



Oak Ridge National Laboratory (ORNL) is the Department of Energy's largest science and energy laboratory. Managed since April 2000 by a partnership of the University of Tennessee and Battelle, ORNL was established in 1943 as a part of the secret Manhattan Project to pioneer a method for producing and separating plutonium. During the 1950s and 1960s, ORNL became an international center for the study of nuclear energy and related research in the physical and life sciences. With the creation of DOE in the 1970s, ORNL's mission broadened to include a variety of energy technologies and strategies. Today the laboratory supports the nation with a peacetime science and technology mission that is just as important as, but very different from, its role during the Manhattan Project.

ORNL has a staff of 4,000+ from more than 80 countries and hosts more than 4,000 visiting scientist each year. Annual funding exceeds \$1.4 billion.

As an international leader in a range of scientific areas that support the Department of Energy's mission, ORNL has six major mission roles:

Neutron science	Systems Biology
Energy	Materials Science at the Nanoscale
High-Performance Computing	National Security

ORNL's leadership role in the nation's energy future includes hosting the U.S. project office for the International Thermonuclear Experimental Reactor (ITER) fusion experiment and the Office of Science-sponsored Bioenergy Science Center.

### ***So, what makes ORNL great?***

ORNL has world renowned expertise in neutron science and technology, computational science and engineering, materials science and engineering, biological and environmental science, nuclear science and technology, science and technology for energy and global security, and graduate education in science and technology.

ORNL is also tackling national challenges such as sustainable energy solutions, safe nuclear energy systems, advanced materials, sustainable transportation, exascale computing, and detailed knowledge of the atomic-level structure and dynamics of materials.



ORNL is home to some of the world's premier scientific facilities: **Two supercomputers** (Jaguar and Kraken) rated at over a petaflop; the **Spallation Neutron Source** (world's most intense pulsed neutron source); the **High Flux Isotope Reactor** (most intense world-leading reactor-based neutron source in the US); the **Buildings Technology Research and Integration Center**; the **Consortium for Advanced Simulation of Light Water Reactors**; the **Center for Nanophase Materials Science**; the **High Temperature Materials Laboratory**; the **Carbon Fiber Technology Center**; and the **Bioenergy Science Center**.

But, there is more to Oak Ridge than work. East Tennessee offers plenty of diversions – mountains, rivers, lakes, a full menu of outdoor adventures, minor-league baseball, and the cultural offerings of Knoxville. The Great Smoky Mountains National Park, Gatlinburg, and Pigeon Forge are within 45-60 minute drive. In addition, Oak Ridge is home to one of the nation's top rowing venues and hosts national level regattas each year. There is much to offer in Oak Ridge and the surrounding areas in the way of recreational opportunities.

### **What You Can Expect**

Once an offer is extended, the student(s) and researchers are encouraged to contact each other and for the researchers to provide reading material, website links, ongoing communications to bring the student up to speed on the project as much as possible, based on the students school schedule.

#### ***Estimated Number of DHS STEM Summer Interns:***

**No constraint.** ORNL hosted eight interns in the summer of 2011. We are excited to host as many as express interest in ORNL and where a DHS approved project can be identified and matched to a student's interest.

#### ***Start and End Dates:***

Students usually arrive at ORNL sometime in mid-May to early June and will work full-time on-site at ORNL for a period of 10 consecutive weeks. The actual start date is flexible and is determined on when participants are available. Students will start on Mondays. The first day is dedicated to a full day of mandatory orientation. Safety is taken very seriously at ORNL, therefore, project specific training/safety courses will be completed prior to the student starting their research.

#### ***Housing:***

ORNL, through ORISE, provides a housing stipend to the DHS STEM Summer Interns.

#### ***Student Integration:***

Each project has a Principal Investigator which acts as the mentor for each student working on the project. The mentors provide technical guidance and advice to students during their assignment at ORNL.

All students are provided with their own computing resources, designated work area, and given access to the same research databases, network access, and other resources needed to do their research as those used by their mentors.

There are activities, lectures, socials, and plenty of things to do and opportunities to network with other students and Lab employees throughout the duration of the program.

#### ***General Information:***

There is a main cafeteria located in the Quad next to the Visitor's Center. The cafeteria is opened for breakfast from 6:30 am – 9:30 am and for lunch from 10:45 am – 1:15 pm.

The dress code for ORNL is usually similar to what a student would wear on campus.

Normal work hours are determined by the mentor.