Welcome to the Virtual Road Trip to Jefferson Lab Event!

March 31, 2023 • 9 - 10:30 a.m.
Virtual Road trip to Jefferson Lab

Objective: Increase visibility, awareness of Jefferson Lab and outreach specific to HBCU and MSI institutions about career opportunities for young professionals in STEM as well as non-STEM careers

Presented by the Jefferson Lab Human Resources Department

Rhonda Barbosa, Human Resources Director

Friday, March 31, 2023 9-10:30 am
Rhonda Barbosa - Human Resources Director & Ethics Officer

- BA in Social Work from Christopher Newport University
- MA in Human Resource Development from George Washington University
- Joined Jefferson Lab in 2007
- HR background involves all areas of human resources, with an emphasis on strategic leadership, talent recruitment, organizational development, performance management, and employee relations
Stuart Henderson – Laboratory Director

- BS in Chemistry from Vanderbilt University
- Ph.D. in Physics from Yale University
- Joined Jefferson Lab in 2017
- Internationally recognized expert in particle accelerators
U.S. Department of Energy National Labs

DOE NATIONAL LABS

Ames Laboratory
Fermi National Accelerator Laboratory
Lawrence Livermore National Laboratory
National Renewable Energy Laboratory
Princeton Plasma Physics Laboratory
SLAC National Accelerator Laboratory

Argonne National Laboratory
Idaho National Laboratory
Los Alamos National Laboratory
Oak Ridge National Laboratory
Sandia National Laboratories
Thomas Jefferson National Accelerator Facility

Brookhaven National Laboratory
Lawrence Berkeley National Laboratory
National Energy Technology Laboratories
Pacific Northwest National Laboratory
Savannah River National Laboratory

Jefferson Lab
Jefferson Lab Overview

Jefferson Lab is one of the Department of Energy’s 10 Office of Science Laboratories

- Created in the 1980s to build and operate the Continuous Electron Beam Accelerator Facility (CEBAF), a world-unique scientific user facility used by more than 1,800 scientists from around the world.
- Our mission is to explore the fundamental science of protons, neutrons and atomic nuclei using CEBAF, theory and supercomputing.

Jefferson Lab key facts:
- Managed for DOE by Jefferson Science Associates, LLC
- 850 employees and 71 open positions
- Annual budget approx. $200M
- 169-acre site in Newport News, VA
At Jefferson Lab we are trying to complete our understanding of atoms at the most fundamental level.
Jefferson Lab by the Numbers

LAB POPULATION

1889
Active Scientist/Student
Users worldwide

1255
donomestic
634 international users

825
Employees

Largest community of
nuclear physicists in the world

EDUCATION

PhDs granted to-date
(175 in progress)

731

25 joint faculty with
12 universities

OUTCOMES

184 Patents
28 license agreements

2217 scientific papers
and journal articles

2217

In 2018 alone, generated more than
half a billion dollars in economic output

K-12 programs serve more
than 12,000 students &
1,000 teachers annually
Our Impact

SCIENCE

We are the world’s center for fundamental physics of protons, neutrons and nuclei.

TECHNOLOGY

We are the nation’s key provider of advanced superconducting accelerator systems.

WORKFORCE

We inspire and train the next generation of scientists and engineers.

- 1/3 of U.S. PhDs in Nuclear Physics carried out their research at Jefferson Lab
- Long-standing and highly effective engagement with higher-education partners
- 25 Joint and bridge faculty with 12 universities including 2 HBCUs

OUR REGION

We are central to the economy and development of Virginia and Hampton Roads.

- $560M economic output and 3,450 jobs nationally, more than half in Hampton Roads
- Established dedicated Research and Technology Partnerships Office to build and grow partnerships focused on regional needs
- Highly regarded K-12 STEM programs serve 12,000 students & 1,000 teachers annually
David Dean, Deputy Director for Science

• BS in Physics from The University of Tennessee
• Ph.D. in Physics from Vanderbilt University
• Joined Jefferson Lab in 2022
• Fellow of the American Association for the Advancement of Science, the American Physical Society, and the Institute of Physics, among other honors.
Nuclear Physics at CEBAF
Vibrant 12 GeV research program, operating >30 weeks/yr, supporting 1,700 annual users
MOLLER Project (approaching CD-2/3)
SoLID proposal ($100M MIE)
Future opportunities in fixed-target, high-luminosity complementary to EIC
Theory and computation supporting NP goals (USQCD)

Electron-Ion Collider
Partnering with BNL in the management, design, and construction of the Electron-Ion Collider Project
Leadership SRF developments for EIC
Development of EPIC detector with community
Leadership in Generic EIC Detector R&D

High Performance Data Facility Hub
Vision for world-leading Data Science program
Developing concept of a High Performance Data Facility focused on the unique challenges and opportunities for data-intensive applications and near real-time computing needs

Accelerator Science & Technology
Accelerator component production for DOE/SC projects, including LCLS-II and LCLS-II-HE at SLAC, and SNS PPU at ORNL
Develop CEBAF upgrade concepts
R&D in accelerators, detectors and applications

S&T thrusts are synergistic and mutually supportive
Integrated Research Infrastructure (IRI)

The IRI vision: A DOE/SC integrated research ecosystem that transforms science via seamless interoperability

LAB 23-3020 proposal development under way
Thomas Jefferson National Accelerator Facility: Exploring the Nature of Matter

https://www.youtube.com/watch?v=remmqr2vfZM&t=1s
Johnathon Huff - Chief Operating Officer

- BS in Electrical Engineering at Georgia Institute of Technology
- MS in Electrical Engineering from Drexel University
- Ph.D. in Industrial & Systems Engineering from Mississippi State University
- Joined Jefferson Lab in 2022
- Recognized in the Albuquerque Business First Forty under 40, Drexel University 40 under 40, a feature article on his work in the New Mexico State Office of African American Affairs “Deep Bench” publication
Operations Overview
Jefferson Lab Operational Excellence 2025

**Leadership Development & Engagement**
- Individual Career Profile
- Directors Safety Council Improvements
- Supervisor Fundamentals Program
- Management Safety Discussions

**Build Workforce/Facilities Of The Future**
- Wellness Programs
- Job Structure and Compensation
- Hybrid Work Evolution
- CEBAF Renovation and Expansion, Thomas Jefferson Infrastructure Improvement

**Continuously Improve Our Culture**
- ES&H Hazard Identification and Control Improvements
- Site-wide information system
- Inclusion Survey #1 Corrective Actions
- Inclusion Survey #2 & Corrective Actions

**Develop Missions Of The Future**
- Carbon Pollution Free Electricity
- Jefferson Lab Data Center / High Performance Data Facility
- High Bay Space to support science mission

**Digital Transformation**
- DOE Integrated Contractor Project
- Human Capital Management Enterprise Software
- IT Governance Process

**Operations Integration to support S&T Vision**
Working at Jefferson Lab

- Hybrid work opportunities
- Focus on inclusion for all our team members
- A growing lab with many opportunities
- Cutting edge operations to support cutting edge science
Cryogenics

https://www.youtube.com/watch?v=fzgAPunjHVs&t=12s
Meet our staff
Rossana Fernandez: Engineering Division

- School: Embry-Riddle Aeronautical University
- Degree: Ph.D. in Aerospace Engineering, 2021
- Position at Jefferson Lab: Mechanical Design Engineer
https://www.youtube.com/watch?v=L61GBbGGTDg
Aaron Fraites:  
Computational Sciences and Technology  

➢ School: Virginia Tech  
➢ Degree: B.S. Business Information Technology, 2018  
➢ Position at Jefferson Lab: Security Analyst
SRF Technology

https://www.youtube.com/watch?v=L61GBbGGTDg
Ryan Bodenstein: Accelerator Operations

➢ School: University of Virginia
➢ Degree: Ph.D. in Applied Physics, 2012
➢ Position at Jefferson Lab: Staff Scientist
Hall A

https://www.youtube.com/watch?v=R5qpuvfALCM
Dien Nguyen: Experimental Nuclear Physics

➢ School: University of Virginia
➢ Degree: Ph.D. Nuclear Physics, 2018
➢ Position at Jefferson Lab: Nathan Isgur Postdoctoral Fellowship in Nuclear Experiment
Aubrie Davie: Facilities and Logistics Management

- School: Old Dominion University
- Degree: Bachelors of Science Computer Science w/ Minor in Energy Engineering, 2021
- Position at Jefferson Lab: Energy and Sustainability Analyst
Lisa Surles-Law – Science Education Administrator

- BA in Biology from Hampton University
- MA in Community Agency Counseling from Hampton University
- Joined Jefferson Lab in 1994
- Previously a student intern at Jefferson Lab
- Serves on the Newport News City School Board
As a world-class research facility, Jefferson Lab is a valued partner to the local, regional, and national education community. Jefferson Lab’s long-term commitment to science education continues to focus on increasing the number of teachers with a substantial background in math and science, strengthening the motivation and preparation of all students and addressing the serious underrepresentation of minorities and females in science, math, engineering and technology careers.

STEM Educator Professional Development
- JLab Science Activities for Teachers (JSAT)
  - Grades 5, 6, and 8
- Region II Annual Teacher Night

**Annually serves >940 teachers**

K-12 Programming
- Becoming Enthusiastic About Math and Science (BEAMS)
- High School Summer Honors Program (HSSHP)
- Summer Residential Governor’s School (SRGS) in Engineering
- JLab Mentorship Program

**Annually serves >13,000 students**

Undergraduate Programming
- Science Undergraduate Laboratory Internship (SULI)
- Research Experience for Undergraduates (REU)
- Community College Internship (CCI)
- Mexican Physical Society (MPS)
- Undergraduate Physics Research (UPR) Program
- Minority/Female Undergraduate Research Assistantships (M/FURA)

**Supports >45 undergraduate students/year**

Graduate Research
- Office of Science Graduate Student Research (SCGSR) Program

**Supports >100 graduate students/year**
Mentorships and Internships

JLab staff and users encourage and prepare high school and undergraduate students to pursue advanced degrees in experimental/theoretical physics and accelerator science.

Jefferson Lab supports ~40 undergraduate students/year and ~30 high school students/year.

Programs by the numbers:

- 30 Science Undergraduate Laboratory Internship (SULI) students
- 10 NSF-Funded Research Experience for Undergraduates (REU) students via Old Dominion University for Summer 2023
- 6 Community College Internship (CCI) students for
- 12 High School Summer Honors Program (HSSHP) students for Summer 2023
- 12 Summer Residential Governor’s School (SRGS) in Engineering students
- 10 High School Mentorship students
- 3 M/FURA Assistantship Positions
Mentorships and Internships

Programs match students with mentors in scientific or technical areas, creating experiences that cement classroom content into practical applications in math, science, and/or computer science.

MSI/HBCU Awardee Home Institutions
- Florida State University
- Hampton University
- Miami University
- Michigan State University
- Morehouse College
- New Mexico State University
- North Carolina A & T University
- Old Dominion University
- Univ of California, Santa Barbara
- Virginia Union University
Minority/Female Undergraduate Research Assistantships (M/FURA)

Assistantships for minority or female students to work on projects, with their nominating professors, that are part of or directly related to the Lab's research program.

Awardee Home Schools

- Hampton University
- Michigan State University
- New Mexico State University
- North Carolina A & T University
- Virginia Union University

https://www.jlab.org/human_resources/MFURA
RECRUITING AT JEFFERSON LAB

Jefferson Lab’s Recruiting team seeks to recruit and retain the industry’s top talent to support and grow our world-leading nuclear physics research facility. We support our primary mission by working to create a culture based on experience, innovation and integrity that empowers our staff.

Questions? Please contact a member of our recruiting team:

- Cassandra Andrews
  Employee Relations Manager
candrews@jlab.org

- Candace Bagley
  Recruiter
cbagley@jlab.org

- Gina Lawson
  Recruiting Generalist
ginal@jlab.org

- Tinnya Hopson
  Recruiting Coordinator
thopson@jlab.org

- Stephanie White
  HR Division Partner
sdwhite@jlab.org

JLab’s Human Resources
&
Science Education
Department

Contact us here
Special Thanks to the following schools for participating

Christopher Newport University
Norfolk State University
North Carolina A&T State University
University of Virginia
Old Dominion University
Virginia Tech
College of William & Mary
Thomas Nelson Community College (now Peninsula Community College)
George Washington University
Hampton University
Howard University
Thank you for attending the Virtual Road Trip to Jefferson Lab