

Opportunity Title: ORNL Nanoparticle Post-Bachelor's Research Associate
Opportunity Reference Code: ORNL17-50-CNMS

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL17-50-CNMS


Description The focus of the project is on the development of post processing modification of the surface of fluorescent nanoparticles derived from nano-fermentation to improve their photoluminescence efficiency. The post-processing includes surface modification using surfactants and inorganic ions. The nanoparticles surface modification will be characterized in solution, using optical techniques (transmittance, scattering and photoluminescence). The effect of surface modification of nanofermented nanoparticles will be compared with that for chemically synthesized nanoparticles passed through similar surface modification procedure.

The work will be conducted in the Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National Laboratory (ORNL), which provides a national and international user community access to expertise and equipment for a broad range of nanoscience research, including nanomaterials synthesis, nanofabrication, imaging/microscopy/characterization, and theory/modeling/simulation. CNMS also acts as gateway for the nanoscience community to benefit from ORNL's neutron sources (Spallation Neutron Source and High Flux Isotope Reactor) and computational resources. All CNMS facilities and capabilities are accessible based on peer-reviewed proposals and are offered at no cost to users who intend to publish their results.

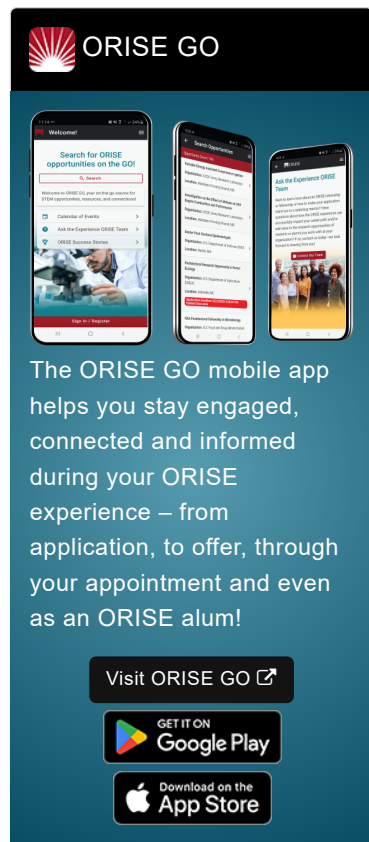
Qualifications The candidate should have experience working in a chemical laboratory, be familiar with the chemical laboratory safety procedures, and have experience in optical characterization of solutions using transmittance and fluorescence spectroscopies. The candidate is expected to have skills to process experimental data into figures using Origin and PowerPoint software.

Experience in wet chemical synthesis and spectroscopic characterization of materials is a plus. Knowledge of experimental data processing using Origin and Power Point.


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**
- **Degree:** Bachelor's Degree received within the last 36 month(s).
- Requirements**
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([2](#) )

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