

**U.S. Environmental Protection Agency  
Region 5 Central Regional Laboratory (CRL) Research Participation Program  
with U.S. EPA National Risk Management Research Laboratory (NRMRL)**

**Project # EPA Region 5-2003-01**

A project is available through the Environmental Protection Agency (EPA) Research Participation Program. The appointee will be located at EPA facilities in Chicago, Illinois. The anticipated starting date is June 2003. The purpose of this investigation is to understand the fate of Alkylphenols and its ethoxylates (APES) in land applied biosolids. This study is designed to provide information to design a longer term (1 year or greater) study to be conducted at a later time. Analytical methods will be utilized to determine the concentration of the APES over time in a one acre plot. Current CRL alkylphenol methods may be improved depending on the findings related to this study. Improved methods will be developed utilizing Solid Phase Extraction in order to analyze water samples in the event water run-off samples will be collected. Another project is the development of the methods for the analysis of APES in fish tissue. Land application of biosolids containing APES may leach into rivers and streams and be observed in fish and earthworms. These methods will be developed by the Research Associate.

Project elements will include, but not be limited to: detailed analysis of environmental samples by GC/MS, preparation of environmental samples, preparation of visual materials for oral presentations and communications. The Research Associate will apply organizational and communication skills and technical knowledge successfully to complete project elements in a timely manner.

The Research Associate will be trained by CRL staff scientists in the analysis and reporting of environmental data and the planning and conducting of oral or poster presentations. Specific tasks and learning opportunities may include, but not be limited to:

- Extraction of Environmental Samples utilizing Accelerated Solvent Extraction, Solid Phase Extraction or liquid-liquid extraction.
- Environmental samples may include but not limited to: Soils, sludges, water, fish and earthworms
- Interpretation of the data including statistical analyses, review of quality assurance data, preparation of tables and figures
- Writing of papers to be presented at a conference and/or to be issued as post-conference reports.
- Help to create or improve current methods and technologies.
- Assist CRL and NRMRL scientists to plan and implement various logistic elements regarding future projects

During this project the Research Associate will:

- Learn about the many complex environmental analyses concerning NRMRL and CRL
- Increase skills in data analysis and reporting.
- Learn the many facets required to plan and implement a complex project
- Learn roles and responsibilities for working as part of a team
- Obtain professional contacts around the country
- Increase sense of professional responsibility

Required qualifications are:

- Baccalaureate degree with at least one year of experience in an environmental or industrial laboratory or currently enrolled in a M.S. or Ph.D. program in science disciplines preferably analytical chemistry.
- Excellent English verbal and written communication skills
- Ability to quickly learn computer software programs as needed, e.g., analytical instrumentation analysis, scientific graphing, and presentations.
- Well versed in using analytical equipment, especially GC/MS and extraction technology.

Strongly desired qualifications are:

- Knowledge of GC/MS systems and ability to analyze samples
- Computer skills, including proficiency in word processing (such as WordPerfect and Microsoft Word), spreadsheet manipulation (such as Microsoft Excel), and presentation graphics (such as PowerPoint).
- Proficient in analytical techniques especially in the ability to prepare solutions and quantitative transfer procedures.
- Pleasant and cooperative inter-personal skills.
- Ability to travel overnight to attend occasional meetings.

As U.S. EPA laboratories are responsible for implementing the monitoring environmental concerns, NRMRL and CRL have a fundamental role to collect, analyze and disseminate data on the physical, chemical and biological integrity. The primary domain of the NRMRL program is using environmental analysis of soil, sediment, water, sludge and biological samples to advance environmental research. The primary domain of CRL is to apply analytical chemistry to environmental samples to generate data in support of environmental research.

The EPA Research Participation Program is administered by the Oak Ridge Institute for Science and Education. ***Please reference Project # EPA Region 5 - 2003-01 when calling or writing for information.*** For additional information and application materials contact: EPA Research Participation Program , Attn: Debbie Alcorn, Science and Engineering Education - MS 36, Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, Tennessee 37831-0117, Phone: (865) 576-3428 FAX: (865) 241-5220 or via e-mail at [alcornd@ornl.gov](mailto:alcornd@ornl.gov). It is strongly suggested that a résumé be sent via e-mail to that address.