

Postgraduate Research Associate in Emission Control

Energy and Transportation Science Division Oak Ridge National Laboratory Oak Ridge, Tennessee

ORNL10-71-ETSD

Project Description:

The Fuels, Engines, and Emissions Research Center (FEERC) in the Energy and Transportation Science Division (ETSD) at the Oak Ridge National Laboratory (ORNL) is seeking an experienced research and development scientist/engineer to measure chemical kinetics of reactions pertinent to emission control systems for transportation applications. The appointment is expected to last for 12 months with potential for renewal for up to 36 months.

The selected candidate will be responsible for conducting, coordinating, and reporting complex research assignments related to catalysis and emissions control systems. The work will involve interacting and collaborating with researchers from universities, national laboratories, and private industry.

Qualifications:

Position requires a Master's degree or Ph.D. in a relevant scientific discipline with a Chemistry or Chemical Engineering degree preferred or an equivalent combination of education and experience. The applicant must have the background, education, and experience to execute original and novel approaches to elucidate reaction and deactivation mechanisms associated with emission control devices. The position also requires extensive experimental skill and experience as the successful candidate will be expected to design and set up experimental systems as well as analyze and report on experimental data. The position requires knowledge of advanced tools and instruments that can make in-situ measurements of species, temperature, surface adsorbates, and reaction intermediates. The position also requires knowledge of laboratory R&D methods for emission control, as well as the associated instrumentation.

The applicant will also be responsible for characterizing the materials being studied, including identification of the oxide phase, specific surface area, and precious metal size. The individual will be expected to publish papers in peer reviewed chemistry and/or catalysis journals. The selected candidate must be able to resolve any unusual technical problems that may occur during the course of research experiments and develop requisite experimental changes. The applicant must possess excellent communication skills, written and oral, in order to report results to industry and government sponsors and at technical conferences. The individual must be able to work well with individuals and in a team environment. The candidate must also be self-motivated and be able to perform duties in a time efficient manner.

Extensive experience operating bench-scale and micro-scale reactors to evaluate chemical processes is necessary to succeed in this position. It is also desirable that the applicant have experience using materials and surface analysis techniques (XRD, TEM, BET, DRIFTS, etc.) and gas analysis techniques (MS, FTIR, etc.).

The applicant will perform experimental work, but linkage of experimental results to models and simulations is also an objective of the position. So, experience in modeling is also valued.

No clearance is required for this position. Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment. Applications will be accepted until the position is filled.

Technical Questions:

Questions regarding the position can be directed to Dr. Todd J. Toops at 865-946-1207. Please include the requisition number and title when corresponding.

How to Apply:

Qualified applicants must apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>.

This appointment is offered through the ORNL Postgraduate Research Participation Program and is administered by the Oak Ridge Institute for Science and Education (ORISE). The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.