

# Certificate Program in Environmental Health Sciences

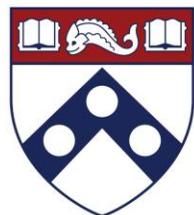
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**Blanca Himes, PhD**

Environmental Health Sciences Core Center: P30 ES013508-18

Translational Research Training Program in Environmental Health Sciences: T32 ES019851-12

<http://ceet.upenn.edu/>



**Perelman**  
SCHOOL OF MEDICINE  
UNIVERSITY of PENNSYLVANIA

**CEET**  
CENTER OF EXCELLENCE IN  
ENVIRONMENTAL TOXICOLOGY

# The Science of Poisons

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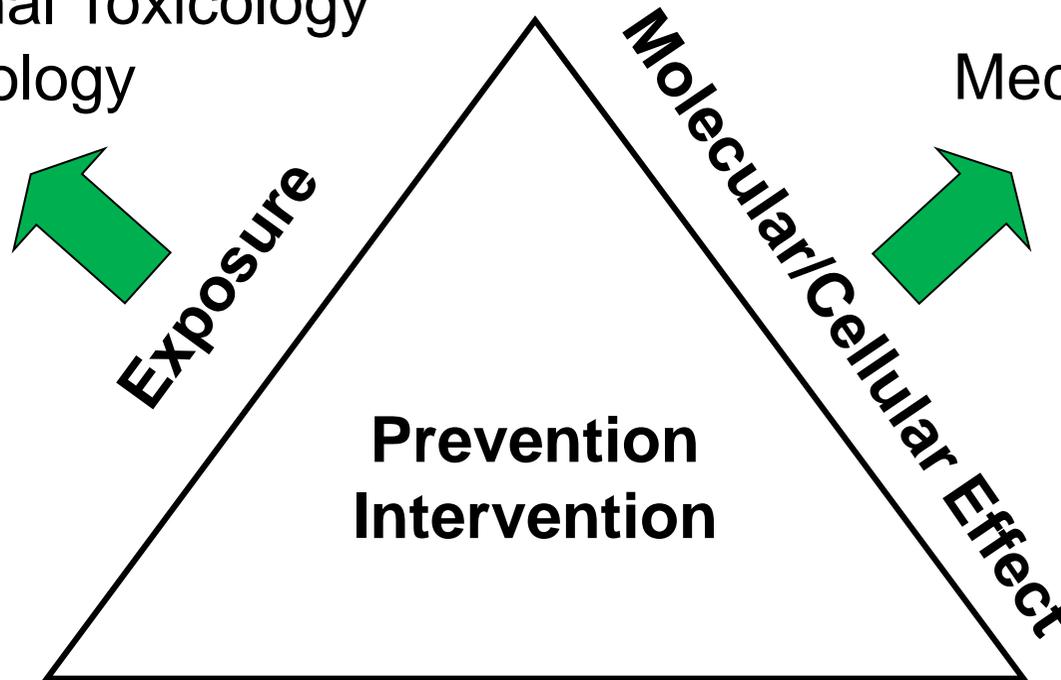
***“What is there that is not poison?***

***All things are poison and nothing (is) without poison. Solely the dose determines that a thing is a poison.”***

***(Paracelsus 1493-1541)***

# Branches of Toxicology

Environmental Toxicology  
Occupational Toxicology  
Drug Toxicology

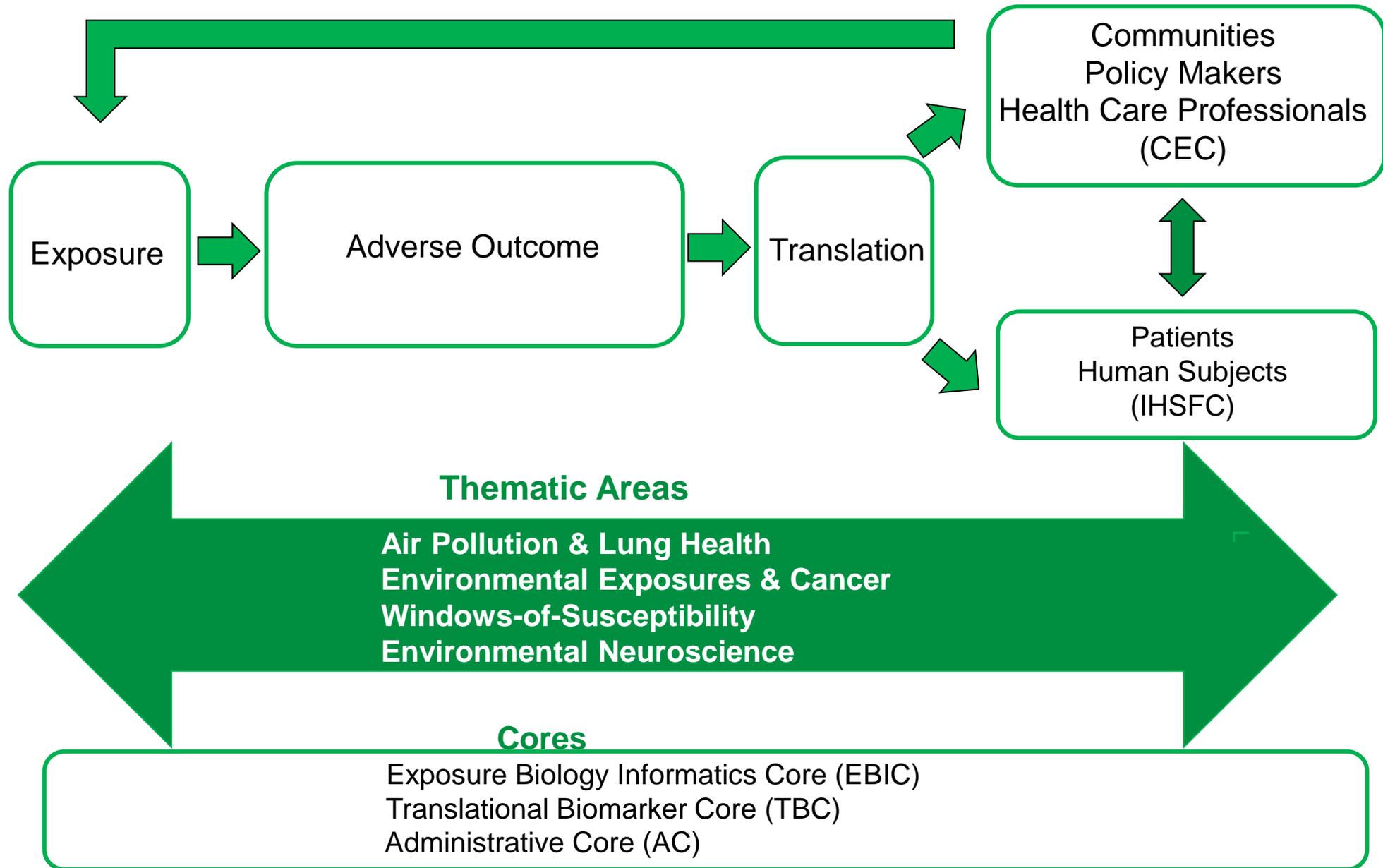


Mechanistic Toxicology

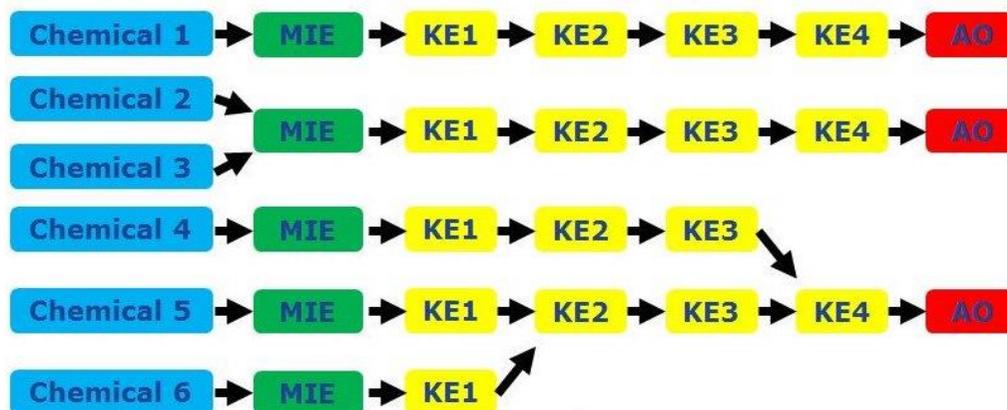
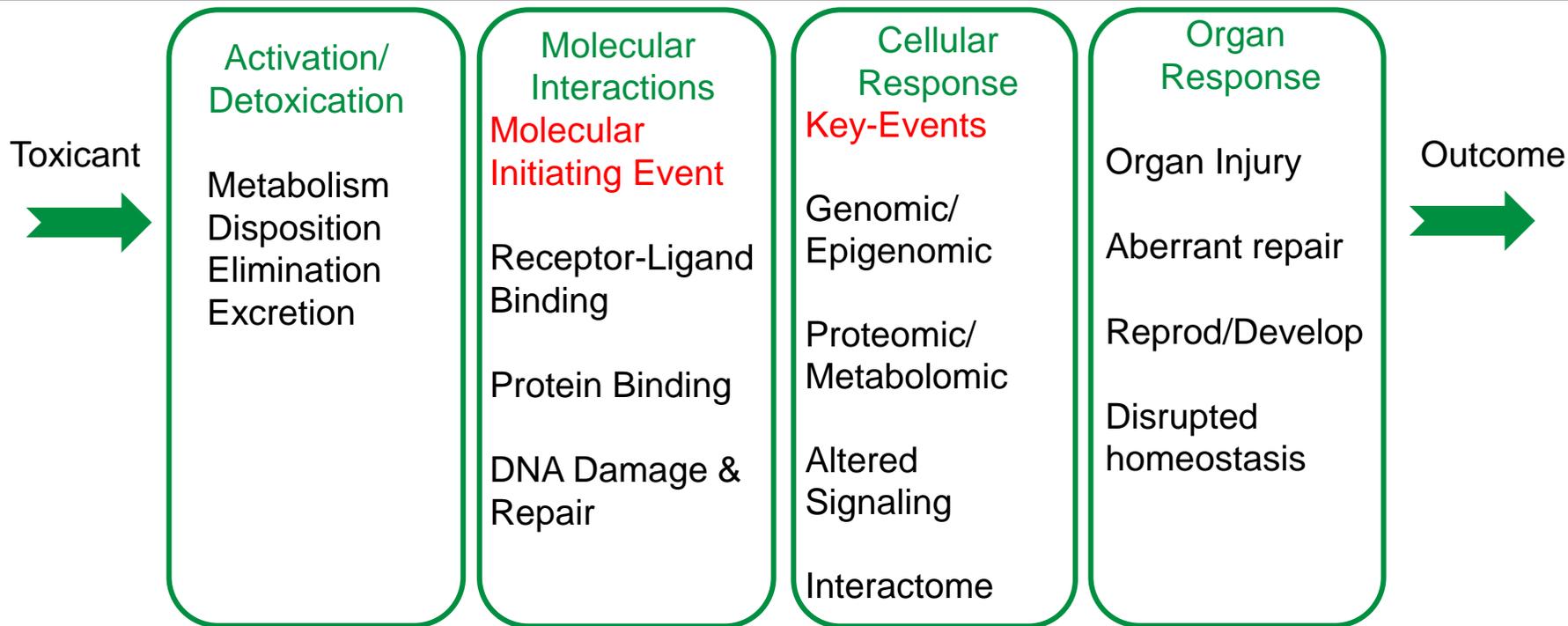
**Health Effect**

**Clinical Toxicology**

# Center of Excellence in Environmental Toxicology (CEET)



# Adverse Outcome Network Framework



# Exposures and Human Health Studied by CEET



**Air Pollution & Lung Health**



**Environmental Exposures & Cancer**

**BPA** is found in  
**9 out of 10** Americans



**PFCs, PBDEs**  
and **phthalates**  
are in **99%**  
of pregnant women

**Windows-of-Susceptibility**

## Human Health



**Lead Poisoning & Cognition**  
**Environmental Neuroscience**



**Asbestos Waste Ambler, PA**  
**Environmental Exposures & Cancer**

## Instrumentation in Translation Biomarker Core



Thermo Altis-Plus  
(2022)

Triple quadrupole mass  
spectrometers



Agilent  
6460

High resolution mass  
spectrometer



Thermo Q-  
Exactve



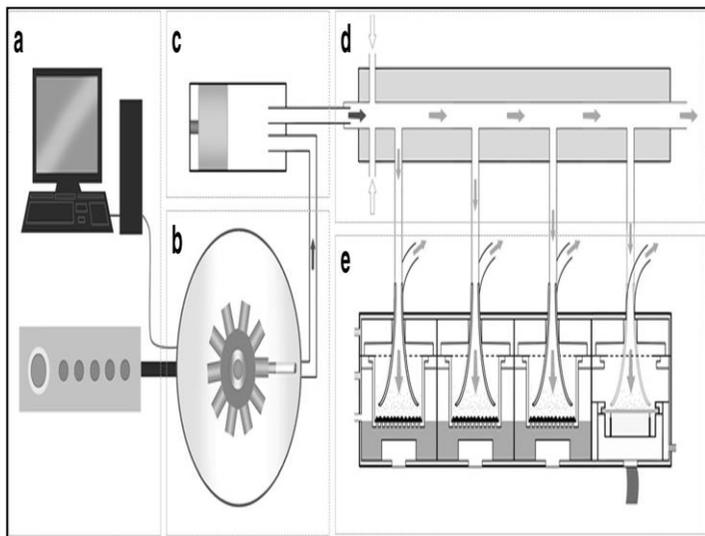
ICP-MS with  
IC

Metal ions analysis



Tomtec Quadra 4  
Liquid Handling Robot

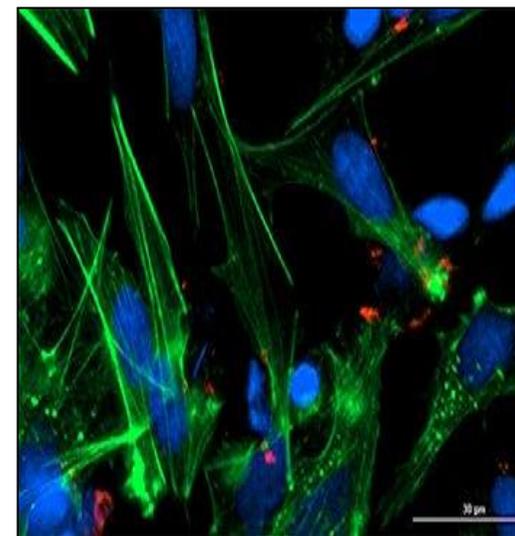
## Integrative Health Sciences Facility Core



Smoking Machine



Cytation BioTeK Plate Reader



# Certificate Program in Environmental Health Sciences

Seventeenth Annual CEET Symposium  
Glen Gaulton Auditorium, Biomedical Research Building  
Friday, November 18, 2022

## Climate Change and Human Health

### SPONSORS

Perelman School of Medicine  
National Institute of Environmental Health Sciences  
Abramson Cancer Center  
Penn Center for Public Health  
Institute for Translational Medicine and Therapeutics  
Penn Environmental Innovations Initiative  
Center for Science, Sustainability, and the Media



Annual CEET Symposium – 2022

- ❑ Cell Biology (BGS Requirement)
- ❑ Foundations in Statistics (BGS Requirement)
- ❑ Experimental Genome Science (GCB 5340/PHRM 5340)
- ❑ Molecular Toxicology (PHRM 5900)
- ❑ Environmental Epidemiology (EPID 7110)
- ❑ Data Science for Biomedical Informatics (BMIN 5030)
- ❑ *CEET-Seminar Series and Symposium*
- ❑ *Research in Progress Monthly Meeting*
- ❑ *Teen Research & Education in Environmental Science (TREES)*
- ❑ *Course Requirements for Diplomate American Board Toxicology*
- ❑ *T32 Training Grant in EHS (T32-ES019851) – internships available with EPA, Silent Spring, Research Institute for Fragrance Materials*
- ❑ *Three Rotations in EHS, one Community-Based Experience (over 40 faculty across BGS)*

# Recent Alumni



**Nicole Robles Matos**

- B.S Chemistry, University of Puerto Rico, Río Piedras
- Matriculated in August 2017
- Created education materials in Spanish about lead exposure in Latino households – in partnership with *Puentes de Salud*
- Inclusion, Diversity, Equity and Learner (IDEAL) Research Fellow
- PhD Awarded August 2023
- Elucidating the Epigenetic Mechanisms Involved in the Origins of Adult Metabolic Outcomes Following in utero Di(2-ethylhexyl)phthalate (DEHP) Exposure
- Biologist - Air Toxics Assessment Group, EPA



**Isabelle Lee**

- B.S. Biochemistry, Virginia Polytechnic & State University
- Matriculated in August 2014
- Infographic on Health Disparities – Chester Environmental Partnership with Linda Birnbaum (Former Director NIEHS)
- Summer Internship at US EPA Washington, DC
- PhD Awarded November 2019
- The Role of Polycyclic Aromatic Hydrocarbon (PAH) Metabolites in Endometrial Cancer
- Senior Scientist, The Research Institute for Fragrance Materials, Inc. (RIFM)

# How to apply?

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## Certificate Program in Environmental Health Sciences

### Administrative Contact

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### Training Grant Directors

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