

**Opportunity Title:** ORNL Innovation Crossroads SkyNano Engineer Post-Master's

Research Associate

**Opportunity Reference Code:** ORNL18-74-STPD

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

**Reference Code** ORNL18-74-STPD

**Description** This Post-Master's Research Associate will work closely with SkyNano, a company within the Innovation Crossroads program at Oak Ridge National Lab, to design, build, and test a roll-to-roll continuous flow electrochemical reactor for the production of carbon nanotubes from carbon dioxide.

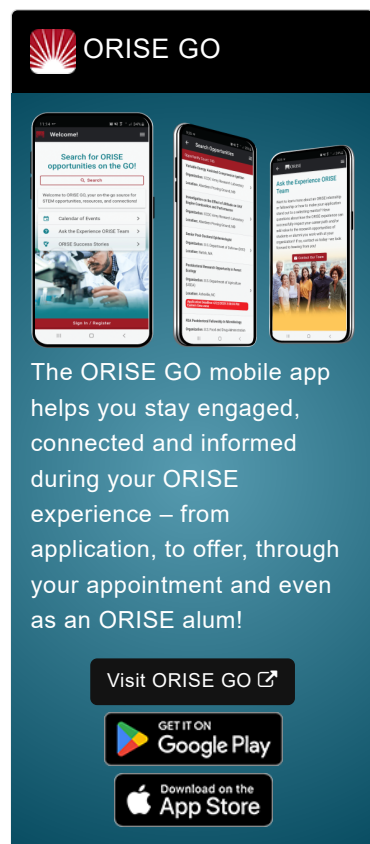
Major duties/responsibilities include:

- simulate a roll-to-roll electrochemical cell using CAD software
- participate in critical assessment of materials selection for each system component
- build benchtop reactor for the electrochemical production of carbon nanotubes
- program computer machine interface platform to control roll-to-roll mechanics
- participate in testing the reactor and optimization of parameters such as current density, catalyst deposition, dynamic versus static electrodes, electrode distance, and time, with a goal of minimized overpotential, minimized heat losses, maximized energy efficiency, minimized energy consumption, and maximized quality of materials produced

- Qualifications**
- Master's degree in Chemical, Materials, Mechanical, or Systems Engineering completed in the last three years
  - Passion for energy, environmental sustainability, and advanced manufacturing technologies
  - Experience working in a hands-on experimental laboratory
  - Excellent written, oral, and presentation communication skills
  - Excellent critical-thinking skills and the ability to independently develop creative ideas
  - Ability to manage time wisely and map out experimental plans to meet deadlines
  - Demonstrated ability to contribute collaboratively to a team
  - Demonstrated ability to design engineered systems
  - Preferred experience with computer machine interface platform


The ORNL Postgraduate Research Associates Program is administered by Oak Ridge Associated Universities through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE).

**Eligibility** • **Citizenship:** U.S. Citizen Only



**Opportunity Title:** ORNL Innovation Crossroads SkyNano Engineer Post-Master's  
Research Associate

**Opportunity Reference Code:** ORNL18-74-STPD

- Requirements**
- **Degree:** Master's Degree received within the last 60 month(s).
  - **Discipline(s):**
    - **Engineering** ([4](#) )

ORAU is an Equal Opportunity Employer (**EOE AA M/F/Vet/Disability**); visit the [ORAU website](#) for required employment notices.