

US EPA ARCHIVE DOCUMENT

Applying for a STAR Research Grant or Fellowship

NCER opens its STAR RFAs throughout the year. A list of current and projected RFAs is posted on the NCER web site. (<http://www.epa.gov/ncer>) RFA announcements are posted on the NCER web site as well as on Grants.gov. Applications may be submitted electronically or by hardcopy. A list serve is available for email notification of newly opened RFAs.

Small Business Innovative Research Program (SBIR)

NCER supports the development of innovative environmental technologies and products through its Small Business Innovation Research program (SBIR). Small firms are eligible to apply for annual solicitations focused in areas of the Agency's interest.

* Annual Phase 1 solicitations open in March each year

* Phase 1 contracts are funded up to \$70,000 each

* Successful Phase 1 recipients can apply for a Phase 2 grant up to \$225,000



NITON's XLp 300 Series Lead Analyzer, pictured above, can measure the concentration of lead in paint even when covered by 50 or more layers of non-lead paint of unknown thickness and composition.



eSpin Technologies' SBIR contract was used to develop nanofibers for air filters to stop particulates smaller than 3 microns

STAR Centers

NCER periodically establishes research centers through the same competitive process, on areas of national concern.

Current centers focus on:

- *Children's health
- *Particulate matter (PM)
- *Computational toxicology
- *Biological threats to homeland security

Research areas of previous centers have included hazardous substances, estuarine and coastal ecosystems, and environmental statistics.

The Children's Environmental Health Research Centers are investigating environmental risks to children and making important discoveries on how to best protect children from toxic exposures.



Our PM Centers are identifying the mechanisms causing cardiovascular and other health effects, mapping health risks, and researching the properties and metabolism of PM exposure that cause chronic effects.



NCER Research Improving Our Health and Environment

With the help of STAR, GRO, and SBIR, scientists we are learning more each day about how to protect our health and environment. 125 of our funded scientists are on ISI's Highly Cited Researchers list, representing more than one third of the researchers in the ecology and environment category.

NCER funded researchers have published more than 8,000 articles in peer reviewed scientific journals. More than one third of our researchers publications in the area of air toxics and particulate matter and in human health are highly cited articles in Thomson's Essential Science Indicators database.

Important Findings

- * Children living within 75 meters of a major roadway have an increased risk of developing asthma
- * 40% of babies exposed to polycyclic aromatic hydrocarbons before birth have genetic damage linked to increased cancer risk.
- * Noninvasive biomarkers like saliva, hair and meconium are good measures of pesticide exposure.
- * Community intervention programs can reduce early childhood exposures to pesticides and insect allergens in the home.
- * Prenatal exposure to lead or tobacco smoke can be linked to Attention Deficit Disorder (ADD).
- * Bird diversity drops significantly when more than 14% of the land is developed within 500 meters of a wetland.
- * Changes in phytoplankton community composition are important indicators of estuarine and coastal ecological health.
- * Benign carbon-dioxide based solvents have been developed and can replace dangerous chlorinated solvents in the dry cleaning and printed circuit board industries.
- * Biodegradable plastics made from corn were developed and are now used in the food packaging industry.
- * Community based conservation has been demonstrated to effect land use practices and reduce deposition of damaging sediments on coral reefs.



NCER Leadership:
Director, Dr. William H. Sanders
Deputy Director, Christopher Zarba

For more info on how to apply see:

<http://www.epa.gov/ncer>

National Center for Environmental Research

*Building a
scientific
foundation for
sound
environmental
decisions*



National Center for Environmental Research

Who Are We?

The National Center for Environmental Research (NCER) is one of seven research organizations that comprise EPA's Office of Research and Development (ORD).

NCER's mission is to support high-quality research by the nation's leading scientists that will improve the scientific basis for national environmental decisions.

NCER and ORD mirror the National Academy of Sciences' risk assessment paradigm by focusing research on:

Exposure, Effects, Risk Assessment, and Risk Management
NCER supports leading-edge, extramural research in each of these areas through competitions for grants, fellowships, and innovative small business research contracts.

Science to Achieve Results - STAR

NCER's Science to Achieve Results program funds research grants, cooperative agreements, and fellowships in numerous environmental science and engineering disciplines.

STAR Grants Research Program:

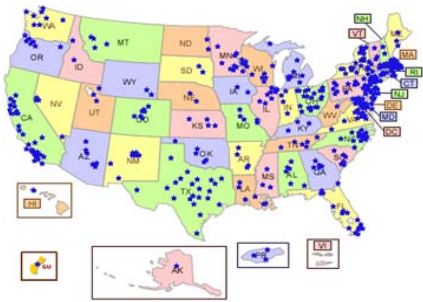
- * Engages the nation's best scientists and engineers in targeted research
- * Compliments EPA's intramural and other federal partner programs
- * Is funded through a competitive solicitation process using Requests for Applications (RFAs)
- * Topics are derived from ORD strategic and research plans
- * RFAs are prepared in cooperation with EPA program offices on significant mission areas
- * Reviews all applications using independent peer review

STAR RFAs have focused on:

- * air toxics & health effects of particulate matter
- * drinking water & water quality
- * global change
- * ecosystem assessment & restoration
- * human health risk assessment
- * endocrine disrupting chemicals
- * pollution prevention & new technologies
- * children's environmental health
- * economics & decision sciences
- * computational toxicology
- * nanotechnology
- * biomarkers

NCER receives approximately 2000-2500 proposals every year and awards about 150 research grants and 125 graduate fellowships. NCER also makes awards under joint RFAs with partnering agencies.

These grants and fellowships have been awarded to universities and non-profit research institutions in all 50 states, Guam, Puerto Rico, and the District of Columbia.



Over \$1 Billion Awarded through more than 1400 STAR Grants and 1300 STAR Fellowships to more than 500 Academic Institutions across the US since 1995

On an annual basis, NCER manages about 500-600 active research grants and 300 fellowships. About 6 percent of the applications submitted to STAR are funded after peer review.

STAR has leveraged its resources through joint solicitations with 12 federal and private-sector research partners.

Grooming the Next Generation of Environmental Scientists and Engineers

One of NCER's highest priorities is ensuring that we have an adequate and well trained scientific workforce that can address tomorrow's complex environmental issues. To respond to this need, NCER supports several fellowship programs focusing on current and future environmental professionals through competitions for grants, fellowships, and innovative small business research contracts.

STAR Fellowships

The STAR Graduate Fellowship Program supports some of the nation's most promising masters and doctoral candidates working towards advanced degrees and careers in environmental science and engineering.

More than 1,300 applicants compete each year for approximately 100 fellowships through a rigorous merit review process. Students can pursue degrees in traditionally recognized environmental disciplines as well as other fields such as social anthropology, urban and regional planning.

STAR Fellowships:

- * Are eligible for US citizens and permanent residents
- * Support full-time 2-year masters or 3-year doctoral degree program
- * Can be used at any accredited US college or university
- * Provide up to \$37,000 per year of support which covers a monthly stipend of \$1,667 for up to 12 months, \$5,000 for authorized expenses, and up to \$12,000 for tuition and fees.
- * See web competitive announcement in August each year, applications due in November

GRO Fellowships

The GRO Graduate Fellowship Program is part of the national effort to help to increase the amount of environmentally-related research being performed at institutions of higher education that receive limited federal research and development funding, including institutions with substantial minority enrollment.

The GRO fellowship program has benefited both the public and private sectors by consistently providing the nation with well trained environmental specialists to meet environmental challenges in our society.



GRO Fellowships:

- * Are eligible to applicants attending fully accredited four year U.S. institutions of higher education
- * Schools must be on the NSF list of institutions receiving \$35 million or less in federal research & development funding
- * Applicants attending eligible institutions with substantial minority enrollment are particularly encouraged to apply
- * Graduate fellowships fund Masters candidates for 2 years and PHD candidates for 3 years
- * Graduate fellowships provide up to \$37,000 per year
- * Undergraduate GRO fellowships encourage students to pursue careers in environmentally related fields and to attain advanced degrees beyond the baccalaureate level
- * Undergraduate GRO fellowships provide up to \$41,500 over a maximum 2 year period

Other Fellowship Programs Supported by NCER:

- * **American Association for the Advancement of Science (AAAS) Science and Engineering Fellows Program**
 - Fellows train in offices throughout the EPA on projects in science and policy.
- * **Association of Schools of Public Health (ASPH) Fellows Program**
 - professional development program for graduates of accredited US Schools of Public Health
 - one-year placements in EPA laboratories/offices to train on high-priority, environmental, public health issues
- * **EPA Marshall Scholarship Program**
 - three talented individuals with strong backgrounds in environmentally relevant sciences are selected each year to receive up to five years of graduate education assistance
 - 2 years of support are provided by the UK at a university in the UK



GRO Fellow Brent Chavous became a high school biology teacher

People, Prosperity, and the Planet Program

The P3 program was designed to demonstrate the possibilities of innovative, inherently benign, integrated, and interdisciplinary designs that simultaneously benefit people, promote prosperity, and protect and preserve the planet.

NCER's P3 Program funds 1 year Phase 1 grants to undergraduate teams to participate in an annual sustainable design competition.

- * Phase 1 grants are \$10,000 per team
- * About 60 Phase 1 grants awarded each year
- * Teams are required to participate in the National Sustainable Design Expo
- * Phase 2 P3 Award winners receive \$75,000 over a 2 year period to further their designs, implement them in the field, and move them to the marketplace.

