How to Apply

The Certificate Program in Environmental Health Sciences (EHS) is a full-time training program offered by the Office of Biomedical Graduate Studies (BGS). Students accepted to any BGS PhD program are eligible to apply to the program upon entry.

They receive a fully-funded fellowship – including tuition, fees, health insurance, and a competitive stipend – regardless of financial need. The training and research base for the EHS Program is the Center of Excellence in Environmental Toxicology (CEET) which is supported by the National Institute of Environmental Health Sciences (NIEHS).
Visit: www.med.upenn.edu/ceet

Curriculum

Students take specialized courses in addition to their graduate group requirements and receive a PhD from their graduate group and a Certificate in Environmental Health Sciences. Course work covers molecular toxicology, epidemiology, biostatistics, genome science and occupational and environmental health. All students must complete three laboratory rotations one of which must be a community or population-based research project. Completion of this sequence is sufficient to graduate with the Certificate. Thereafter, students conduct their thesis research (typically three years) to graduate with the PhD degree.

For More information

Center of Excellence in Environmental Toxicology
University of Pennsylvania School of Medicine
130D John Morgan Building
3620 Hamilton Walk
Philadelphia, PA 19104-6058
(215) 746-3030
ceet@mail.med.upenn.edu
www.med.upenn.edu/ceet/

Office of Biomedical Graduate Studies
University of Pennsylvania School of Medicine
160 Biomedical Research Building (BRB) II/III
421 Curie Boulevard
Philadelphia, PA 19104-6064
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Penn Medicine | CEET

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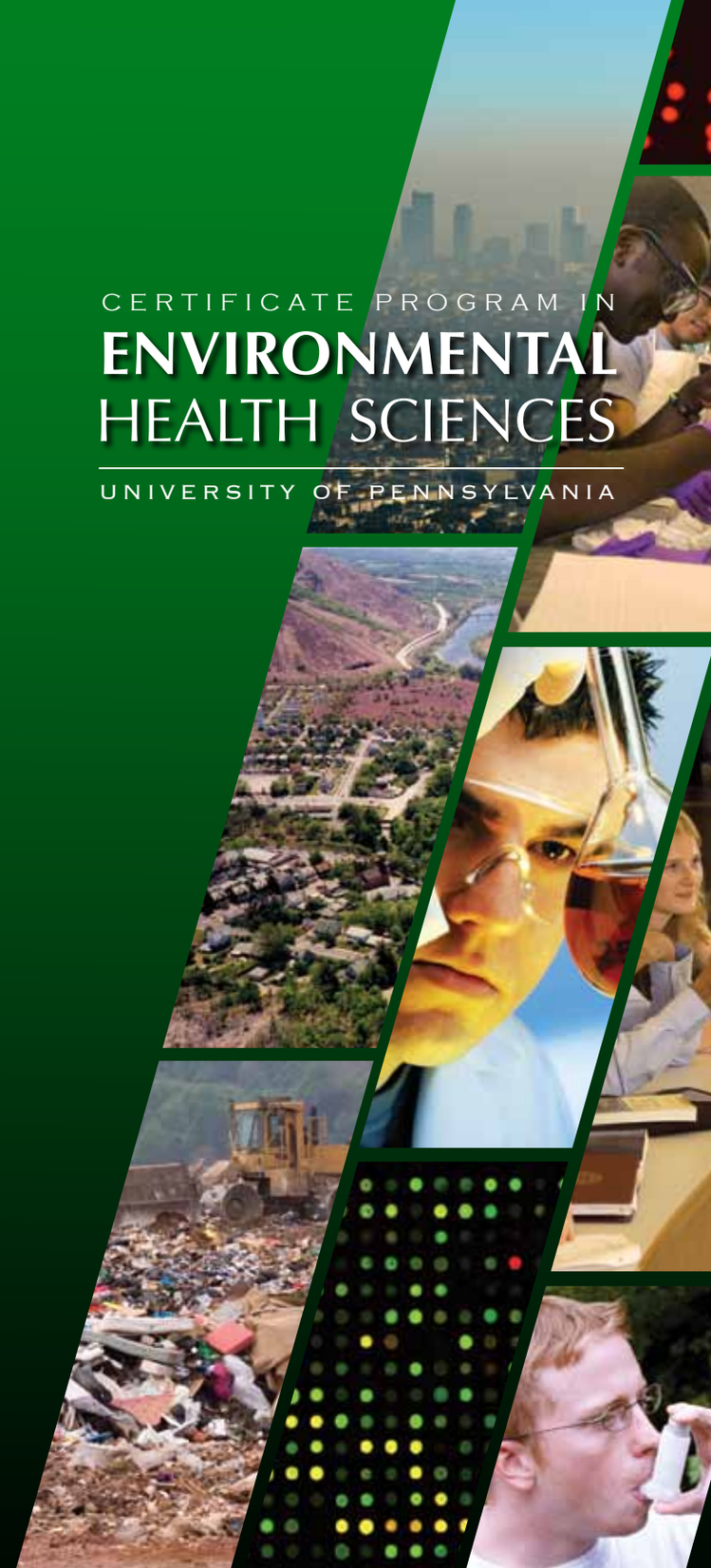
CERTIFICATE PROGRAM IN

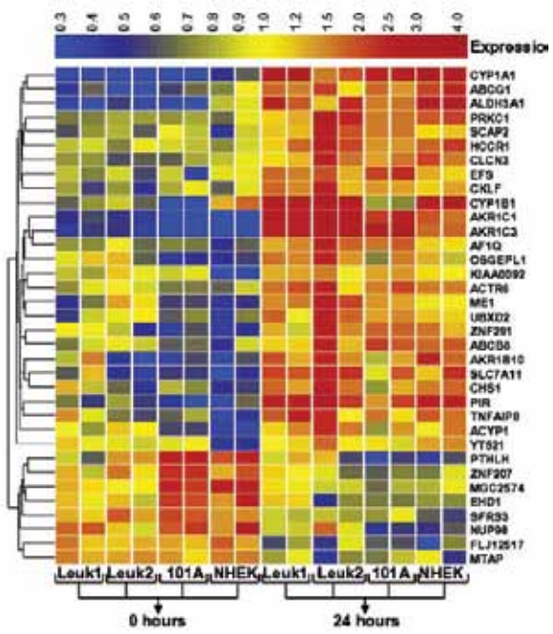
ENVIRONMENTAL HEALTH SCIENCES

UNIVERSITY OF PENNSYLVANIA



Certificate Program in Environmental Health Sciences (EHS)

This program will prepare graduate students for professional careers in environmental health sciences.



Gene expression and cigarette smoke

Detection of environmental mutagens

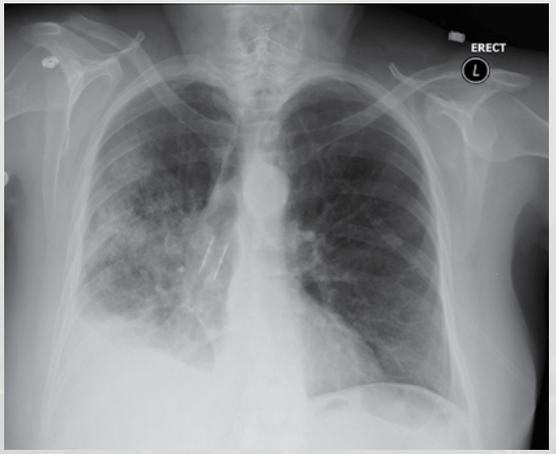
The Certificate Program in Environmental Health Sciences (EHS) focuses on the mechanistic links that exist between environmental exposures, the molecular and cellular affects that ensue, and diseases of environmental etiology. Emphasis is placed on training in molecular toxicology, environmental and occupational health, molecular epidemiology, toxicogenomics, toxicoproetomics, and population-based and clinical/translational research. The goal is to explore mechanisms, pathogenesis, prevention and treatment of diseases of environmental etiology. This is achieved by working with world-renowned experts in lung and airway disease, cancer causation, neurodegenerative disease, reproductive and developmental disorders, and cardiovascular disease.

Our scientists also investigate gene-environment interactions to identify individuals most susceptible to environmental exposures and disease based on genotype. They also develop and validate biomarkers of exposure and response to determine phenotype. The goal is to achieve personalized environmental medicine to determine who is at risk and who will respond to treatment. Course work and rotations will equip students to perform research across discipline. Options exist to do risk assessment and risk communication in environmentally-challenged communities in Southeastern Pennsylvania.

Graduates of the program will be prepared for careers in toxicology, risk-assessment, and environmental and occupational health sciences and may place in academia, the pharmaceutical industry, consumer-product industry, or governmental agencies (e.g. EPA, CDC, FDA, NIEHS, NHLBI, NCI and NIOSH). Trainees will receive broad training in these areas for careers in EHS and will be encouraged to become board certified as “Diplomats of the American Board of Toxicology.”

Many common diseases/disorders are “linked” to environmental exposures. Areas of interest include: lung and airway disease (asthma, lung cancer, mesothelioma and chronic obstructive pulmonary disease) that can result from exposure to allergens, ozone, inhaled carcinogens, asbestos and air pollutants; diseases linked to oxidative stress (neurodegenerative disease, cardiovascular disease and inflammation); and, endocrine, reproductive and developmental disorders (oocyte quality, reproductive aging, epigenetics, pre-term rupture of the fetal membranes, birth and developmental defects). Elucidating the mechanistic links that exist will lead to improved prevention and intervention strategies of major societal disease.

p53 tumor suppressor gene bound to DNA



Human lung with adenocarcinoma

Asthmatic person on inhaler