

Oak Ridge National Laboratory: Delivering 21st Century Science and Technology

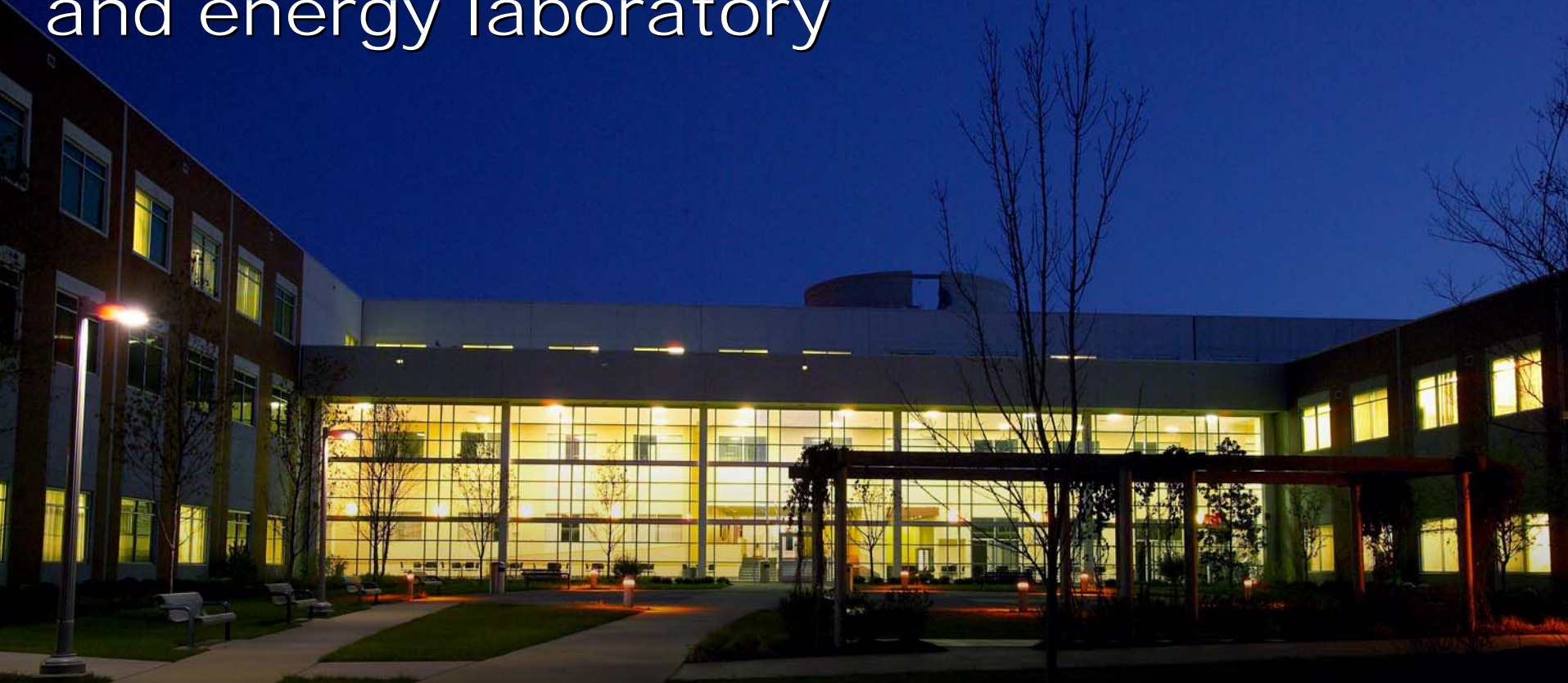


Presented to
**NAFEO 33rd Annual
Convening on Blacks in
Higher Education**

Presented by
Will Minter

**Washington, DC
March 13, 2008**

Today, ORNL is DOE's largest science and energy laboratory



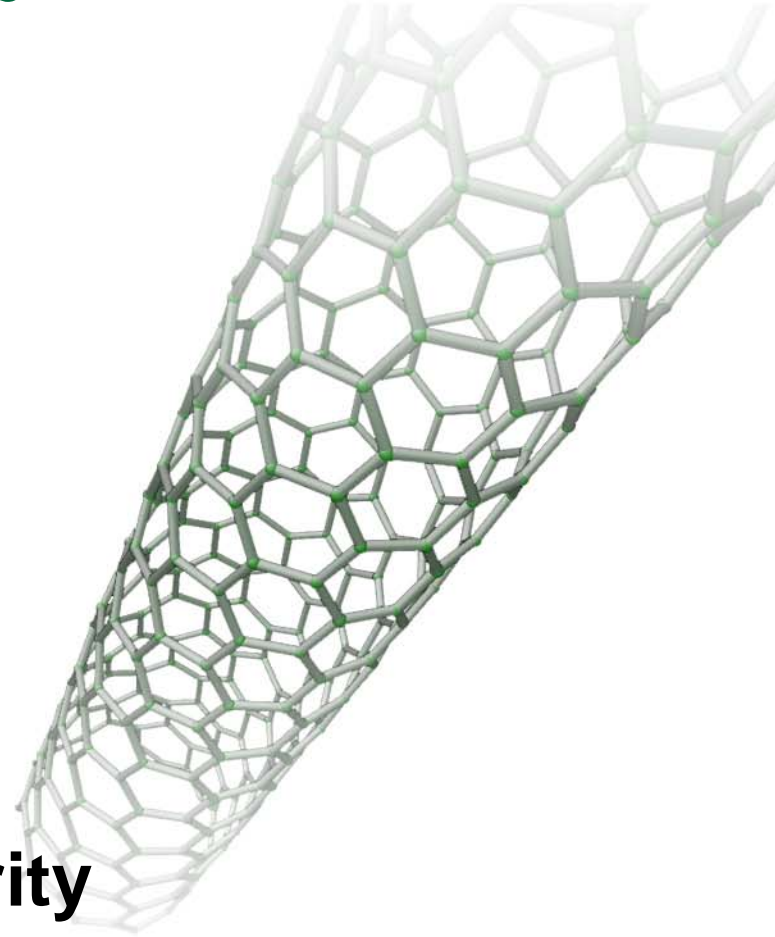
- **\$1.1B budget**
- **4,200 employees**
- **3,000 research guests annually**
- **\$350 million invested in modernization**

- **World's most powerful open scientific computing facility**
- **Nation's largest concentration of open source materials research**

- **Nation's most diverse energy portfolio**
- **Operating the world's most intense pulsed neutron source**
- **Managing the billion-dollar U.S. ITER project**

We apply our strengths in science and technology to six major missions

- **Advanced materials**
- **Neutron sciences**
- **Ultrascale computing**
- **Systems biology**
- **Advanced energy systems**
- **National and homeland security**



Putting the world's best tools for neutron scattering to work

**Spallation
Neutron Source:**
World's most
powerful
accelerator-based
neutron source

**High Flux
Isotope Reactor:**
Complementary
capabilities
and a new cold
neutron source

**UT-ORNL
Joint Institute for
Neutron Sciences:**
User gateway
for SNS and HFIR

**Ready
to welcome
thousands
of researchers
each year**


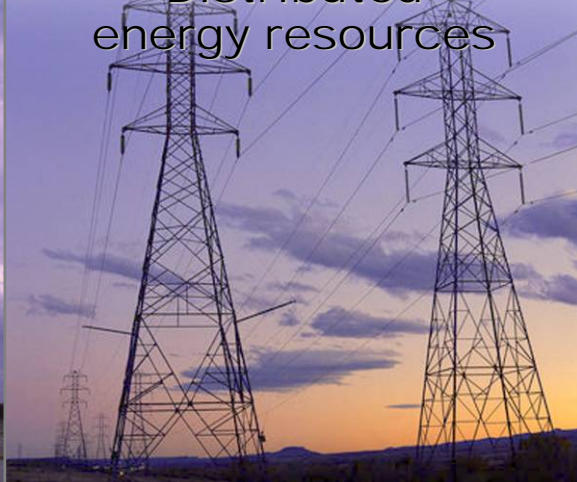
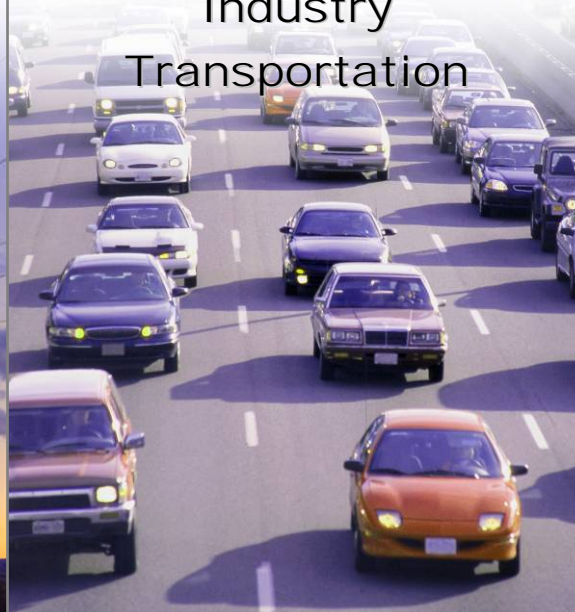


Leading the development of petascale scientific computing

- **Addressing the nation's most compelling science and technology questions**
 - Climate
 - Fusion
 - Materials
 - Biology
- **Operating the nation's most powerful open scientific computer**
- **On track to deliver 1-petaflops computing next year**



Addressing the energy challenges of today . . . and tomorrow

Generation	Distribution	Consumption
<p>Fossil Fission Renewables Fusion</p> 	<p>Transmission technology Hydrogen Distributed energy resources</p> 	<p>Buildings Industry Transportation</p> 

Supporting DOE's strategic goals for energy security and independence

ORNL is committed to education.

- **ORNL has hosted undergraduates, graduate students, postgraduates, and faculty since 1946.**
- **In 2007, ORNL hosted nearly 850 participants at the laboratory for summer, academic year, and longer term assignments. 269 of these were undergraduates.**
- **Participants came from all over the United States plus the District of Columbia.**



Day of Science

- **Scope: To facilitate a career path for college science students and mutual research collaborations with science professors**



Date: October 28-29, 2007

Attendees: 1,483

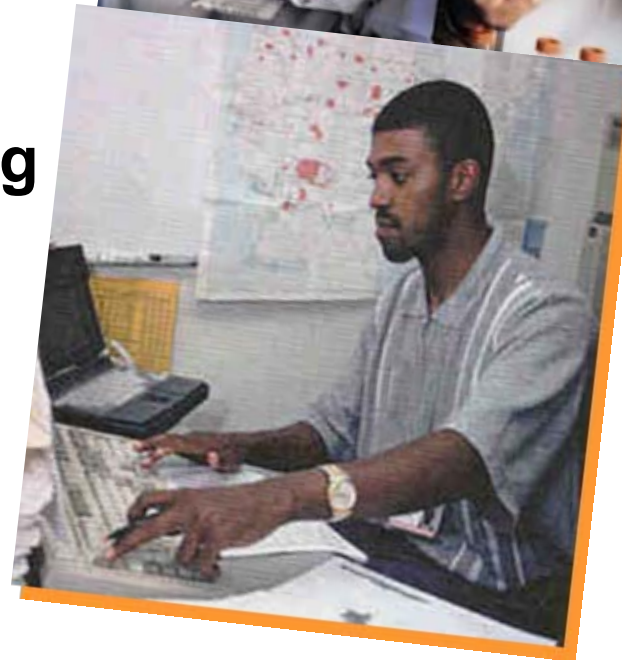
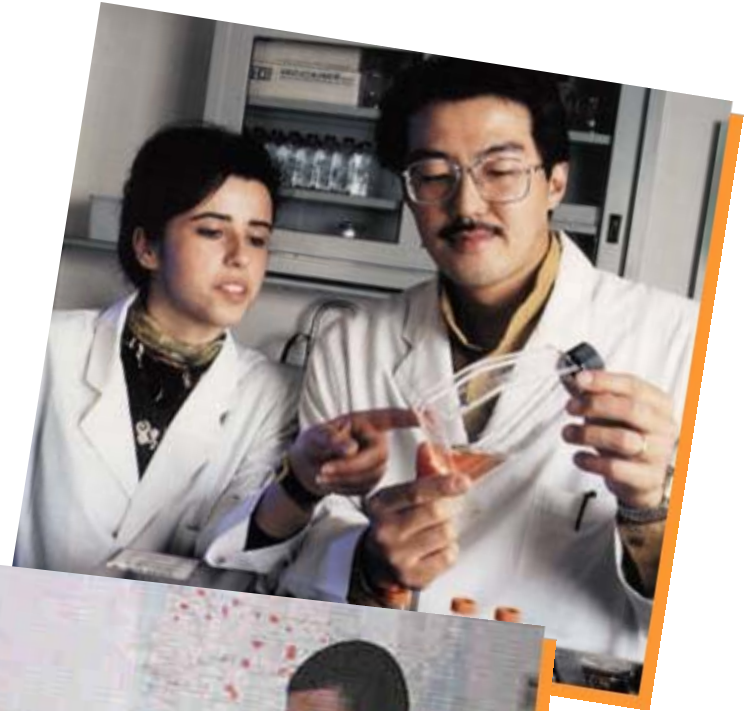
Institutions: 127 Colleges and Universities

HBCU/MEIs: 41 Colleges and Universities

DOE Labs 11

What can you do at ORNL?

- **Conduct hands on research or hold internships in support areas**
- **Use state-of-the-art equipment**
- **Interact with staff scientists and others**
- **Look for answers to pressing scientific questions**
- **Gain valuable real-world experience**



Student Internship Opportunities

- **DOE Community College Institute**
- **DOE Faculty and Student Teams Program (FAST)**
- **DOE Pre-Service Teacher Internships**
- **DOE Science Undergraduate Laboratory Internships**
- **Higher Education Research Experiences at ORNL (HERE)**
- **Nuclear Engineering Student Laboratory Synthesis**
- **Nuclear Regulatory Commission Student Research Participation Program**
- **ORNL Undergraduate Co-op Program (students commit to every other semester for several years).**
- **Research Alliance in Math and Science (RAMS)**

Faculty Opportunities

- **Higher Education Experiences at ORNL for Faculty (HERE)**
- **DOE Faculty and Student Teams Program (FAST)**
- **Nuclear Regulatory Commission Faculty Research Participation Program**
- **ORNL/ORAU HBCU and MEI Summer Faculty Research Program**

ORNL provides a unique experience!



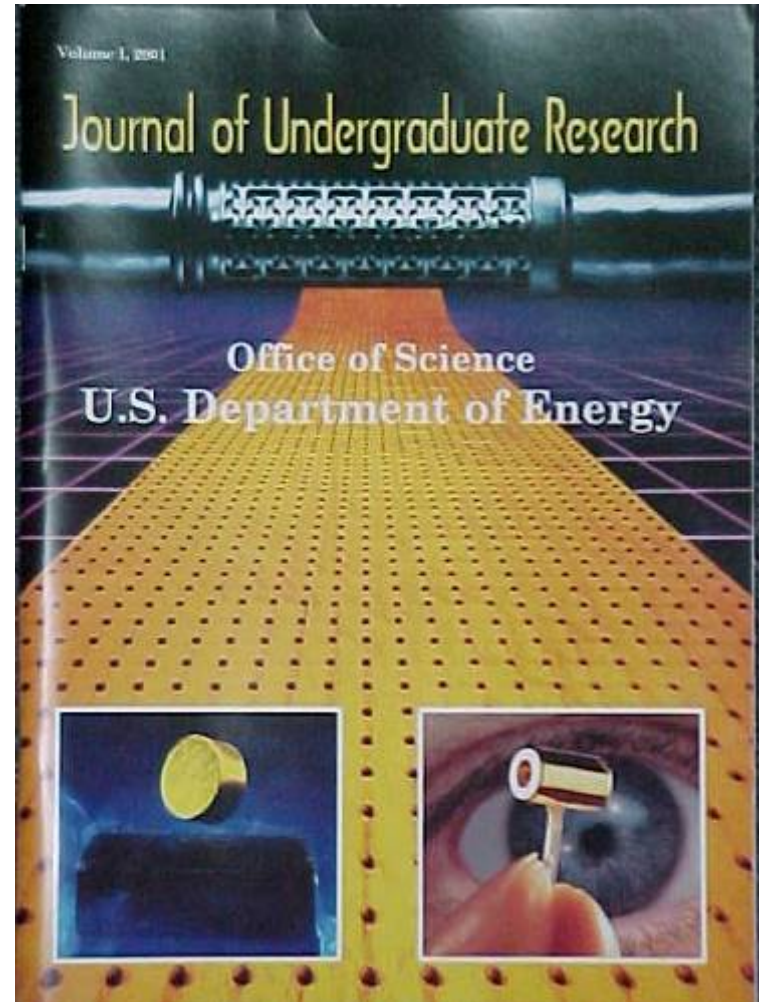
A Chance to Learn – Students Have the Opportunity to:

- Attend seminars and workshops
- Participate in brown bag lunches on topics of interest
- Present at a poster session

ORNL provides a unique experience!

Opportunity to Excel

- Write and publish a scientific abstract
- Write and possibly publish a research paper in a journal



The only way to try - is to APPLY!

**DOE Science Undergraduate Laboratory Internships
(SULI)**

**Pre-Service Teachers (PST)
Community College Internships (CCI)**

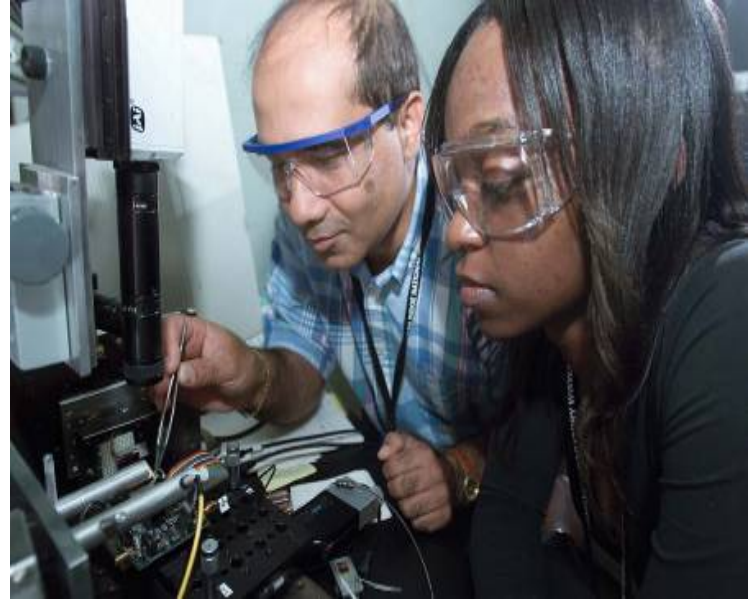
**<http://www.scied.science.doe.gov>
Selections Start: FEBRUARY 1**

Select ORNL as your first choice laboratory.

In FY2007, 52 faculty from 33 institutions participated in ORNL faculty programs.

Faculty participated from the following HBCUs:

- **Alabama A&M**
- **California State University, Fresno**
- **Delaware State University**
- **Florida A&M University**
- **Jackson State University (3)**
- **Kentucky State University**
- **Morehouse College**
- **Prairie View A&M University**
- **North Carolina A&T State University (2)**
- **South Carolina State University**
- **Southern University, Baton Rouge**
- **Virginia State University (2)**



ORNL Contracts awarded to HBCUs

- **2008**

- **Alcorn State University – Support of the research component of ORNL’s Community and Regional Resilience Initiative (CARRI)**

- **2007**

- **Morehouse College – 2 Contracts**

- **Technical support related to mapping strategies for ORNL’s HBCUs/MEI programs**
- **Technical support for ORNL sponsorship of Morehouse College Entrepreneurship Center Conference**

ORNL Contracts awarded to HBCUs

- **2007**

- **Jackson State University – 3 Contracts**

- “Storm Surge/Flood Forecasting” research
- Disaster Response Intelligent System
- All Hazards Emergency Operations Management System

- **Alcorn State – 2 Contracts**

- Analysis of Weapons of Mass Destruction materials
- Development of sensor system for monitoring of chemical warfare agents in food and water technology

- **2004**

- **Fisk University**

- R & D Growth of Doped Mercuric Crystals

ORNL Contracts awarded to HBCUs

- **2004**

- **North Carolina A&T State University**
 - **Scholastic Global Optimization Method**

- **Other HBCUs awarded contracts since 1999:**

- **Tuskegee University (3)**
- **Mississippi Valley State University**
- **Southern University and A&M College (2)**
- **Alabama A&M University (2)**
- **Norfolk State University**
- **Florida A&M University (2)**
- **Fisk (2), North Carolina A&T (3)**

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