Opportunity Title: Computational Science and Technology Advanced Research Studies (C-STARS) - Software Engineer
Opportunity Reference Code: ORNL_C-STARS_SW

Organization	Oak Ridge National Laboratory (ORNL)
Reference Code	ORNL_C-STARS_SW
How to Apply	Last updated: January 12, 2021.

Due to health and safety concerns over the COVID-19 outbreak, Oak Ridge National Laboratory is restricting visitor access to campus and has temporarily suspended new internship appointments. You may continue to apply to this opportunity, but appointment offers will vary by program and will only be issued once it is deemed safe to do so.

For the latest information and guidance, please visit these COVID-19 resources:

- Centers for Disease Control & Prevention: https://www.cdc.gov/coronavirus/2019-nCoV/summary.html
- State Department: https://travel.state.gov/content/travel/en/traveladvisories/ea/novel-coronavirus-hubei-province--china.html
- Department of Energy: https://www.energy.gov/coronavirus-hub

If you have any questions, please contact us at ORNLedu@orau.org.

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

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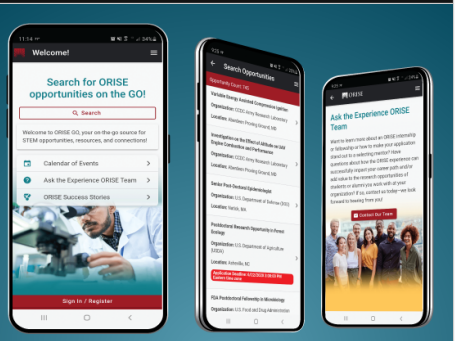

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To submit your application, you will need to answer the following four short-answer questions:

1. **Goals and Interest Areas**
   The Goals and Interest Areas is your opportunity to highlight the specific research topics you're interested in. Mentors primarily find applications for initial review based on keywords present in their application.
2. **Experience**
3. **Skills**
4. **Program Participation** (if you have previously participated in an ORISE program)

You will also need to provide

1. **Official English-language verification of your graduate education history and status -- all of the following that apply:**
   - Previous official transcript showing enrollment in previous graduate program if left without degree completion
   - Current official transcript showing enrollment in graduate program when appointment begins OR Proof of current enrollment when appointment begins if not shown on official transcript

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- Verification of MS degree completion (official transcript or degree certificate) -- *NOTE: if you have previously completed a Master's degree or equivalency, we require proof of that degree even if you're currently enrolled in another graduate program*

2. **Contact information for two individuals to provide recommendations**
   Recommendation letter writers should be professional contacts who can speak to your research capability and ability to conduct yourself in a professional manner.
3. **Current resume**
4. **Abstract/reprint** -- at least one of the following:
   1. a reprint of a journal article you have authored
   2. an abstract of a journal article you have authored
   3. an abstract of a conference presentation you have authored
   4. an abstract of your current research, even if unpublished

Once your application is submitted and complete (including all attachments and recommendations), your application will be available to ORNL researchers to view for consideration. Your application will remain active for 12 months after submission. When the twelve month mark is approaching, you will receive a notification that your application is expiring should you wish to resubmit it. This opportunity does not close to applications at any point in the year, so you will not receive a notice that your application was rejected. You may view your application status (including status of recommendations) at any time by logging in to Zintellect.com.

Description

The successful candidates will assist with various next-generation software development and applied data management activities. Researchers will help link advanced informatics and computer science to data management and distribution in all research areas of interest to Oak Ridge National Laboratory. We seek self-starters, willing to develop extertise in high performance computing, deep data analytics, advanced big data visualization, discovery, and distribution. The successful candidate will have opportunities to work with the large operations team that manages petabytes of complex observational data using ORNL's High-Performance Computing cyberinfrastructure.

The C-STARS program is administered by the STEM Workforce Development Unit of the Oak Ridge Institute for Science and Education (ORISE), which is managed by Oak Ridge Associated Universities (ORAU) for the U.S. Department of Energy.

Contingencies

All contingencies of an appointment offer must be met before the

applicant can begin an appointment.

Participants who are foreign nationals must receive approval and clearance from the U.S. Department of Energy. This process is initiated by ORNL and could take more than ten weeks. Foreign nationals must also show proof that they have a valid immigration status, which allows them to receive a stipend. Once an offer has been made, the ORISE Immigration Office can assist with obtaining and filing immigration documents.

Appointment Period and Renewals

Appointments are available in all current research and development programs at the laboratory. There are no citizenship requirements for the C-STARS program, although specific research projects may have additional restrictions. The program accepts applications at any time. Appointments are for a minimum of three months or for as long as twelve months, with possibility for extensions.

Stipend

Participants receive a competitive biweekly stipend based on their educational level, research area, and experience. The stipend is taxable.

For more information, visit Science Education Programs at ORNL or contact CSTARS@orau.org.

Qualifications

Applicants must be enrolled in a master's or doctoral degree program at an accredited institution. Applications may be submitted at any time during the year, and appointments may begin at any time. Applicants also must be at least 18 years old before starting the program. The C-STARS program does not have citizenship requirements, but if the applicant is not a U.S. citizen, they must have a valid visa status allowing us to pay them a stipend.

Appointments involve a full-time commitment to the research program at ORNL, and the C-STARS participant must be in residence at ORNL during the entire period of the appointment. The participant's research must be conducted in a manner and according to a time schedule that meets the overall research needs of ORNL. To document the effectiveness of the program, participants are required to submit to ORISE a report when they renew or end their program tenure. These reports should summarize their research and include a copy of any publications resulting from their appointment. If future papers are published as a result of research they performed at ORNL, copies should be sent to ORISE.

C-STARS participants are required to have coverage under a health insurance plan and must provide proof of such coverage.

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It is your responsibility to secure insurance coverage before arriving at the appointment site.

Additional qualifications of interest:

- Strong background in informatics or computer programming, as applied to some type of scientific or engineering application
- Knowledge in big data analysis and No-SQL technologies
- Familiarity with High-Performance Computing, parallel processing
- Strong software development knowledge for building Web-user interfaces, using current tools and technologies
- Knowledge and experience in one or more programming languages, such as: Java, JavaScript, Python, PHP, C, R, MatLab, SAS, IDL, SQL and Unix/Shell
- Knowledge and experience in database management and quality assessment
- Expertise with databases such as PostgrSQL, MySQL, Oracle, or SQLServer
- Strong knowledge in systems design, analytics, monitoring, and performance evaluation
- Requirements-gathering and interpreting information from scientific and research users
- Good oral and written English communication skills
- Desire to learn and adopt new tools and technologies, as required

Eligibility Requirements

- **Degree:** Currently pursuing a Master's Degree or Doctoral Degree.
- **Overall GPA:** 3.50
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (2 👁)
  - **Mathematics and Statistics** (10 👁)

Affirmation

I certify that I have completed coursework towards a degree in science, technology, engineering, mathematics, or a related field.