

US EPA ARCHIVE DOCUMENT

# ***EPA's Office of Research and Development***

Environmental Research Seminar

Chicago, IL

July 14, 2004

**William H. Farland, PhD**

ORD Acting Deputy Assistant Administrator for Science  
and Chief Scientist to the EPA Science Advisor

## EPA

Mission is to protect human health and safeguard the natural environment - air, water, land - upon which life depends

A key public health agency

## ORD

Mission is to conduct research to inform Agency decisions with sound scientific information

- EPA's Program and Regional Offices are our principal clients
- Collaborates with scientific partners in academia and other agencies, state and tribal governments, private sector organizations, and nations
- Exercises leadership in addressing emerging environmental issues and advancing the science and technology of risk assessment and risk management
- Maintaining the quality of our scientific workforce is crucial

# Office of Research and Development



- 1,950 employees
- \$600 million budget
- \$100 million extramural research grant program
- 13 lab or research facilities across the U.S.
- Research and technical support that inform EPA decisions and advance environmental science





## *Making decisions with sound science requires...*

- Relevant, high-quality, cutting-edge research in human health, ecology, pollution control and prevention, and socio-economics
- Proper characterization of scientific findings
- Appropriate use of science in the decision process

## *Research and development contribute uniquely...*

- Health and ecological research, as well as research in pollution prevention and new technology
- In-house research and external grants program
- Problem-driven and basic research

## ***ORD's Research Focus***

- Particulate Matter
- Air Toxics
- Tropospheric Ozone
- Drinking Water
- Water Quality
- Contaminated Sites
- RCRA
- Safe Food
- Safe Products
- Global Change
- Endocrine Disruptors
- Mercury
- Economics and Decision Sciences
- Pollution Prevention
- Human Health
- Ecological Research

# ORD LABS and CENTERS

## National Exposure Research Laboratory

Human and ecosystem exposure to pollutants

## National Health and Environmental Effects Research Lab

Effects of contaminants on human health and ecosystems

## National Center for Environmental Research

Extramural grants in all research areas

## National Center for Environmental Assessment

Human health and ecological risk assessment

## National Homeland Security Research Center

Responses to attacks against buildings and water treatment systems

## National Risk Management Research Lab

Preventing and reducing risks to humans and the environment



# ***NCER's Extramural Programs***

## **Science To Achieve Results (STAR)**

- **Research Grants**
- **Fellowships**
- **Competed Centers**
  - *Centers of Excellence in Children's Environmental Health and Disease Prevention Research (12 centers, \$9 million/year)*
  - *Estuarine and Great Lakes (EaGLes) Program (4 programs, \$6 million per year)*
  - *Airborne Particulate Matter (PM) Centers (5 centers, \$8 million per year)*
  - *National Statistics Center (\$1.3 million per year)*
  - *Hazardous Substances Research Centers (4 centers, \$2.2 million per year)*

**Earmarked Research Centers** (about \$12 million per year)

**Small Business Innovation Research (SBIR)**

**Greater Research Opportunities Fellowships**

*Building a  
scientific  
foundation  
for sound  
environmental  
decisions*

National  
Center for  
Environmental  
Research

Office of  
Research and  
Development





# ***EPA STAR Research Program***

- **Goal-directed solicitation planning**
- **Significant cross-agency and interagency involvement in solicitation planning, writing, and review**
- **Competitive solicitations: award about \$100 million dollars annually**
- **Joint solicitations and funding with other agencies: adds 10% more awards to program**
- **External peer review**
- **Internal relevancy review: regional and program input**
- **Fund highest priority projects**
- **Communicate research results through website, ORD laboratories, program office and regional meetings, and publications ([www.epa.gov/ncer](http://www.epa.gov/ncer))**

*Building a  
scientific  
foundation  
for sound  
environmental  
decisions*

National  
Center for  
Environmental  
Research

Office of  
Research and  
Development



# *Bringing STAR Science to the Regions*

Boston	November 14, 2002
Dallas	May 28, 2003
Chicago	June 17, 2003
Kansas City	August 13, 2003
Atlanta	September 10, 2003
San Francisco	October 8-9, 2003
Denver	May 12, 2004
Chicago	July 14, 2004
Atlanta	September 28, 2004
Kansas City	October 2004
New York	November 2004
Seattle	Spring 2005

*Building a  
scientific  
foundation  
for sound  
environmental  
decisions*

National  
Center for  
Environmental  
Research

Office of  
Research and  
Development

## **ORD Funding and Region 5**

### **STAR and SBIR funding to date:**

Illinois	\$25,196,771
Indiana	\$ 8,361,574
Michigan	\$32,601,748
Minnesota	\$18,840,867
Ohio	\$18,812,873
Wisconsin	\$12,304,494

<b>TOTAL</b>	<b>\$116,118,327</b>
--------------	----------------------

**Special SBIR solicitation in 2006**

## NRC – “*STAR Program Excels*”

- EPA requires a strong and balanced research program to fulfill its mission and the *STAR program is an important part of the overall EPA research program*
- *STAR program fills a unique niche* by supporting important research that is not conducted or funded by other agencies and is directly relevant to the mission of EPA
- *STAR processes compare favorably and in many cases substantially exceed* those in other research-supporting organizations
- *STAR research results have already improved the scientific foundation for decision making* even though the program is young and many of the projects have not yet been completed



# NRC – “STAR Program Excels”

- *STAR researchers are leaders in their fields* and are attracted to STAR from fields outside EPA’s mission
  - Editors of journals, officers in societies, awards of distinction such as the National Medal of Science, Guggenheim Fellowship and Nobel prizes in chemistry, engineering, and economics
- *STAR grant program successfully leverages funds* by establishing research partnerships with other agencies
- *STAR program has developed innovative approaches to communicating* the results of its research
- *STAR fellowship program is a valuable mechanism* for enabling a continuing supply of graduate students in environmental sciences and engineering to help build a stronger scientific foundation for the Nation’s environmental research and management efforts

# ***Workforce Planning***

ORD is taking a number of steps to attract and maintain a high-quality, diverse scientific workforce:

- Exploring innovative approaches to recruit and retain talented researchers that EPA might not otherwise be able to attract; e.g., Title 40 authority
- Increasing ORD's highly successful post-doctoral program
- Initiated a fellowship program with the Association of Schools of Public Health and with Marshall Fellowships

# ***In Conclusion***

## **ORD is advancing Agency science by ...**

- Developing leading-edge basic and problem-driven research to inform Agency decisions with sound scientific information
- Improving the use of science in EPA's Program and Regional Offices
- Maintaining a high-quality, diverse, scientific workforce
- Communicating (beyond journals) the results, impact, and value of science

*ORD research → better decisions → positive  
environmental outcomes*