

## 25 Years of the Superfund Research Program: Highlights and Hopes May 23, 2013

William A. Suk, Ph.D., M.P.H Director, Superfund Research Program

National Institute of Environmental Health Sciences

National Institutes of Health U.S. Department of Health and Human Services



## **Statement of Mission**

The purpose of the Superfund Research Program is to support, promote, and acquire fundamental scientific and engineering knowledge that advance society's understanding of human health risks from exposure to hazardous substances; development of innovative technologies for the prevention of such exposures; training of the next generation of scientists; and translation of results into applied research to be used for informing the risk assessment decision-making process. The intent within this interdisciplinary framework is the prevention of disease and the protection of human health.



## **Superfund Amendments and Reauthorization Act of 1986**

Gincluding epidemiologic and ecologic

**Assessing Risks** 

Detection

Health Effects

"(iii) Methods and technologies to detect hazardot

substances in the environment and basic biologice. chemical, and physical methods to reduce the amount

ardous substances, in use of the hazardous substances are tocated in the hazardous substances are tocated by such facilities.

hydrogeology. geological fields necessary chemistry, and related fields necessary sional personnel needs in the public and private and to effectuate the purposes of this Act. The Director of the National Actional personnel in the purpose of the National Actional personnel in the National Actional Personnel in the National Actional personnel in the National Actional Action

cooperative agreement, or contract through contracts.

ous substances are located. "(D) State and local governments.

Remediation

(B) Persons involved in the detection, assessment, evaluation, and treatment of hazardous substances. "(C) Owners and operators of facilities at which hazard

the of hazardous substances.

"SEC. 311. RESEARCH, DEVELOPMENT, AND DEMONSTRATION. "(a) HAZARDOUS SUBSTANCE RESEARCH AND TRAINING.-(1) AUTHORITIES OF SECRETARY.—The Secretary of Health and Human Services (hereinafter in this subsection referred to as the Secretary), in consultation with the Administrator, shall establish ind support a basic research and training program (through grants, cooperative agreements, and contracts) consist-

presented by hazardous substances.

(1) with an accredited institution of high tution may carry out the research or training unde

contracts with any of the following.

ment, or contract may be r

"(ii) Methods to

ing of the following: "(A) Bas

studies) w

Hous Sena ty Ac and com respec Tha of the

same v In 1

SECTIO. This .

102. Reps. 103. Notii 104. Resp. 105. Nativ 106. Reim 107. Liabi 108. Fina 109. Pena 110. Heal

ment

hazaro

and to

"(B) Tro "(i)

"(2) D

tute for

with the (A) of

#### Legislative Mandates:

- Advanced techniques for the detection, 0 assessment, and evaluation of the human health effects of hazardous substances
- Methods to assess the risks to human health 0 presented by hazardous substances
- Methods and technologies to detect 0 hazardous substances in the environment
- Basic biological, chemical, and physical 0 methods to reduce the amount and toxicity of hazardous substances



### **NIEHS Superfund Research Program**

### Research

- Detect hazardous substances in the environment
- Evaluate the risk of hazardous substances on human health
- Develop basic biological, chemical, and physical methods to reduce the toxicity of hazardous substances

#### NIEHS

Use environmental sciences to understand human biology and human disease

### EPA

Regulate to protect human health and the environment

### ATSDR

Prevent harmful exposures and diseases related to toxic substances



## **SRP Funding Mechanisms**

#### Small Business Innovative Research, SBIR (R43-44) Small Business Technology Transfer Research, STTR (R41-42)

Foster the commercialization of technologies, products, and devices relevant to hazardous substance clean-up and monitoring.

**Ongoing Funding Opportunity** 

#### Individual Research Project (R01)

Designed to address specific issues to complement the multi-project research program; tackle issues of emerging concern for Superfund. Current solicitation addresses bioavailability assays.

**Request for Applications (Periodic)** 

#### **Multi-Project Centers (P42)**

Designed for integration across disciplines: Biomedical and Non-Biomedical Research; Community Engagement, Research Translation, and Training. Basic and application-oriented.

Request for Applications (Annual)

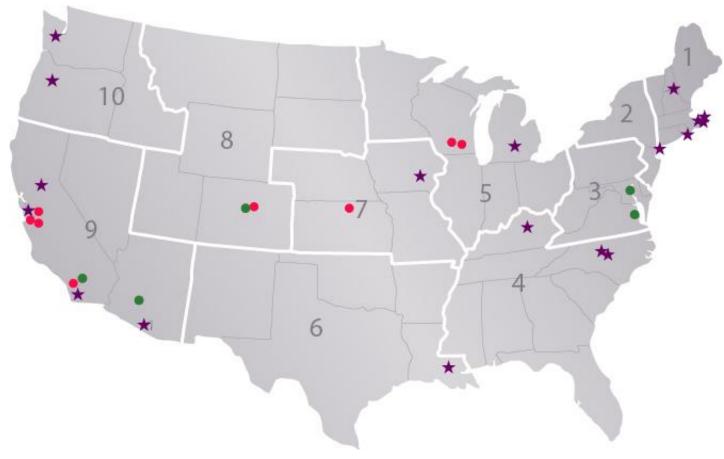
National Institute of Environmental Health Sciences Your Environment. Your Health.

### **Multi-Project Center Concept**



National Institutes of Health U.S. Department of Health and Human Services

National Institute of Environmental Health Sciences Your Environment. Your Health.



#### Legend:

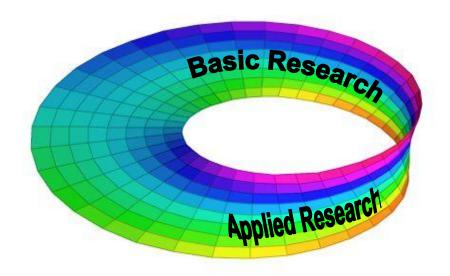
- **Superfund Research Program Centers** The SRP currently funds 18 Multiproject Program Centers
- Individual Research Projects The SRP currently funds 5 Individual Research Grants
- Small Business Innovation Research (SBIR)/ Small Business Technology Transfer Research (STTR) Grants The SRP currently funds 8 SBIR/STTR Grants

Numbers on map indicate EPA regions



### **The SRP: An Accountable Enterprise**

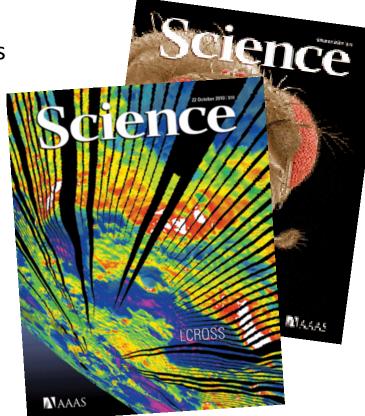
The evolution and maturation of hypothesis-driven basic research leads to increased opportunities for the translation of results into applied, "product-oriented" research that can be used for informing the risk assessment decision-making process.





### **Research Products**

- Over 8000 publications
- >90 patents and inventions
- Enrichment materials (fact sheets, videos)
- Research Briefs
- Webinars
- Workshops
- Conferences
  - o supporting the PBC
    - ~20 years







# The Ultimate Goal of SRP is the Protection of Human Health

TOX MET