

PROJECT SUMMARY

Penn Medicine contributes substantially to the local economy. In 2008, Penn Medicine employed 37,000 faculty and staff and created \$5.4 billion in regional economic activity, with the area's highly trained workforce producing more than 24,600 applications for just 840 open Penn staff research positions. The current proposal will create or retain 6 jobs.

This is an application for an Administrative Supplement to 5P30-ES013508-04 which supports an Environmental Health Sciences Core Center at the University of Pennsylvania, **Center of Excellence in Environmental Toxicology (CEET)** (Project end date: 03/31/10). This supplement requests support for the CEET to build capacity in its core mission which is to elucidate the mechanistic link between environmental exposures and human disease and translate these findings to improvements in patient and public health. CEET investigators achieve this mission by using two facility Cores: a Molecular Profiling Core (MPC); and an Integrative Health Sciences Facility Core (IHSFC); a Community Outreach and Education Core (COEC), and develops the careers of young clinical investigators in environmental health sciences. This supplement will increase capacity in each of these areas, change the tempo of science, and create/retain jobs. Specifically, the MPC requests funds to hire a bioinformatician to increase capacity in mining genotype and genomic expression data. This critical service will support the essential analysis of large data sets obtained in genotyping and gene expression array studies conducted by many CEET investigators. It also plans on purchasing an Ultraperformance Liquid Chromatograph (UPLC) to increase specificity, sensitivity and throughput in biomarker discovery and validation. The IHSFC requests funds to expand the use of a planned human exposure chamber to permit CEET investigators to study controlled human exposures to diluted diesel exhaust. Pharmacokinetic and pharmacodynamic modeling will permit CEET investigators to study evoked phenotype to this common air pollutant. Collectively this investment will enhance our research theme in gene-environment interactions and relate these interactions to measurements of exposure to the urban environment. The COEC seeks to build capacity to disseminate these environmental health science advances to its communities and community partner organizations. It will hire a Community Coordinator (community resident) who will act as a liaison between the COEC and the needs of the communities of Chester and West Philadelphia. It will create student worker positions that will help strengthen ties to communities by developing educational materials on exposure to asbestos in Ambler and on exposure to benzene in Southwest Philadelphia and Eastwick. It will employ a consultant to develop educational materials on environmental endocrine and reproductive hazards in Chester City. The CEET will also make a Young Investigator Award to a clinician scientist working on oxidative stress and reproductive aging.

RELEVANCE : This application will increase the capacity of an existing EHSC center to improve the health of communities exposed to an urban environment through research and outreach.

**Project/Performance Site Primary Location**

Organizational Name: University of Pennsylvania, School of Medicine

DUNS: 042250712

Street 1: 3620 Hamilton Walk

Street 2: 130C John Morgan Bldg.

City: Philadelphia

County: Philadelphia

State: PA

Province:

Country: USA

Zip/Postal Code: 19104

Project/Performance Site Congressional Districts: PA-002

**Additional Project/Performance Site Location**

Organizational Name:

DUNS:

Street 1:

Street 2:

City:

County:

State:

Province:

Country:

Zip/Postal Code:

Project/Performance Site Congressional Districts:

Program Director/Principal Investigator (Last, First, Middle): Penning, Trevor M.

SENIOR/KEY PERSONNEL. See instructions. Use continuation pages as needed to provide the required information in the format shown below. Start with Program Director(s)/Principal Investigator(s). List all other senior/key personnel in alphabetical order, last name first.

Name	eRA Commons User Name	Organization	Role on Project
Penning, Trevor M	PENNING	UPenn	Principal Investigator

OTHER SIGNIFICANT CONTRIBUTORS

Name	Organization	Role on Project
Butts, Samantha	UPENN	CEET Investigator
Hornig, Wen-Hawi	TBA	Bioinformatician
Nolan, Lynda	UPENN	Consultant

Human Embryonic Stem Cells  No  Yes

If the proposed project involves human embryonic stem cells, list below the registration number of the specific cell line(s) from the following list: <http://stemcells.nih.gov/research/registry/>. Use continuation pages as needed.

If a specific line cannot be referenced at this time, include a statement that one from the Registry will be used.

Cell Line