



# Science Education Programs at Oak Ridge National Laboratory



OAK RIDGE NATIONAL LABORATORY  
U. S. DEPARTMENT OF ENERGY



## Oak Ridge National Laboratory evolved from the Manhattan Project



*ORNL in 1943*

The Clinton Pile was the world's first continuously operated nuclear reactor

<sup>2</sup> Managed by UT-Battelle for the Department of Energy



# Today, ORNL is DOE's LARGEST science and energy laboratory



- \* \$1.65B budget
- \* 4,400 employees
- \* 3,000 research guests annually
- \* \$500 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
- \* Operates the world's most intense pulsed neutron source
- \* Manages the billion-dollar U.S. ITER project

3 Managed by UT-Battelle for the Department of Energy



## Science Education Programs at ORNL FY12 Participants

1,284 students, faculty & recent grads participated in research programs

246 U.S. colleges and universities represented

26 HBCUs and HSIs

48 states, Puerto Rico, and many foreign countries

27.73% Female

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## Overview of Science Education Programs

Undergraduate	Graduate	Postgraduate	Faculty	K-12 Teachers
* Higher Education Research Experience (HERE)	* Higher Education Research Experience (HERE)	* Postdoctoral Research Associates	* Higher Education Research Experience (HERE)	* Appalachian Regional Commission
* Laboratory Technology Program	* Nuclear Engineering Science Laboratory Synthesis Internship	* Post-Master's Research Participation	* HBCU/MEI Summer Faculty Program	* Science Saturdays
* Nuclear Engineering Science Laboratory Synthesis Internship	* Advanced Short-Term Research Opportunity	* Post-Bachelor's Research Participation	* DOE Visiting Faculty Program	* Science Bowl
* DOE Science Undergraduate Laboratory Internship		* Advanced Short-Term Research Opportunity		* Siemens Teachers as Researchers (STARS)
* DOE Community College Institute		* Higher Education Research Experience (HERE)		* High School Internships
* Volkswagen Distinguished Scholars Program		* Nuclear Engineering Science Laboratory Synthesis Internship		

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## Undergraduate Internship Experiences

- \* DOE funded programs:
  - DOE Science Undergraduate Laboratory Internship
    - \* Largest of the four DOE programs
    - \* Research focus
    - \* Open to undergraduates and graduating seniors
    - \* Fall, spring and summer appointments
  - DOE Community College Institute
    - \* Limited to community college students
    - \* Technical focus
    - \* Summer appointments only

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## Undergraduate Internship Experiences

- \* ORNL specific programs:
  - Higher Education Research Experiences
    - \* Across all areas of ORNL
    - \* Available year round
  - Laboratory Technology Program
    - \* Limited to local colleges
    - \* Available year round
    - \* Technical focus
  - Nuclear Engineering Science Laboratory Synthesis Internship
    - \* Limited to nuclear engineering and physics majors
  - Volkswagen Distinguished Scholars Program
    - \* Limited to students from 6 Tennessee schools
    - \* Available summer only

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## Undergraduate Internship Experiences

Program	Summer Application Deadline	Process
DOE Community College Institute	approx. Jan 10	Application review
DOE Science Undergraduate Laboratory Internship	approx. Jan 10	Application review
DOE Visiting Faculty Program	approx. Jan 10	Research posting
Higher Education Research Experiences	Open (soft deadlines on Web site)	Application review
Laboratory Technology Program	Open	Application review & research posting
Nuclear Engineering Science Laboratory Synthesis Internship	approx. Feb 28	Application review

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## Graduate Student Research Experiences

- ✦ ORNL specific programs:
  - Higher Education Research Experiences
    - ✦ Across all areas of ORNL
    - ✦ Available year round
  - Higher Education Research Experiences – Thesis Research
    - ✦ Across all areas of ORNL
    - ✦ Available year round
  - Nuclear Engineering Student Laboratory Synthesis
    - ✦ Specific to nuclear engineering/physics majors
    - ✦ Available summer term

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## Graduate Student Research Experiences

Program	Summer Application Deadline	Process
Higher Education Research Experiences	Open (soft deadlines on website)	Application review
Higher Education Research Experiences – Thesis Research	Open (soft deadlines on website)	Application review
Nuclear Engineering Student Laboratory Synthesis	Approx. Feb. 28	Application review

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## Postgraduate Research Experiences

- \* ORNL specific programs:
  - Higher Education Research Experiences
    - \* Open currently enrolled degree-seeking master's and doctoral students
    - \* Open to Post Bacallaureate's
    - \* Available year round
  - ASTRO
    - \* Recent master's or doctoral degree recipients
    - \* 1 to 6-month appointments
  - Postdoc, Post Master's and Post-Bachelor's Opportunities
    - \* Across all areas of ORNL
    - \* Available year round
    - \* 1-year appointments, renewable for up to 3 additional years

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## Postgraduate Research Experiences

Program	Summer Application Deadline	Process
DOE Science Undergraduate Laboratory Internships (open to graduating undergraduate seniors)	Approx. Jan. 10	Application review
Higher Education Research Experiences	Open (soft deadlines on website)	Application review
Advanced Short-Term Research Opportunity	Open	Application review
Postdoctoral Research Associates	Open	Research posting
Post Master's Research Participation	Open	Research posting
Post Bachelor's Research Participation	Open	Research posting

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## Faculty Collaboration Opportunities

- \* DOE funded programs:
  - Visiting Faculty Program (VFP)
    - \* One faculty and optional students
    - \* Project-specific
- \* ORNL Funded programs:
  - Higher Education Research Experiences
    - \* Available year round
  - HBCU and MEI Faculty Summer Research
    - \* Open to faculty from MEIs only
    - \* Summer term only
    - \* Project-specific

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Higher Education Research Experiences	Open (soft deadlines on website)	Application review
HBCU and MEI Faculty Summer Research	Approx. Jan 15	Research posting

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Program Website  
<http://www.ornl.org/ornl>



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## Learn More



Science Education Programs at Oak Ridge  
National Lab



GovInternships (Info on all SEP Programs)

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## Science Education Programs at Oak Ridge National Laboratory

The Science Education Programs at Oak Ridge National Laboratory are managed by Oak Ridge Associated Universities (ORAU) through the Oak Ridge Institute for Science and Education (ORISE).

# Questions?

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