Workforce Development for Teachers and Scientists

Funding Profile by Subprogram

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Workforce Development for Teachers and Scientists		
Student Programs	13,042	26,800
Educator Programs	5,771	2,600
Program Administration and Evaluation	1,865	6,200
Total, Workforce Development for Teachers and Scientists	20,678	35,600

Public Law Authorizations:
Public Law 95–91, "Department of Energy Organization Act of 1977"
Public Law 101–510, "DOE Science Education Enhancement Act of 1991"
Public Law 103–382, "The Albert Einstein Distinguished Educator Fellowship Act of 1994"
Public Law 109–58, "Energy Policy Act of 2005"
Public Law 110–69, "America COMPETES Act of 2007"
Public Law 111–358, "America COMPETES Act of 2010"

Program Overview

Mission

The mission of the Workforce Development for Teachers and Scientists (WDTS) program is to contribute to the effort aimed at ensuring that DOE and the Nation have a sustained pipeline of highly skilled and diverse science, technology, engineering, and mathematics (STEM) workers.

Background

DOE and its predecessor organizations have more than a sixty-year history of training and educating scientists, mathematicians, and engineers in the United States. These highly skilled workers are a key element of the Department's research enterprise and are largely supported through research grants and contracts at universities, the DOE national laboratories, and the private sector. This commitment to supporting the Nation's scientific and technical workforce has produced tens of thousands of leading scientists, engineers, and technicians who have dedicated their careers to addressing major national security, energy, and environmental challenges, while pursuing answers to many of the most important scientific questions in physics, chemistry, biology, and other areas of basic science.

DOE's seventeen national laboratories provide tremendous opportunities and resources for STEM training and education. The national laboratory system offers a unique learning environment with access to world-class scientists who serve as research mentors to students, as well as access to cutting-edge scientific instrumentation and facilities unavailable at universities or industry. On an annual basis, more than 250,000 K–12 students, 22,000 K–12 educators, 4,000 undergraduate interns, 3,000 graduate students, and 1,600 post-doctoral employees participate in education or training programs at the DOE national laboratories through funding provided by a wide range of sources, including WDTS.

WDTS leverages the unique capabilities at DOE's national laboratories to sponsor workforce training programs designed to motivate students and educators to pursue careers that will contribute to the Office of Science's mission in discovery science and science for the national need. WDTS programs provide a

sustained pipeline for individuals to pursue STEM fields by rewarding and recognizing students from middle school through graduate school for their participation in areas of science and technology important to the Office of Science and to DOE.

In addition, WDTS encourages the participation of under-represented populations in all of its programs. WDTS works to strengthen the recruitment, retention, and workforce training opportunities of under-represented students and educators through strong partnerships with Minority Serving Institutions (MSIs) and scientific professional societies (such as the Society for Advancing Hispanics/Chicanos and Native Americans in Science (SACNAS), American Indian Higher Education Consortium, and the National Society of Black Physicists).

Subprograms

WDTS is organized into 3 subprograms: Student Programs, Educator Programs, and Program Administration and Evaluation.

- *Student Programs* focuses on encouraging middle school through graduate students to enter STEM careers and retaining them in the scientific and technical workforce.
- *Educator Programs* focuses on professional development experiences for middle school, high school, community college, and undergraduate educators.
- *Program Administration and Evaluation* develops and deploys evaluation and assessment for WDTS programs, and provides the framework for developing outreach programs to public and private sector organizations.

Benefits

Supporting the development of a skilled scientific workforce has been upheld by industry and academic leaders as essential for promoting sustained U.S. economic growth in the 21st century. WDTS programs provide participants a pathway to STEM careers in scientific disciplines relevant to DOE's mission in energy, environment, and national security, including careers at the Department and its national laboratories. These initiatives benefit society and promote the long-term economic health of our Nation by helping to create and strengthen a skilled and diverse scientific and technical workforce ready for current and emerging challenges in energy and the environment.

In addition, WDTS programs provide participants with the tools and knowledge they need to make an informed choice about STEM education and career options, including options that ultimately support the Office of Science mission goals. Internships, fellowships, competitions, and other activities are designed to introduce participants to world class scientific research and user facilities. Participants also have opportunities to engage in science directly tied to societal challenges, such as ensuring our Nation's energy and environmental security.

Program Planning and Management

In FY 2010, the WDTS program planning and management activities included:

- A review of the WDTS program by a Committee of Visitors (COV).[a] The Basic Energy Sciences Advisory Committee (BESAC) commissioned a COV subcommittee to examine WDTS business processes for their effectiveness and efficiency. The COV also assessed the quality of the WDTS portfolio, including its breadth and depth and national and international standing. WDTS reviewed the COV's findings and began the implementation of the COV's recommendations. The Office of

[a] The complete COV report can be found at http://www.science.doe.gov/bes/BESAC/reports.html

Science conducts COV reviews of major programs every three years to ensure program quality. BESAC was charged by SC to do the COV review of WDTS as WDTS does not have its own Federal Advisory Committee.

- Evaluation of all WDTS programs, including a longitudinal workforce study and the development of six leading indicators that drive program improvement efforts: quality, scientific and technical content knowledge, leverage, competition with reward, retention, and diversity. WDTS has developed pre- and post-surveys for all of its programs and uses that information to conduct analyses of national laboratory performance, the impact of WDTS programs on participants, and ways that WDTS programs can be better aligned to Office of Science mission requirements.
- Expansion of efforts to provide STEM professional development opportunities for undergraduate faculty and students as a way to increase the participation of under-represented minorities and women in DOE programs.

Coordination of Education/Workforce Development Activities

WDTS participates in the Education Subcommittee of the National Science and Technology Council. Through this subcommittee and other venues, WDTS engages with the National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), Department of Defense (DOD), National Institutes of Health (NIH), and other federal agencies to develop interagency efforts in STEM education.

WDTS also coordinates with other DOE program offices to develop workforce and STEM education efforts. These efforts leverage existing WDTS capabilities and resources, particularly those developed within the DOE national laboratory system. WDTS has established several program management systems and supporting infrastructure dedicated to STEM education and workforce efforts (an online application system, outreach efforts, etc.) that are of interest to other DOE program elements.

In FY 2010, WDTS worked with several programs as they developed workforce training and education initiatives: the Office of Energy Efficiency and Renewable Energy (EERE) was encouraged to hire an Einstein Fellow for a second year to provide needed educational technical expertise for their efforts, the National Nuclear Security Administration (NNSA) consulted with WDTS on diversity issues related to STEM, and the Office of Economic Impact and Diversity (ED) cooperated with WDTS on the placement of diverse candidates at DOE national laboratories.

Budget Overview

In FY 2012, increased funding for the DOE Office of Science Graduate Fellowship (SCGF) program will support a new cohort of graduate students. The SCGF is a three-year fellowship. The FY 2012 request will support a total of 320 fellowships: the first year of a new cohort of graduate students and the third year of the cohort awarded in FY 2010. Seventy graduate fellowships were awarded in FY 2010 with FY 2010 appropriated funds and 80 graduate fellowships were awarded using Recovery Act funds. These fellowships are awarded on a highly competitive basis. The graduate students awarded this fellowship are pursuing advanced science and engineering degrees in fields of basic research relevant to the Office of Science mission areas.

WDTS will increase support for core WDTS programs that the COV found exemplary: the Science Undergraduate Laboratory Internships, the Community College Institute, SCGF, Einstein Fellows, and National Science Bowl®. WDTS will discontinue three programs in FY 2012: DOE Academies Creating Teacher Scientists (DOE-ACTS), Pre-Service Teachers (PST), and High School Engineering. These

changes are consistent with the 2010 COV recommendations and part of an overall strategy to build a STEM workforce pipeline that is better aligned with Office of Science mission needs.

Student Programs

Funding Schedule by Activity

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Student Programs		
Science Undergraduate Laboratory Internships	3,958	6,000
Community College Institute of Science and Technology	875	2,000
DOE Office of Science Graduate Fellowship	5,006	16,100
National Science Bowl®	2,450	2,700
Pre-Service Teachers	453	0
High School Engineering	300	0
Total, Student Programs	13,042	26,800

Description

The Student subprogram encourages and enables middle school through graduate school students to pursue education, training, and, ultimately, career interests, in science, technology, mathematics, and engineering fields important to the Office of Science mission.

The DOE Office of Science Graduate Fellowship (DOE SCGF) program sponsors fellowships for outstanding U.S. graduate students pursuing advanced degrees in areas of basic research important to the Office of Science mission areas. The Science Undergraduate Laboratory Internships (SULI) and Community College Institute (CCI) programs introduce undergraduate students to the world-class researchers, user facilities, and other resources in the DOE national laboratory system through their intensive research participation as part of DOE research teams. The National Science Bowl® inspires middle and high school students to pursue STEM education and careers.

Selected FY 2010 Accomplishments

- The DOE SCGF program was successfully launched in FY 2010. Over 3,200 applicants applied for the 3-year fellowship awards. A rigorous merit-based review and selection process resulted in 150 awards to outstanding graduate students pursuing advanced degrees in areas of basic research relevant to Office of Science mission areas. The merit-based review process was conducted in collaboration with the six SC research programs. An August 2010 DOE SCGF research meeting and program orientation at Argonne National Laboratory was attended by the first cohort of 150 Fellows, who learned details about the SC-sponsored research programs and the scientific facilities at the laboratories; participated in scientific lectures and discussions; and met with DOE national laboratory representatives about research and career opportunities at the 17 DOE national laboratories.
- FY 2010 program evaluation of SULI and CCI confirmed that undergraduate research experiences at the DOE national laboratories significantly increased students' interest in pursuing a STEM career and increased their content knowledge in STEM fields of importance to DOE as a result of the experience. These evaluation findings validated the WDTS approach to STEM workforce

development, which relies heavily upon intensive research participation and strong mentoring experiences.

- The COV review of WDTS programs identified the National Science Bowl®, SCGF, SULI, and CCI as core exemplary programs and recommended increased support for these programs by redirecting funds from weaker WDTS programs.

Detailed Justification

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Science Undergraduate Laboratory Internships	**3,958**	**6,000**

The Science Undergraduate Laboratory Internships (SULI) program supports a diverse group of students at DOE's national laboratories in individually mentored research experiences. Students spend an intensive 10–16 weeks working under the individual mentorship of resident scientists, produce an externally-reviewed abstract and research report, and attend seminars on science careers and how to become part of the scientific community. Goals and outcomes are measured based on students' research papers and abstracts, pre- and post-surveys, and an annual evaluation by a group of peers, both within and outside of DOE. The COV recommended expansion of this program due to its high quality and impact.

WDTS supported 570 SULI students in FY 2010, and will support an estimated 850 SULI students in FY 2012. In FY 2012, approximately 150 of these SULI undergraduates will participate in FaST.

Community College Institute of Science and Technology	**875**	**2,000**

The Community College Institute (CCI) of Science and Technology, which provides a mentored research internship at a DOE national laboratory for highly motivated community college students, is designed to address DOE's workforce shortages, particularly at the skilled technician level for DOE mission critical areas, such as scientific instrumentation development and operation. CCI students spend an intensive 10–16 weeks working under the individual mentorship of resident scientists, produce an abstract and formal research paper, and attend professional enrichment activities, workshops, and seminars on career options and how to become part of the scientific community, and enhance their professional skills. Goals and outcomes are measured based on students' research reports and abstracts, pre- and post-surveys, and external evaluation. The COV identified this program as worthy of major expansion because of its potential impact on diverse populations entering the STEM workforce pipeline at the DOE national laboratories and the contributions CCI students make towards the technical staff needs at the laboratories.

WDTS will support an estimated 125 CCI students in FY 2010 and 280 students in FY 2012.

DOE Office of Science Graduate Fellowship	**5,006**	**16,100**

The goal of the DOE SCGF program is to support outstanding U.S. students in their pursuit of research-focused graduate studies in physics, chemistry, biology, mathematics, computer and computational science, engineering, and environmental science—areas of basic research important to the DOE Office of Science mission. Applicants must be U.S. citizens pursing graduate studies at an accredited U.S. college or university. Awards are competitively selected on the basis of external merit-based peer review of applications using established merit review criteria. The Fellowship provides up to three years of

support for a graduate student, including a stipend towards tuition and fees, an annual stipend for living expenses, and a research stipend that can be used for costs associated with the student's research and for travel to conferences and DOE scientific user facilities.

As part of the program, Fellows are introduced to the broad spectrum of research supported by the Office of Science and the DOE national laboratory system at an annual research meeting held at a different DOE laboratory each year. As part of the annual meeting, Fellows network with more seasoned researchers and their peers, share their research, attend lectures and poster sessions, tour laboratory facilities, and learn how to access the Office of Science user facilities for their research.

A strong connection with and direct access to the DOE national laboratory system is a unique feature of the program. A major goal of the annual research meeting is to encourage the Fellows to form collaborative research relationships with scientists at the DOE national laboratories and major SC-supported university research centers, and learn how they may advance their research with the scientific user facilities and other resources. This serves to strengthen the relationship between DOE national laboratories and universities that support the DOE science and technology mission.

Program evaluation will include surveys of current participants and longitudinal studies.

WDTS awarded its first DOE SCGF awards in FY 2010, with a total of 150 awards. Eighty fellowships were fully funded for three years with funds through the Recovery Act; the FY 2010 appropriation provided for the first year of funding for the other 70 three-year fellowships.[a]

In FY 2012, increased funding for the DOE Office of Science Graduate Fellowship (SCGF) program will support a new cohort of graduate students. The FY 2012 Request will support a total of 320 fellowships: the first year of a new cohort of graduate students and the third year of the cohort awarded in FY 2010. The goal of the SCGF program is to eventually support a total of 450 Fellows in steady state, with a new cohort of 150 Fellows each year.

National Science Bowl®	**2,450**	**2,700**

The National Science Bowl® is an internationally recognized, prestigious academic event for high school and middle school students. It has attained its level of recognition and participation through a grass-roots design, and encourages the voluntary participation of thousands of scientists, engineers, and educators from across the Nation. Students answer questions on topics in astronomy, biology, chemistry, mathematics, and physics in a highly competitive, Jeopardy®-style format.

In its 21-year history (1991–2011), more than 320,000 students from across the Nation have participated in regional and national competitions and have been encouraged to pursue careers in mathematics and science. The number of regional events remains relatively constant from one year to the next with 67 to 70 high school and 36 to 40 middle school teams participating in the national competition in recent years. About 22,000 middle and high school students participate at the regional and national competitions each year, along with more than 7,000 volunteers.

The COV praised the National Science Bowl® and recommended that WDTS focus on improving the diversity of regional competitions. In FY 2010 WDTS supported approximately 100 regional competitions and will support at least 110 in FY 2012 per the COV recommendation.

[a] Information about the FY 2010 awardees can be found at http://science.energy.gov/scgf.

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Pre-Service Teachers	**453**	**0**

In FY 2012, the Pre-Service Teachers (PST) program is discontinued consistent with the recommendation of the 2010 COV. The PST program prepared university students interested in pursuing STEM teaching careers. The COV recommended that funds from PST be reallocated to strengthen WDTS core programs (SULI, CCI, SCGF, etc.).

High School Engineering	**300**	**0**

The High School Engineering activity is not funded in FY 2012 per the recommendation of the 2010 COV. This activity was intended to provide a sharper focus on high school engineering education. The COV recommended that funds from this activity be reallocated to strengthen WDTS core programs (SULI, SCGF, CCI, etc.).

Total, Student Programs	**13,042**	**26,800**

Explanation of Funding Changes

	FY 2012 vs. FY 2010 Current Approp. ($000)
Science Undergraduate Laboratory Internship	
The number of students participating in this program increases by 280, from 570 in FY 2010 to a total of 850 in FY 2012.	+2,042
Community College Institute of Science and Technology	
The number of students participating in this program increases by 155, from 125 in FY 2010 to 280 in FY 2012.	+1,125
DOE Office of Science Graduate Fellowship	
A total of 320 Fellows will be supported in FY 2012, an increase of 170 Fellows from FY 2010.	+11,094
National Science Bowl®	
The number of students participating in this program increases through the addition of at least 10 new regional competitions in high-needs areas.	+250
Pre-Service Teachers	
The Pre-Service Teachers program is eliminated in FY 2012 per the 2010 COV recommendation.	-453
High School Engineering	
The High School Engineering activity is not funded in FY 2012 per the 2010 COV recommendation.	-300
Total Funding Change, Student Programs	**+13,758**

Educator Programs

Funding Schedule by Activity

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Educator Programs		
DOE Academies Creating Teacher Scientists	3,752	0
Faculty and Student Teams	1,019	1,400
Albert Einstein Distinguished Educator Fellowship	1,000	1,200
Total, Educator Programs	5,771	2,600

Description

WDTS Educator Programs are intended to increase the size and quality of the STEM workforce by improving the the ability of educators to serve as mentors and teach science and engineering content. The Faculty and Student Teams (FaST) program is WDTS's premier mechanism to bring under-represented faculty and students into the mainstream of DOE's research enterprise. The Albert Einstein Distinguished Educator Fellowship benefits Federal agencies and Congressional offices because these outstanding educators provide their real-world classroom expertise and advice to national policy makers. The DOE Academies Creating Teacher Scientists (ACTS) program is discontinued in FY 2012 after consideration of the 2010 COV recommendations; WDTS will reevaluate effective mechanisms of STEM teacher training in collaboration with other Federal agencies and the scientific community.

Selected FY 2010 Accomplishments

- In FY 2010, WDTS increased support for diverse students and faculty through the FaST program. A partnership with NSF contributed to WDTS' ability to enable 65 faculty members and 150 students from under-represented institutions to participate in mentored research projects at DOE national laboratories. Faculty and students reported in evaluation surveys that their scientific content knowledge, research capacity, and understanding of how to pursue and further a research career increased as a result of the FaST experience.

Detailed Justification

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
DOE Academies Creating Teacher Scientists	**3,752**	**0**

The DOE ACTS program is terminated in FY 2012 per the recommendation of the 2010 COV. The DOE ACTS program provided professional development opportunities for middle and high school educators at DOE national laboratories. The COV determined that the overall goal of the program was not clear; and questioned whether the program had significant impact in the classroom and on school systems. The COV recommended that funds from this activity be reallocated to strengthen WDTS core programs (SULI, CCI, SCGF, etc.). WDTS will reevaluate effective mechanisms of STEM teacher training in collaboration with other Federal agencies and the scientific community.

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Faculty and Student Teams	**1,019**	**1,400**

Faculty and Student Teams (FaST) provides an opportunity for faculty and students from under-represented colleges and universities to work on a mentor-intensive science research project at a DOE national laboratory. Faculty members are also encouraged to return to the laboratory in subsequent summer terms. The program has two key components: faculty professional development designed to encourage faculty with limited research experience to develop grant proposals and participate in DOE research programs and student cohorts who accompany the faculty member and participate in a mentored research effort. FaST activities at DOE national laboratories are also being conducted in collaboration with the NSF.

Surveys and other evaluation studies have revealed that faculty support of students at the DOE national laboratories is particularly important for Minority Serving Institutions (MSIs), which are primarily teaching institutions and may not currently support research activities at their home institutions. The FaST program enables the MSIs to build faculty research capabilities, encourages cohorts of diverse students to participate in DOE research, and improves the retention and recruitment of under-represented populations in the DOE system.

Undergraduate students participating in FaST are supported through the SULI and CCI programs, while the FaST budget request supports faculty participation. FaST supported 52 faculty in FY 2010, and will support at least 70 faculty in FY 2012.

Albert Einstein Distinguished Educator Fellowship	**1,000**	**1,200**

The Albert Einstein Distinguished Educator Fellowship for K–12 STEM educators brings classroom and education expertise to Congress, DOE, and other Federal agencies' education and outreach activities. These educators provide practical insights and real-world perspectives to policy makers and program managers. The Einstein Fellowship is also a valuable professional development opportunity for the educators because they return to the education field with knowledge of Federal programs and resources and an improved understanding of national education policies. WDTS manages the Einstein Fellowship on behalf of the Federal government and encourages participation by other Federal agencies.

Evaluation of the Einstein Fellowship program is conducted through longitudinal surveys of past participants, surveys of current participants, and reviews by external experts.

The FY 2012 WDTS request will directly support 7 Fellows. The funding also augments stipends and health insurance for the participants.

Total, Educator Programs	**5,771**	**2,600**

Explanation of Funding Changes

	FY 2012 vs. FY 2010 Current Approp. ($000)
DOE Academies Creating Teacher Scientists	
The DOE ACTS program is eliminated in FY 2012.	-3,752
Faculty and Student Teams	
The number of faculty supported increases by eighteen.	+381
Albert Einstein Distinguished Educator Fellowship	
The number of Fellows supported increases by one.	+200
Total Funding Change, Educator Programs	**-3,171**

Program Administration and Evaluation

Funding Schedule by Activity

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Program Administration and Evaluation		
Laboratory Equipment Donation Program	150	200
Evaluation Studies	227	5,000
Workforce Studies	300	0
Technology Development and On-Line Application	400	400
Outreach	688	500
Mentor Program	100	100
Total, Program Administration and Evaluation	1,865	6,200

Description

The Program Administration and Evaluation subprogram provides the data, analysis, and other resources required for effective WDTS program management and delivery. Analytical/evaluation studies are used to ensure the efficiency and effectiveness of WDTS programs. Non-financial resources, such as laboratory equipment and on-line applications, enable WDTS performers and participants to effectively participate in WDTS programs. In addition, WDTS has initiated a number of outreach efforts with universities, professional societies, the private sector, and other Federal agencies designed to leverage fully the WDTS investment in workforce development and STEM education programs.

Selected FY 2010 Accomplishments

- WDTS' effort to evaluate its programs in FY 2010 continued to emphasize an alignment of programmatic goals to leading indicators of success (retention, diversity, quality, content knowledge, competition with reward, and leveraging).
- In FY 2009–2010, WDTS successfully launched a beta version of the *ScienceEducation.gov* web portal, which provides a single location for students and faculty to identify content, experiments, and other materials that originate from WDTS, the DOE national laboratories, and other Federal mission agencies. This portal, developed in partnership with the DOE Office of Scientific and Technical Information (OSTI), provides educators and students with a single access point to educational resources from DOE, the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the U.S. Department of Agriculture, the National Institutes of Health, and the U.S. Geological Survey.

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Laboratory Equipment Donation Program	**150**	**200**

The Laboratory Equipment Donation Program provides excess equipment to faculty at institutions of higher education for energy sciences-related research. Through the Energy Asset Disposal System, DOE sites identify excess laboratory equipment and colleges and universities can then search for equipment of interest to them and apply via the website. DOE property managers approve or disapprove the applications. The equipment is free, but the receiving institution pays for shipping costs. "High needs" (as defined by the U.S. Department of Education) middle and high schools are also eligible, and WDTS pays for shipping costs to these institutions.

Evaluation Studies	**227**	**5,000**

In FY 2012, WDTS' Evaluation Studies and Workforce Studies activities are merged. Workforce studies are designed to be long-term sustained efforts that provide a baseline of data to effectively manage WDTS programs and set overall strategic direction. Continuing studies provide in-depth and systematic reviews of workforce requirements and help determine the long-term benefits of WDTS program investments by tracking the progress of STEM students and workers who participate in WDTS programs.

The Evaluation Studies activity is aligned with recommendations made by Congress through the passage of H.R. 2142, the GPRA Modernization Act of 2010, and the 2008 Congressionally-mandated Academic Competitiveness Council (ACC) initiative, which emphasize the need for Federal programs (including STEM education programs) to demonstrate their effectiveness through rigorous evaluation. WDTS is working cooperatively with NSF, NIH, Office of Science and Technology Policy (OSTP), and other Federal agencies to develop evaluation studies and data that will enable policymakers to assess the benefits and effectiveness of Federal investments.

In FY 2012, the Office of Science plans to initiate a research program to assess the effectiveness of investments in science, including those related to STEM workforce development, consistent with the Federal interagency Science of Science Policy (SoSP) initiative. The Office of Science has worked closely with OSTP, NSF, and other Federal agencies in the development of the SoSP effort, including the development of *The Science of Science Policy: A Federal Research Roadmap*, published in November 2008, and partnering in several community workshops. Research awards in FY 2012 will be competitively awarded on the basis of peer review.

Workforce Studies	**300**	**0**

Workforce Studies is merged into the Evaluation Studies budget in FY 2012.

Technology Development and On-Line Application	**400**	**400**

Technology Development and Online-Application Systems provides for a new IT architecture, which is a 3-year endeavor from FY 2010–2012, and is designed to enhance and maintain the WDTS application and electronic portfolio system. Funding in FY 2012 will support the on-going redesign of all of the websites, on-line applications, and surveys that participants complete during their internship/fellowship experiences.

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Outreach	**688**	**500**

Outreach provides information to WDTS program alumni (from competitions, undergraduate research internships, educator programs, etc.) to encourage their continued participation in WDTS and SC programs; creates a common database of internship opportunities, fellowships, and other research-based educational opportunities offered by WDTS; assists in the coordination of outreach activities with other Federal agencies; and enhances communication about WDTS programs to the public. A major emphasis of the outreach effort is to increase the participation of under-represented groups and institutions in WDTS programs. WDTS has established relationships with major associations representing under-represented groups and has been working with other Federal agencies, including NSF, to develop cooperative programs that leverage WDTS funds. The FY 2012 increase in funding responds to the COV recommendation to increase outreach to women, minorities, and other under-represented groups.

Mentor Program	**100**	**100**

The Mentor Program has two components: a professional development effort designed to recruit and train mentor scientists at DOE national laboratories, and a recognition/rewards program that will provide incentives for mentor participation in WDTS programs. Scientist mentors are the key resource for WDTS programs and must be nurtured and rewarded in a systematic manner to ensure a sufficient supply of mentors.

Total, Program Administration and Evaluation	**1,865**	**6,200**

Explanation of Funding Changes

	FY 2012 vs. FY 2010 Current Approp. ($000)
Laboratory Equipment Donation Program	
Funding is increased to provide support to high needs high schools.	+50
Evaluation Studies	
Increased funding reflects the integration of all evaluation and workforce studies into one activity and support for research grants related to the interagency Science of Science Policy (SoSP) effort designed to improve WDTS's evaluation of the benefits and effectiveness of its programs.	+4,773
Workforce Studies	
Decreased funding reflects merging of activities into the Evaluation Studies program.	-300

	FY 2012 vs. FY 2010 Current Approp. ($000)
Outreach	
WDTS will engage in additional cooperative outreach programs with other federal agencies to leverage WDTS funding, with a focus on reaching under-served populations.	-188
Total Funding Change, Program Administration and Evaluation	**+4,335**

Supporting Information

Operating Expenses, Capital Equipment and Construction Summary

(dollars in thousands)

	FY 2010 Current Appropriation	FY 2012 Request
Operating Expenses	20,678	35,600