

EPA's Office of Research and Development

Environmental Research Seminar

Chicago, IL

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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
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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)**

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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



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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
TOTAL	\$116,118,327

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*