

**POSTDOCTORAL RESEARCH PROGRAM
NATIONAL EXPOSURE RESEARCH LABORATORY
U.S. ENVIRONMENTAL PROTECTION AGENCY
Cincinnati, OH**

In Situ Hybridization of DNA Probes in Animal Tissues

PROJECT # NERL 2004-01

A research project is available through the Postgraduate Research Program at the U.S. Environmental Protection Agency (EPA), National Exposure Research Laboratory (NERL) in Cincinnati, Ohio. Under the guidance of a research mentor, the participant will gain education benefits through involvement in developing a methodology for harvesting, fixing, and assaying of animal tissues. The data collected for this project involves extraction of nucleic acids from animal tissues and tissue culture lines. Assays for virulence markers will be compared to whole animal models exposed to microbial pathogens.

The participant will benefit from the analytical laboratory techniques applied in this project. The research procedure that is to be developed will require working with animals (mostly mice), tissue culture technology, cellular extraction techniques, microtome preparation of samples, and *in situ* hybridization using specific DNA probes. Experience will also be gained in culture of microorganisms. The participant will be establishing appropriate animal models and tissue cell lines, maintaining high quality extractions procedures from cellular lysates, maintaining controls, and keeping a detailed record of laboratory results.

QUALIFICATIONS: Applicants should have received a bachelor's degree in biology with the last three years with a strong emphasis on histology and cellular biology. Prior experience with processing of tissue specimens and *in situ* staining/probing is desirable. Applicants must be able to conduct research independently without direct supervision. U.S. citizenship status is preferred. The program is open to all qualified individuals without regard to race, sex, religion, color, age, physical or mental disability, national origin, or status as a Vietnam era or disabled veteran.

The participant will be selected based on academic records, recommendations, research interests, compatibility of background and interests with research programs and projects at NERL, and the availability of funds, staff, programs, and equipment. The appointment is full-time for one year and may be renewed upon recommendation of NERL and subject to availability of funds. The participant will receive a monthly stipend based on research area and prior experience. The participant must show proof of health and medical insurance.

The Postgraduate Research Program for NERL is administered by the Oak Ridge Institute for Science and Education. ***Please reference Project # NERL 2004-01 when calling or writing for information.*** For additional information and application materials contact: Postgraduate Research Program/NERL, Attn: Betty Bowling, Science and Engineering Education - MS 36, Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, Tennessee 37831-0117, Phone: (865) 576-8503 FAX: (865) 241-5219, e-mail: bowlingb@ornl.gov.