a high school diploma or General Education Development (GED) equivalent at the time of applying. Proof of an earned high school diploma or passing all five GED tests required to achieve a Certificate of General Educational Development should be provided on the applicants undergraduate transcript.
    - The requirement for a high school diploma or GED is waived for students who are currently enrolled full-time in pursuit of an undergraduate degree through a dual-enrollment program offered by their high school and a college/university partner in the U.S. or its territories.

Additional Eligibility requirements:

- Applicants may participate in SULI no more than twice.
- Applicants can apply to the SULI program a maximum of four times.

Select “no” = not eligible
Educational Background: Academic Institutions

- **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.

- **Transcripts**: 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.
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
Include paid and volunteer work experience

- STEM internships or research experiences
- Tutoring appointments
- Teaching Assistance appointments
- Mentoring
- Leadership Roles in professional organizations
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 4 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.
Fall 2023 Term: Participating Host DOE Laboratories

- Ames Laboratory
- Argonne National Laboratory
- Brookhaven National Laboratory
- Fermi National Accelerator Laboratory
- General Atomics/DIII-D Facility
- Idaho National Laboratory
- Lawrence Berkeley National Laboratory
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- National Renewable Energy Laboratory
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Princeton Plasma Physics Laboratory
- Savannah River National Laboratory
- Thomas Jefferson National Accelerator Facility

You’re encouraged to attend the next workshop to interact with laboratory staff. The workshop is scheduled at 3:00 p.m. EDT on April 24, 2023 and registration is available on the program website.

Selecting a Host DOE Lab: [https://science.osti.gov/wdts/suli/How-to-Apply/Selecting-a-Host-DOE-Laboratory](https://science.osti.gov/wdts/suli/How-to-Apply/Selecting-a-Host-DOE-Laboratory)
Describe all your prior research including:

- Paid and unpaid research opportunities
- Special projects
- Skills obtained during coursework count!
- Note: Previous research experience is not required to apply for SULI!
Essays: Research Interests

Elaborate on why you wish to participate in the SULI Program.
Which labs are you interested in conducting research? How does your interests align with the mission of the selected labs?
What do you hope to gain from the experience?
Essays: Personal Experience

Share your skills or experience, outside of research, that are applicable to SULI.

Think of your employment, academic, extracurricular, and life experiences, and how they've led to you applying to SULI.

Include unique qualities which may influence your participation in SULI such as being a first-generation college student, non-traditional student, leadership skills, etc.

Address any extenuating circumstances which may have had an impact on your academic performance.
• How will the program advance your career and professional goals?
• What are your career interests?
• Do you plan to pursue a bachelor’s or advance degree after graduation?
• It’s acceptable to mention that this program will help determine if a career in research is right for you!
Letters of Recommendation
Letters of Recommendations

• A completed SULI application requires recommendations from two individuals familiar with the applicant’s education, training, experience, aptitude, or promise relevant to the SULI Program. Note: Family and friends of family are not allowed to serve as authors of recommendations.

• 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 May 25, 2023 for the Fall 2023 term).
Resources To Assist With Application Components

- Application checklist
- Submitting transcripts
- Tips for preparing essays
- Requesting letters of reference
- FAQ’s- https://science.osti.gov/wdts/suli/Frequently-Asked-Questions
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 are made by a Laboratory Education Directors (not research mentors) 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
  - Abstract
  - Research project report (6-8 pages)
  - Oral or poster presentation
  - One-page peer review

- Maintain professional behavior.

More details: https://science.osti.gov/wdts/suli/Participant-Obligations
Benefits to Participating in SULI

- 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!!

- Application deadlines and requirements are firm, including receipt of recommendations (no exceptions!)
  - The application deadline is May 25, 2023 at 5:00 p.m. EDT.
  - Plan early. Submit your application ahead of the deadline.
  - Contact your reference letter writers as soon as possible. It is the applicant’s responsibility to ensure recommendations are submitted by the deadline.
  - Do your research! Visit the DOE National Laboratories and host sites webpages to make a more informed decision about your lab preferences.
  - Technical support for the online system is available during regular business hours.
  - Only complete, compliant, and eligible applications are reviewed by self-selected first and second-choice labs.
  - One offer per term only, independent of acceptance or declination.
  - Send us a message if you have questions. Contact sc.suli@science.doe.gov.
Meet the DOE National Laboratories at the Next Application Assistance Workshop!!

- **Next Workshop Scheduled**
- **April 24, 2023 at 3:00 pm (EDT)**
  Office Hours with DOE Lab Staff
- Register [here](#). More info available on CCI website.
My Internship Experience at the Federal Laboratories

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

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  Office of Workforce Development for Teachers and Scientists (WDTS)

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