

**Opportunity Title:** Nuclear Engineering Science Laboratory Synthesis (NESLS)

- Fall 2016

**Opportunity Reference Code:** ORNL-NESLS-Fall-2016

**Organization** Oak Ridge National Laboratory (ORNL)

**Reference Code** ORNL-NESLS-Fall-2016

**How to Apply** Applicants must apply through [www.Zintellect.com](http://www.Zintellect.com). All profile and application questions/requirements must be completed and both profile and application must be completed and submitted before application can be reviewed.

The profile and application will require:

1. Contact information
2. Education information (i.e. dates of attendance/graduation, GPAs, majors, etc.)
3. Awards and honors
4. Employment information and nature of work
5. Information on special skills, research, areas of interest and /or expertise
6. An updated resume
7. Letters of recommendation or the contact information for the application system to send an online reference request to references
8. Unofficial academic record showing name, school name, current classes and GPA - **official transcript is not required**
9. Availability dates (if applicable)

For questions, contact [NESLS@ornl.org](mailto:NESLS@ornl.org).

**Application Deadline** 9/15/2016 11:59:00 PM Eastern Time Zone

**Description** **NESLS Goals**

- Maximize the abilities of students through cooperative research with mentors at a national laboratory
- Increase on-the-job research opportunities
- Provide a learning environment useful to both national laboratories and students
- Train the next generation of nuclear scientists


**Research areas of interest may include:**

***Nuclear Security Technologies:*** Material protection, control, and accounting, Radiation detection, Safeguards Transportation technologies, Arms control assessments, Fissile material, Detection Export control, Fissile material disposition, Nuclear threat reduction

***Nuclear Systems Analysis, Design, and Safety:*** Radiation shielding, Systems analysis, Reactor physics, Facility safety, Criticality safety, Risk assessment, Thermal hydraulics, Regulatory support, Nuclear data and codes, System




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instrumentation and controls, Material and fuel irradiation,  
Enrichment technology, Advanced space reactors

***Fuels, Isotopes, and Nuclear Materials:*** Nuclear fuels,  
Separations science and technology, Heavy element production,  
Nuclear process and equipment design, Stable and radioactive  
isotopes, Robotics and remote handling, Medical isotope  
development, Chemical engineering

**While You Are Here:**

- Enrich your laboratory experience by attending lectures, seminars and other opportunities to learn more about ORNL and the work of many outstanding speakers
- Network with laboratory research staff and with fellow students through work and social events
- Take technical tours of facilities at ORNL
- Prepare and present your project to laboratory staff and fellow students - optional for fall appointments

***Selection:*** The award will be based on mentor's selection and project funding availability.

***Duration:*** The award term may vary. Renewals/extensions are limited.

***Benefits:*** Travel to and from (up to \$500 each way); Housing allowance of \$150/week if permanent address is at least 50 miles from Oak Ridge.

***Health Insurance:*** Each participant is required to have coverage in a health insurance plan. It is the responsibility of each participant to secure insurance coverage before arriving at the appointed site.

All requirements to accept appointment must be met as stated in official selection notification and/or before start of appointment

***NESLS Weekly Stipend Rates:*** Stipends are based on class status as shown below. Stipends shown are based on full-time participation; stipends and housing allowance will be pro-rated if appointed part-time.

**Class Status\***

- First Year (Freshman) - \$529/wk
- Second Year (Sophomore) - \$593/wk
- Third Year (Junior) - \$653/wk
- Fourth Year (Senior) - \$726/wk
- Masters Student - \$863/wk
- PhD Student - \$935/wk

*\*Denotes class status completed **prior** to ORNL report date and as defined by college/university. Must be actively taking classes and not just enrolled. Applicants must be continuing education in*

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*an accredited degree-seeking program if graduating before or during the appointment period (i.e. seniors must have proof of continuance in a MS program or MS graduates must have proof of continuance in a PhD program in the following semester). You should not apply if you can not provide proof of acceptance into next academic level of courses.*

*Fall deadline to apply is September 15, 2016. Most selectees will be notified of selection by mid-November, but selections can continue through December.*

**Have questions on how to apply? Contact [NESLS@ornl.gov](mailto:NESLS@ornl.gov). For general program questions or additional program information, contact Julie Ezold at [ezoldjg1@ornl.gov](mailto:ezoldjg1@ornl.gov).**

**Qualifications** ***Eligibility:*** The ORNL NESLS program is open to full- or part-time students enrolled at an accredited U.S. college or university in a nuclear engineering, science, or eligible related degree with a 3.0/4.0 cumulative GPA at the time of appointment. Community college students must be working towards an Associate of Science or Associate of Engineering degree. Applicants must be continuing education in an accredited degree-seeking program if graduating with degree before or during appointment period and at least 18 years of age. All awards and active participation in the program are contingent upon security access approval to Oak Ridge National Laboratory.

***Qualifications:*** Student applicants will be chosen on the basis of academic performance, class standing, career goals, recommendations, and compatibility of educational interests and abilities with the needs of ORNL.

Before you get started on your application, you should review the research areas at ORNL to assist you in determining what area might fit your career path. You can see the six discipline areas at [www.ornl.gov](http://www.ornl.gov) and begin exploring each one.

- a. For example, if you choose Clean Energy you will learn more about the 3-D printed Shelby Cobra or see a few of the disciplines at ORNL that span this area of research. If you dig deeper into the Related Publications/News/Research Highlights at the bottom of the page, you will be able to review articles, press releases, etc. that can help you identify key words, important terminology, papers, etc. that can be used as you answer application questions or update your resume.
- b. You can also type an area of interest or key word into the search box at the top right corner on [www.ornl.gov](http://www.ornl.gov) and explore the links that are provided to identify key researchers at ORNL or to go to the webpages of the directorates or divisions. For example, typing "Environmental Science" would lead to the link for the

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Environmental Sciences Division and the core areas in that division.

- c. Most of the NESLS mentors are located in the Nuclear Science and Engineering Directorate at <https://www.ornl.gov/science-discovery/nuclear-science>.

After you have completed your application, you may want to reach out via email (use the Find People or Our People links at [www.ornl.gov](http://www.ornl.gov) to obtain the email address) to the researchers you identify and let them know about your interest for the summer and why you would be a good fit for that researcher's projects and the division. Showing initiative through this connection process and discussing your passion for science and research and how it relates to what is happening at ORNL is a great way for you to introduce yourself to potential mentors. You should reference the ORNL research you have done as well as your background and interest in these emails and in appropriate application questions and essays. For pool-based programs such as NESLS, this personal connection is the key to "standing out" from the hundreds of applications received each cycle.

#### Eligibility Requirements

- **Degree:** Currently pursuing an Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Overall GPA:** 3.00
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 )
  - **Communications and Graphics Design** (1 )
  - **Computer, Information, and Data Sciences** (16 )
  - **Earth and Geosciences** (21 )
  - **Engineering** (27 )
  - **Environmental and Marine Sciences** (14 )
  - **Life Health and Medical Sciences** (45 )
  - **Mathematics and Statistics** (10 )
  - **Other Non-Science & Engineering** (2 )
  - **Physics** (16 )
  - **Science & Engineering-related** (1 )
  - **Social and Behavioral Sciences** (4 )

#### Affirmation I certify that:

- My cumulative GPA is at least 3.0/4.0
- I will be at least 18 years old prior to the start of the appointment
- I am currently enrolled in an undergraduate or graduate nuclear engineering, science or related eligible degree program at an accredited U.S. college or university OR
- If enrolled in an accredited community college, I am currently enrolled in an Associate of Science or Associate of Engineering degree program