



FORM APPROVED  
OMB No. 3145-0100  
Expiration Date: 10/31/13

**NATIONAL SCIENCE FOUNDATION**  
ARLINGTON, VA 22230  
**HIGHER EDUCATION RESEARCH AND DEVELOPMENT SURVEY**  
**FY 2012**

**Please submit your survey data by January 31, 2013.**

This survey collects data on research and development (R&D) activities at higher education institutions. Please report R&D activities and expenditures for your institution's **2012** fiscal year.

Your participation in this survey provides important information on the national level of R&D activity. The National Science Foundation (NSF) is authorized to collect this information under the National Science Foundation Act of 1950, as amended. Your institution's response is entirely voluntary.

**Questions?**

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Response to this survey is estimated to require 50 hours. Please report your actual completion time at the end of the questionnaire. If you wish to comment on the time required to complete this survey, please contact Suzanne H. Plimpton of NSF at (703) 292-7556, or e-mail splimpto@nsf.gov.

The Web address for submitting your data:

<http://www.herdsurvey.org>

Or mail this form to:

ICF International  
530 Gaither Road, Suite 500  
Rockville, MD 20850

**Thank you for your participation.**

# What's New for FY 2012

## Changes to survey definitions and instructions

In order to continue to provide greater clarity regarding what types of institutionally funded activities should be included, we have modified the instructions in several places on page 3. These revisions are not meant to be changes to the survey definitions; however we recognize that some institutions will need to revise their reporting as a result of these modified instructions. A new question was added (see below) in order to account for the changes made this year.

- The definition of R&D expenditures has been clarified to include all expenditures for R&D from your institution's current operating funds that can be separately accounted for. This includes projects that are separately budgeted and fall under OMB's A-21 definition of organized research, as well as expenditures of other funds designated for research.
- In the box labeled "R&D includes", three additional bullets were added: startup, bridge, or seed funding provided to researchers within your institution, other departmental funds designated for research, and tuition remission provided to students working on research.
- In the box labeled "R&D does not include", one bullet was revised to reduce ambiguity. It was changed from "departmental research that is not separately budgeted" to "estimates of the proportion of time budgeted for instruction that is spent on research."
- In the box labeled "Please include these components of your institution", the "university 501(c)3 foundation" bullet has been revised to include all university 501(c)3 foundations, not just those established to handle R&D awards.

## Changes to questions

- **Question 1.** Row d, Nonprofit organizations. An instruction has been added to specify that funds from your institution's 501(c)3 foundation be reported in row e1 (institutionally financed research).
- **Question 1.** Row e3, Unrecovered indirect costs. The wording has been modified to emphasize that *only* your externally funded R&D should be used to calculate these costs.
- **Questions 7 and 8.** Row a has been clarified to mean U.S. higher education institutions. Foreign institutions should be reported in row d.

## New question

- **Question 1.1.** This question asks if four different types of institutionally financed R&D expenditures were included in Question 1, row e1, both on the current FY 2012 survey and on the FY 2011 survey.

## Survey Definitions and Instructions

### Fiscal year (FY)

Please report data for your institution's 2012 fiscal year.

**Research and development (R&D)** is creative work conducted systematically to increase the stock of knowledge (research) and to use this stock of knowledge to devise new applications (development). R&D covers three activities defined below—basic research, applied research, and development.

- **Basic research** is undertaken primarily to acquire new knowledge without any particular application or use in mind.
- **Applied research** is conducted to gain the knowledge or understanding to meet a specific, recognized need.
- **Development** is the systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

### R&D expenditures

Include all R&D expenditures from your institution's current operating funds that are separately accounted for. For purposes of this survey, R&D includes expenditures for organized research as defined by 2 CFR 220 (OMB Circular A-21) and expenditures from funds designated for research.

| R&D <i>includes</i> :   | R&D does <i>not</i> include:   |
|---|--|
| <ul style="list-style-type: none"> <li>• Sponsored research (federal and nonfederal)</li> <li>• University research (institutional funds that are separately budgeted for individual R&amp;D projects)</li> <li>• Startup, bridge, or seed funding provided to researchers within your institution</li> <li>• Other departmental funds designated for research</li> <li>• Recovered and unrecovered indirect costs (see definitions in Question 1)</li> <li>• Equipment purchased from R&amp;D project accounts</li> <li>• R&amp;D funds passed through to a subrecipient organization, educational or other</li> <li>• Clinical trials, Phases I, II, or III (see definition in Question 5)</li> <li>• Research training grants funding work on organized research projects</li> <li>• Tuition remission provided to students working on research</li> </ul> | <ul style="list-style-type: none"> <li>• Public service grants or outreach programs</li> <li>• Curriculum development (unless included as part of an overall research project)</li> <li>• R&amp;D conducted by university faculty or staff at outside institutions that is not accounted for in your financial records</li> <li>• Estimates of the proportion of time budgeted for instruction that is spent on research</li> <li>• Capital projects (i.e., construction or renovation of research facilities)</li> <li>• Non-research training grants</li> <li>• Unrecovered indirect costs that exceed your institution's federally negotiated Facilities and Administrative (F&amp;A) rate</li> </ul> |

| Please <i>include</i> these components of your institution:   | Please do <i>not</i> include:   |
|---|---|
| <ul style="list-style-type: none"> <li>• All units of your institution included in or with your financial statements, such as:               <ul style="list-style-type: none"> <li>• Agricultural experiment stations</li> <li>• Branch campuses</li> <li>• Medical schools</li> <li>• Hospitals or clinics</li> <li>• Research centers and facilities</li> <li>• A university 501(c)3 foundation</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Federally Funded R&amp;D Centers (FFRDCs). This information is collected separately. See the list of FFRDCs: <a href="http://www.nsf.gov/statistics/ffrdc/">http://www.nsf.gov/statistics/ffrdc/</a>.</li> <li>• Other organizations or institutions, such as teaching hospitals or research institutes, with which your institution has an affiliation or relationship, but which are <i>not</i> components of your institution.</li> <li>• Other campuses headed by their own president, chancellor, or equivalent within your university system. Each campus is asked to respond separately.</li> </ul> |

**Question 1. How much of your total expenditures for research and development (R&D) came from the following sources in FY 2012? (See definition of R&D on the previous page.)**

- In rows a, b, c, d, and f: Include both **direct** and **recovered indirect costs** (reimbursement of F&A costs from external sponsors).
- Report the **original source** of funds, when possible.
- Include **all** fields of R&D (e.g., sciences, engineering, humanities, education, law, arts). See full listing in Question 9.

**R&D expenditures**  
(Dollars in thousands)  
(for example, report \$25,342 as \$25)

**Source of funds**

**a. U.S. federal government**

Any agency of the United States government.  
Include federal funds passed through from another institution.

\$ 85876

**b. State and local government**

Any state, county, municipality, or other local government entity in the United States, including state health agencies. Include state funds that support R&D at agricultural and other experiment stations.  
*Public institutions* should report state appropriations restricted for R&D activities here rather than in row e, Institutional funds.

\$ 29692

**c. Business**

Domestic or foreign for-profit organizations. Report funds from a company's nonprofit foundation in row d.

\$ 3594

**d. Nonprofit organizations**

Domestic or foreign nonprofit foundations and organizations. Report funds from your institution's 501(c)3 foundation in row e1.

\$ 517

**e. Institutional funds**

1. Institutionally financed research

All R&D funded by your institution from accounts that are only used for research.

\$ 27754  
(Confidential<sup>1</sup>)

2. Cost sharing

Include committed cost sharing other than unrecovered indirect costs. Report unrecovered indirect costs in row e3.

\$ 1913  
(Confidential<sup>1</sup>)

3. Unrecovered indirect costs

Calculate this amount as follows for your externally funded R&D only (preferably on a project-specific basis) using the appropriate cost rate—on-campus, off-campus, etc.

\$ 17177  
(Confidential<sup>1</sup>)

- First, multiply the negotiated rate by the corresponding base.
- Second, subtract recovered indirect costs.

4. Total institutional funds<sup>2</sup>

\$ 46844

**f. All other sources**

Other sources not reported above, such as funds from foreign governments.

\$ 0

**g. Total<sup>2</sup>**

\$ 166523

<sup>1</sup> Information from confidential items is not published or released for individual institutions; only aggregate totals will appear in publications. In accordance with the National Science Foundation Act of 1950, as amended, and other applicable federal laws, your responses will not be disclosed in identifiable form to anyone other than agency employees or authorized persons.

<sup>2</sup> Totals for rows e4 and g are automatically generated on the Web survey.

**Question 1.1. Did you include the following types of funding in your responses to Question 1, row e1?**

|  | (1)<br>Included in<br>Question 1e1<br>this year<br>(FY 2012) | (2)<br>Included in<br>Question 1e1 in<br>previous year<br>(FY 2011) |
|--|--|---|
| <b>a. Competitively awarded internal grants for research</b><br>Expenditures for organized research projects, involving a proposal or statement of work with expected research outcomes.   | <input checked="" type="checkbox"/>                          | <input checked="" type="checkbox"/>                                 |
| <b>b. Startup packages/bridge funding/seed funding</b><br>Expenditures from funds provided to faculty members to begin or continue their research while seeking external sponsors.   | <input checked="" type="checkbox"/>                          | <input checked="" type="checkbox"/>                                 |
| <b>c. Other departmental funds designated for research</b><br>Expenditures for research from other departmental or central accounts which do not match the descriptions provided in rows a or b.   | <input checked="" type="checkbox"/>                          | <input checked="" type="checkbox"/>                                 |
| <b>d. Tuition assistance for student research personnel</b><br>University tuition assistance, waivers, or remission provided to students working on organized research. Please check "included in Question 1e1" even if these funds are reported as part of the expenditures included under rows a, b, or c. | <input checked="" type="checkbox"/>                          | <input checked="" type="checkbox"/>                                 |

**Question 2. How much of the total R&D expenditures reported in Question 1, row g, came from foreign sources?**

- Include foreign governments, businesses, universities, nonprofit organizations, and any other entity sending funds to the U.S. from a location outside the U.S. and its territories.
- Projects sponsored by a U.S. location of a foreign company are **not** considered foreign.
- Include international governmental organizations **located in** the U.S., such as the United Nations, the World Bank, and the International Monetary Fund.

**R&D expenditures  
(Dollars in thousands)**

**Total R&D expenditures from foreign sources**

\$ 184

**Question 3. Of the total R&D expenditures that were externally funded (all sources other than the institutional funds reported in Question 1, row e4), how much was received under each of the following types of agreements?**

**R&D expenditures  
(Dollars in thousands)**

**a. Contracts** (including direct or prime contracts and subcontracts)

Contracts are legal commitments in which a good or service is provided by your institution that benefits the sponsor. The sponsor specifies the deliverables and gains the rights to results.

\$ 86825

**b. Grants, reimbursements, and all other agreements**

Include all other agreements in which payments are received but no good or service other than periodic reporting is required in exchange.

\$ 32854

**c. Total<sup>1</sup>**

(Total should match Question 1, row g minus Question 1, row e4)

\$ 119679

<sup>1</sup> The column total is automatically generated on the Web survey.

**Question 4. Of the total R&D expenditures reported in Question 1, row g, how much was expended for R&D projects in your medical school?**

Include projects that are assigned to the medical school or to research centers that are organizationally part of the medical school.

If your institution does not have a medical school (that is, a school that awards the MD or DO degree), check here and go to Question 5.



**R&D expenditures  
(Dollars in thousands)**

**Total R&D expenditures in the university's medical school**

\$ 0

**Question 5. Of the total R&D expenditures reported in Question 1, row g, how much was expended for Phase I, Phase II, and Phase III clinical trials with human patients?**

**Clinical trials** are research studies designed to answer specific questions about the effects of drugs, vaccines, medical devices, tests, treatments, and other therapies for patients. Clinical trials are used to determine safety and effectiveness.

For reference, the National Institutes of Health (NIH) categorizes human clinical trials into the following four phases.

Please **include**:

- Phase I uses a small group of human patients (20–80) to evaluate safety and identify side effects.
- Phase II uses a larger group (100–300) to test effectiveness and further evaluate safety.
- Phase III uses a large group (1,000–3,000) to confirm effectiveness, monitor side effects, compare to commonly used treatments, and collect safety information.

Please **exclude**:

- Phase IV is a post-market study that collects more information on risks, benefits, and optimal use.

If your institution did **not** conduct any clinical trials in FY 2012, check here:

|                              | <b>R&amp;D expenditures<br/>(Dollars in thousands)</b> |                           |                                  |
|------------------------------|--|---------------------------|----------------------------------|
|                              | <b>(1)<br/>Federal</b>                                 | <b>(2)<br/>Nonfederal</b> | <b>(3)<br/>Total<sup>1</sup></b> |
| <b>Human clinical trials</b> |  |                           |                                  |
| Trials with human patients   | \$ <u>          0</u>                                  | \$ <u>          0</u>     | \$ <u>          0</u>            |

<sup>1</sup> The row total is automatically generated on the Web survey.

**Question 6. What amounts of your FY 2012 R&D expenditures were for basic research, applied research, and development?**

If possible, these categories defining the character of work should be coded at the individual project level by the principal investigator. Estimates are acceptable if necessary.

See the table below this question for examples.

|  | R&D expenditures<br>(Dollars in thousands) |                       |                           |
|--|--|-----------------------|---------------------------|
|  | (1)<br>Federal                             | (2)<br>Nonfederal     | (3)<br>Total <sup>1</sup> |
| <b>a. Basic research</b><br>Research undertaken primarily to acquire new knowledge without any particular application or use in mind.  | \$ <u>Unavailable</u>                      | \$ <u>Unavailable</u> | \$ <u>Unavailable</u>     |
| <b>b. Applied research</b><br>Research conducted to gain the knowledge or understanding to meet a specific, recognized need.   | \$ <u>Unavailable</u>                      | \$ <u>Unavailable</u> | \$ <u>Unavailable</u>     |
| <b>c. Development</b><br>The systematic use of the knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes. | \$ <u>Unavailable</u>                      | \$ <u>Unavailable</u> | \$ <u>Unavailable</u>     |
| <b>d. Total<sup>1</sup></b><br>Column 1 total should match Question 1, row a.<br>Column 3 total should match Question 1, row g.  | \$ <u>Unavailable</u>                      | \$ <u>Unavailable</u> | \$ <u>Unavailable</u>     |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

| Examples  |  |   |
|---|--|---|
| Basic research  | Applied research   | Development   |
| A researcher is studying the properties of human blood to determine what affects coagulation. | A researcher is conducting research on how a new chicken pox vaccine affects blood coagulation.  | A researcher is conducting clinical trials to test a newly developed chicken pox vaccine for young children.  |
| A researcher is studying the properties of molecules under various heat and cold conditions.  | A researcher is investigating the properties of particular substances under various heat and cold conditions with the objective of finding longer-lasting components for highway pavement. | A researcher is working with state transportation officials to conduct tests of a newly developed highway pavement under various types of heat and cold conditions.           |
| A researcher is studying the heart chambers of various fish species.                          | A researcher is examining various levels of a toxic substance to determine the maximum safe level for fish in a stream.  | A researcher has a contract with the U.S. government to design a new stream monitoring system that will incorporate the latest research findings on toxicity levels for fish. |



**Question 7. How much of your R&D expenditures reported in Question 1 did your institution receive as a subrecipient?**

Please report the original source of funds in columns (1) and (2) and the pass-through source in rows a–d.

The **subrecipient** for an award carries out the work but receives the funds from a pass-through entity rather than directly from the original funding source. Subrecipients tend to be the co-authors of publications, writers of technical reports discussing findings, inventors, etc. Do **not** include vendor relationships. A vendor receives payment for goods and services provided. See OMB Circular A-133, Section 210.

**Examples:**

- A university receives federal funds from another university as a subaward. (Row a, column 1).
- A university receives federal funds from a company as a subaward (Row b, column 1).

|   | Originating source of R&D expenditures<br>(Dollars in thousands) |                   |                           |
|---|--|-------------------|---------------------------|
|   | (1)<br>Federal   | (2)<br>Nonfederal | (3)<br>Total <sup>1</sup> |
| <b>Entity passing funds to your institution</b>   |  |                   |                           |
| <b>a. U.S. higher education institutions</b>  |  |                   |                           |
| Colleges and universities and units owned, operated, and controlled by such institutions. | \$ 3828  | \$ 0              | \$ 3828                   |
| <b>b. Businesses</b>  |  |                   |                           |
| For-profit organizations  | \$ 0   | \$ 0              | \$ 0                      |
| <b>c. Nonprofit organizations</b>   |  |                   |                           |
| Nonprofit foundations and organizations   | \$ 0   | \$ 0              | \$ 0                      |
| <b>d. Other</b>   |  |                   |                           |
| State and local governments, foreign institutions, and others                             | \$ 7109  | \$ 0              | \$ 7109                   |
| <b>e. Total<sup>1</sup></b>   | \$ 10937   | \$ 0              | \$ 10937                  |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

**Question 8. How much of the R&D expenditures reported in Question 1 did your institution pass through to subrecipients?**

Please report the original source of funds in columns (1) and (2) and the entity receiving the funds in rows a–d.

Do **not** include vendor relationships. A vendor receives payment for goods and services provided. See OMB Circular A-133, Section 210.

**Examples:**

- Your institution passed through federal funds to another university (Row a, column 1).
- Your institution passed through funds from a company to another university (Row a, column 2).

|   | Originating source of R&D expenditures<br>(Dollars in thousands) |                   |                           |
|---|--|-------------------|---------------------------|
|   | (1)<br>Federal   | (2)<br>Nonfederal | (3)<br>Total <sup>1</sup> |
| <b>Entity receiving funds from your institution</b>                                       |  |                   |                           |
| <b>a. U.S. higher education institutions</b>  |  |                   |                           |
| Colleges and universities and units owned, operated, and controlled by such institutions. | \$ <u>7849</u>   | \$ <u>834</u>     | \$ <u>8683</u>            |
| <b>b. Businesses</b>  |  |                   |                           |
| For-profit organizations  | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| <b>c. Nonprofit organizations</b>   |  |                   |                           |
| Nonprofit foundations and organizations   | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| <b>d. Other</b>   |  |                   |                           |
| State and local governments, foreign institutions, and others                             | \$ <u>1385</u>   | \$ <u>147</u>     | \$ <u>1532</u>            |
| <b>e. Total<sup>1</sup></b>   | \$ <u>9234</u>   | \$ <u>981</u>     | \$ <u>10215</u>           |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

**Question 9A. What were your FY 2012 R&D expenditures in engineering funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

- Question 9 total (page 16, row K, column h) should match Question 1, row a.
- Please see "Related Information" on survey website for a list of the subagencies belonging to each agency shown below.
- If an individual project involves more than one of the 36 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.
- For subrecipient funding, report the agency that sponsored the original award.

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

| R&D Fields<br>(Examples listed below) | (a)<br>USDA    | (b)<br>DoD      | (c)<br>Energy  | (d)<br>HHS,<br>includes NIH | (e)<br>NASA   | (f)<br>NSF     | (g)<br>Other   | (h)<br>Total <sup>2</sup> |
|---------------------------------------|----------------|-----------------|----------------|-----------------------------|---------------|----------------|----------------|---------------------------|
| <b>A. Engineering</b>                 |                |                 |                |                             |               |                |                |                           |
| 1. Aeronautical/<br>Astronautical     | \$ 0           | \$ 0            | \$ 0           | \$ 0                        | \$ 0          | \$ 0           | \$ 0           | \$ 0                      |
| 2. Bioengineering/<br>Biomedical eng. | \$ 0           | \$ 0            | \$ 0           | \$ 0                        | \$ 0          | \$ 0           | \$ 0           | \$ 0                      |
| 3. Chemical                           | \$ 0           | \$ 31147        | \$ 138         | \$ 0                        | \$ 0          | \$ 0           | \$ 0           | \$ 31285                  |
| 4. Civil                              | \$ 12          | \$ 0            | \$ 182         | \$ 75                       | \$ 0          | \$ 6           | \$ 2333        | \$ 2608                   |
| 5. Electrical                         | \$ 0           | \$ 126          | \$ 52          | \$ 0                        | \$ 23         | \$ 466         | \$ 184         | \$ 851                    |
| 6. Mechanical                         | \$ 0           | \$ 118          | \$ 328         | \$ 0                        | \$ 253        | \$ 834         | \$ 69          | \$ 1602                   |
| 7. Metallurgical/<br>Materials        | \$ 0           | \$ 0            | \$ 0           | \$ 0                        | \$ 0          | \$ 0           | \$ 0           | \$ 0                      |
| 8. Other<br>engineering               | \$ 1370        | \$ 8460         | \$ 575         | \$ 236                      | \$ 0          | \$ 481         | \$ 3092        | \$ 14214                  |
| <b>9. Total<sup>2</sup></b>           | <b>\$ 1382</b> | <b>\$ 39851</b> | <b>\$ 1275</b> | <b>\$ 311</b>               | <b>\$ 276</b> | <b>\$ 1787</b> | <b>\$ 5678</b> | <b>\$ 50560</b>           |

<sup>1</sup> **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Engineering Fields of R&D**

| <b>A. Engineering</b>   | <b>4. Civil</b>   | <b>5. Electrical</b>   | <b>8. Other engineering</b>   |
|---|---|--|---|
| <b>1. Aeronautical/Astronautical</b><br>Aerodynamics<br>Aerospace engineering<br>Space technology<br><b>2. Bioengineering/Biomedical engineering</b><br>Biomaterials<br>Medical engineering<br><b>3. Chemical</b><br>Petroleum<br>Petroleum refining process<br>Plastics<br>Polymer<br>Wood science | Architectural<br>Architecture<br>Environmental<br>Environmental health<br>Geotechnical<br>Hydraulic<br>Hydrologic<br>Sanitary<br>Structural<br>Transportation | Communications<br>Computer<br>Electronics<br>Power<br><b>6. Mechanical</b><br>Engineering mechanics<br><b>7. Metallurgical/Materials</b><br>Ceramic<br>Materials science<br>Metallurgy<br>Mining and mineral<br>Textile<br>Welding | Agricultural<br>Engineering design<br>Engineering physics<br>Engineering science<br>Marine<br>Naval architecture<br>Nuclear<br>Ocean<br>Systems<br>Other engineering fields that cannot be classified using the fields listed above |

Question 9 continues on next page.

**Question 9B. What were your FY 2012 R&D expenditures in the physical sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

| <b>R&amp;D Fields</b><br>(Examples listed below) | <b>(a)</b><br><b>USDA</b> | <b>(b)</b><br><b>DoD</b> | <b>(c)</b><br><b>Energy</b> | <b>(d)</b><br><b>HHS,<br/>includes NIH</b> | <b>(e)</b><br><b>NASA</b> | <b>(f)</b><br><b>NSF</b> | <b>(g)</b><br><b>Other</b> | <b>(h)</b><br><b>Total<sup>2</sup></b> |
|--|---------------------------|--------------------------|-----------------------------|--|---------------------------|--------------------------|----------------------------|--|
| <b>B. Physical Sciences</b>                      |                           |                          |                             |  |                           |                          |                            |  |
| 1. Astronomy                                     | \$ 0                      | \$ 0                     | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 0                     | \$ 0                       | \$ 0                                   |
| 2. Chemistry                                     | \$ 0                      | \$ 190                   | \$ 0                        | \$ 139                                     | \$ 35                     | \$ 473                   | \$ 462                     | \$ 1299                                |
| 3. Physics                                       | \$ 0                      | \$ 687                   | \$ 700                      | \$ 352                                     | \$ 65                     | \$ 134                   | \$ 0                       | \$ 1938                                |
| 4. Other physical sciences                       | \$ 0                      | \$ 0                     | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 0                     | \$ 0                       | \$ 0                                   |
| 5. <b>Total<sup>2</sup></b>                      | \$ 0                      | \$ 877                   | \$ 700                      | \$ 491                                     | \$ 100                    | \$ 607                   | \$ 462                     | \$ 3237                                |

<sup>1</sup> **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Physical Sciences Fields of R&D**

| <b>B. Physical Sciences</b>   | <b>2. Chemistry</b>  | <b>3. Physics</b>   | <b>4. Other physical sciences</b>   |
|---|--|---|---|
| <b>1. Astronomy</b><br>Astrophysics<br>Gamma-ray astronomy<br>Neutrino astronomy<br>Optical astronomy<br>Radio astronomy<br>X-ray astronomy | (except biochemistry—report in Biological sciences)<br>Analytical chemistry<br>Inorganic chemistry<br>Organic chemistry<br>Organo-metallic chemistry<br>Pharmaceutical chemistry<br>Physical chemistry<br>Polymer sciences | Acoustics<br>Atomic physics<br>Chemical physics<br>Condensed matter physics<br>Elementary particle physics<br>Mathematical physics<br>Molecular physics<br>Nuclear structure<br>Optics<br>Plasma physics<br>Theoretical physics | Other physical sciences that cannot be classified using the fields listed above |

Question 9 continues on next page.

**Question 9C–E. What were your FY 2012 R&D expenditures in the environmental, mathematical, and computer sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

| <b>R&amp;D Fields</b><br>(Examples listed below) | <b>(a)</b><br><b>USDA</b> | <b>(b)</b><br><b>DoD</b> | <b>(c)</b><br><b>Energy</b> | <b>(d)</b><br><b>HHS,<br/>includes NIH</b> | <b>(e)</b><br><b>NASA</b> | <b>(f)</b><br><b>NSF</b> | <b>(g)</b><br><b>Other</b> | <b>(h)</b><br><b>Total<sup>2</sup></b> |
|--|---------------------------|--------------------------|-----------------------------|--|---------------------------|--------------------------|----------------------------|--|
| <b>C. Environmental Sciences</b>                 |                           |                          |                             |  |                           |                          |                            |  |
| 1. Atmospheric sciences                          | \$ 0                      | \$ 0                     | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 0                     | \$ 0                       | \$ 0                                   |
| 2. Earth sciences                                | \$ 0                      | \$ 0                     | \$ 19                       | \$ 0                                       | \$ 37                     | \$ 268                   | \$ 135                     | \$ 459                                 |
| 3. Oceanography                                  | \$ 0                      | \$ 0                     | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 0                     | \$ 65                      | \$ 65                                  |
| 4. Other environmental sciences                  | \$ 0                      | \$ 0                     | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 0                     | \$ 0                       | \$ 0                                   |
| 5. <b>Total<sup>2</sup></b>                      | \$ 0                      | \$ 0                     | \$ 19                       | \$ 0                                       | \$ 37                     | \$ 268                   | \$ 200                     | \$ 524                                 |
| <b>D. Mathematical Sciences</b>                  | \$ 0                      | \$ 19                    | \$ 9                        | \$ 0                                       | \$ 0                      | \$ 181                   | \$ 0                       | \$ 209                                 |
| <b>E. Computer Sciences</b>                      | \$ 73                     | \$ 39                    | \$ 0                        | \$ 0                                       | \$ 0                      | \$ 1052                  | \$ 151                     | \$ 1315                                |

<sup>1</sup> **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Environmental Sciences, Mathematical Sciences, and Computer Sciences Fields of R&D**

| <b>C. Environmental Sciences</b>   | <b>C. Environmental Sciences</b>  | <b>C. Environmental Sciences</b>  | <b>D. Mathematical Sciences</b>   |
|--|---|---|---|
| <b>1. Atmospheric sciences</b><br>Aeronomy<br>Extraterrestrial atmospheres<br>Meteorology<br>Solar<br>Weather modification | <b>(continued)</b><br><b>2. Earth sciences</b><br>Cartography<br>Earth and planetary sciences<br>Geochemistry<br>Geodesy and gravity<br>Geology<br>Geomagnetism<br>Geophysics<br>Hydrology<br>Paleomagnetism<br>Paleontology<br>Physical geography<br>Seismology<br>Surveying | <b>(continued)</b><br><b>3. Oceanography</b><br>Biological oceanography<br>Chemical oceanography<br>Geological oceanography<br>Marine biology<br>Marine oceanography<br>Physical oceanography<br><br><b>4. Other environmental sciences</b><br>Other environmental sciences that cannot be classified using the fields listed above | Algebra<br>Analysis<br>Applied mathematics<br>Foundations and logic<br>Geometry<br>Numerical analysis<br>Operations research<br>Statistics<br>Topology<br><br><b>E. Computer Sciences</b><br>Computer systems analysis<br>Data processing<br>Information sciences<br>Information technology<br>Management information systems |

Question 9 continues on next page.

**Question 9F. What were your FY 2012 R&D expenditures in the life sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

| R&D Fields<br>(Examples listed below) | R&D expenditures from federal sources <sup>1</sup><br>(Dollars in thousands) |            |               |                             |             |            |              | (h)<br>Total <sup>2</sup> |
|---------------------------------------|--|------------|---------------|-----------------------------|-------------|------------|--------------|---------------------------|
|                                       | (a)<br>USDA  | (b)<br>DoD | (c)<br>Energy | (d)<br>HHS,<br>includes NIH | (e)<br>NASA | (f)<br>NSF | (g)<br>Other |                           |
| <b>F. Life Sciences</b>               |  |            |               |                             |             |            |              |                           |
| 1. Agricultural sciences              | \$ 4853  | \$ 176     | \$ 83         | \$ 235                      | \$ 0        | \$ 87      | \$ 2183      | \$ 7617                   |
| 2. Biological sciences                | \$ 3442  | \$ 899     | \$ 599        | \$ 5026                     | \$ 0        | \$ 1312    | \$ 755       | \$ 12033                  |
| 3. Medical sciences                   | \$ 0   | \$ 0       | \$ 0          | \$ 1103                     | \$ 0        | \$ 0       | \$ 0         | \$ 1103                   |
| 4. Other life sciences                | \$ 0   | \$ 0       | \$ 0          | \$ 0                        | \$ 0        | \$ 0       | \$ 0         | \$ 0                      |
| 5. Total <sup>2</sup>                 | \$ 8295  | \$ 1075    | \$ 682        | \$ 6364                     | \$ 0        | \$ 1399    | \$ 2938      | \$ 20753                  |

<sup>1</sup> Key: USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Life Sciences Fields of R&D**

| F. Life Sciences   | 2. Biological sciences (continued)  | 3. Medical sciences (continued)  | 3. Medical sciences (continued)  |
|--|---|--|--|
| <b>1. Agricultural sciences</b><br>Agricultural chemistry<br>Agricultural economics—report in Social sciences, Economics<br>Agricultural engineering—report in Engineering<br>Agricultural production<br>Agronomy<br>Animal science<br>Aquaculture<br>Conservation<br>Fish and wildlife<br>Forestry<br>Horticulture<br>International agriculture<br>Landscape architecture<br>Plant sciences<br>Renewable natural resources<br>Soil sciences<br><br><b>2. Biological sciences</b><br>Allergies and immunology<br>Anatomy<br>Bacteriology<br>Biochemistry<br>Biogeography<br>Biology, general<br>Biometrics<br>Biophysics<br>Biostatistics<br>Biotechnology | Botany<br>Cellular biology<br>Ecology<br>Entomology<br>Epidemiology<br>Foods and nutrition studies<br>Genetics, plant and animal<br>Immunology<br>Medical microbiology<br>Microbiology<br>Molecular biology<br>Nutritional sciences<br>Parasitology<br>Pathology, human and animal<br>Pharmacology, human and animal<br>Physical anthropology<br>Physiology, human and animal<br>Toxicology<br>Virology<br>Zoology<br><br><b>3. Medical sciences</b><br>Anesthesiology<br>Cardiology<br>Colon and rectal surgery<br>Dental surgery<br>Dentistry | Dermatology<br>Family medicine<br>Gastroenterology<br>General surgery<br>Geriatric medicine<br>Gynecology<br>Hematology<br>Internal medicine<br>Mental health<br>Neonatal-perinatal medicine<br>Neurological surgery<br>Neurology<br>Neurosciences<br>Nuclear medicine<br>Nuclear radiology<br>Obstetrics<br>Oncology<br>Ophthalmology<br>Optometry<br>Oral surgery<br>Orthopedic surgery<br>Orthopedics<br>Osteopathic medicine<br>Otorhinolaryngology<br>Pediatrics<br>Pharmacology<br>Pharmacy<br>Physical and rehabilitative medicine<br>Plastic surgery<br>Podiatry | Preventive medicine<br>Psychiatric nursing<br>Psychiatry<br>Public health<br>Radiation biology/<br>Radiobiology<br>Thoracic surgery<br>Urology<br>Veterinary medicine—see note below<br><br><b>4. Other life sciences</b><br>Clinical/medical laboratory technologies<br>Communication disorders sciences and services<br>Gerontology<br>Health and medical administrative services<br>Health professions and related services, other<br>Nursing<br>Occupational therapy<br>Physical therapy<br>Rehabilitation services<br>Therapeutic services<br>Other life sciences that cannot be classified using the fields listed above |

**Note:** Please report veterinary R&D expenditures using agricultural sciences, biological sciences, and medical sciences, as appropriate.

**Question 9G–I. What were your FY 2012 R&D expenditures in psychology, social sciences, and other sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

| R&D Fields<br>(Examples listed below) | (a)<br>USDA | (b)<br>DoD | (c)<br>Energy | (d)<br>HHS,<br>includes NIH | (e)<br>NASA | (f)<br>NSF | (g)<br>Other | (h)<br>Total <sup>2</sup> |
|---------------------------------------|-------------|------------|---------------|-----------------------------|-------------|------------|--------------|---------------------------|
| <b>G. Psychology</b>                  | \$ 0        | \$ 0       | \$ 0          | \$ 0                        | \$ 0        | \$ 0       | \$ 0         | \$ 0                      |
| <b>H. Social Sciences</b>             |             |            |               |                             |             |            |              |                           |
| 1. Economics                          | \$ 1214     | \$ 27      | \$ 52         | \$ 0                        | \$ 0        | \$ 38      | \$ 75        | \$ 1406                   |
| 2. Political science                  | \$ 0        | \$ 0       | \$ 0          | \$ 0                        | \$ 0        | \$ 0       | \$ 0         | \$ 0                      |
| 3. Sociology                          | \$ 18       | \$ 0       | \$ 0          | \$ 15                       | \$ 0        | \$ 95      | \$ 0         | \$ 128                    |
| 4. Other social sciences              | \$ 0        | \$ 0       | \$ 3          | \$ 0                        | \$ 0        | \$ 0       | \$ 146       | \$ 149                    |
| 5. Total <sup>2</sup>                 | \$ 1232     | \$ 27      | \$ 55         | \$ 15                       | \$ 0        | \$ 133     | \$ 221       | \$ 1683                   |
| <b>I. Other Sciences</b>              | \$ 476      | \$ 2665    | \$ 0          | \$ 182                      | \$ 126      | \$ 3840    | \$ 306       | \$ 7595                   |

<sup>1</sup> Key: USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Psychology, Social Sciences, and Other Sciences Fields of R&D**

| <b>G. Psychology</b>  | <b>H. Social Sciences</b><br>(continued)  | <b>H. Social Sciences</b><br>(continued)   | <b>I. Other Sciences</b>  |
|---|---|--|---|
| Animal behavior<br>Art therapy<br>Clinical psychology<br>Educational psychology<br>Experimental psychology<br>Human development and personality<br>School psychology<br>Social psychology   | <b>2. Political science</b><br>Comparative government<br>Government<br>International relations and affairs<br>Legal systems<br>Political theory<br>Public administration<br>Public policy analysis<br>Regional studies  | <b>4. Other social sciences</b><br>Archaeology<br>Area and ethnic studies<br>City and community planning<br>Community services<br>Corrections<br>Criminal justice<br>Geography<br>History of science<br>Linguistics<br>Urban affairs<br>Urban and regional planning<br>Urban studies | Use this category for R&D that involves at least one S&E field (rows A–H) if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields. |
| <b>H. Social Sciences</b><br><b>1. Economics</b><br>Agricultural economics<br>Applied economics<br>Business development<br>Econometrics<br>Industrial economics<br>International economics<br>Labor economics<br>Managerial economics<br>Public finance and fiscal policy<br>Quantitative economics<br>Resource economics | <b>3. Sociology</b><br>Anthropology, cultural and social<br>Anthropology, physical—report in Life Sciences, Biological Sciences<br>Comparative and historical sociology<br>Complex organizations<br>Cultural and social structure<br>Demography<br>Group interactions<br>Population studies<br>Social problems and welfare theory |  |   |

**Question 9J–K. What were your FY 2012 R&D expenditures in the non-science and engineering (non-S&E) fields funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 12.)**

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

| <b>R&amp;D Fields</b><br>(Examples listed below)      | (a)<br><b>USDA</b> | (b)<br><b>DoD</b> | (c)<br><b>Energy</b> | (d)<br><b>HHS,<br/>includes NIH</b> | (e)<br><b>NASA</b> | (f)<br><b>NSF</b> | (g)<br><b>Other</b> | (h)<br><b>Total<sup>2</sup></b> |
|---|--------------------|-------------------|----------------------|-------------------------------------|--------------------|-------------------|---------------------|---------------------------------|
| <b>J. Non-S&amp;E Fields</b>                          |                    |                   |                      |                                     |                    |                   |                     |                                 |
| 1. Education  | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 2. Law  | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 3. Humanities   | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 4. Visual and performing arts                         | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 5. Business and management                            | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 6. Communication, journalism, and library science     | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 7. Social work  | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 8. Other non-S&E fields                               | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| 9. <b>Total<sup>2</sup></b>                           | \$ 0               | \$ 0              | \$ 0                 | \$ 0                                | \$ 0               | \$ 0              | \$ 0                | \$ 0                            |
| <b>K. Total for All Fields of R&amp;D<sup>2</sup></b> | \$ 11458           | \$ 44553          | \$ 2740              | \$ 7363                             | \$ 539             | \$ 9267           | \$ 9956             | \$ 85876                        |

Total for row K, column h should equal Total for Question 1, row a.

<sup>1</sup> **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

<sup>2</sup> Row and column totals are automatically generated on the Web survey.

**Examples of Disciplines: Non-S&E Fields of R&D**

| <b>J. Non-S&amp;E Fields</b>  | <b>3. Humanities</b><br>(continued)  | <b>6. Communication, journalism, and library science</b>        | <b>8. Other non-S&amp;E fields</b>  |
|---|--|---|---|
| <b>1. Education</b><br>(no specific examples)   | Liberal arts and sciences<br>Philosophy and religion<br>Theological studies and religious vocations                                    | Communication<br>Communications technologies<br>Library science | Military technologies<br>Parks, recreation, leisure and fitness studies<br>Other non-S&E fields that cannot be classified using the fields listed above                         |
| <b>2. Law</b><br>Legal studies  | <b>4. Visual and performing arts</b><br>(no specific examples)   | <b>7. Social work</b><br>(no specific examples)                 | Also, use this category for R&D that involves multiple non-S&E fields if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields. |
| <b>3. Humanities</b><br>English language and literature<br>Foreign languages and literature<br>General studies and humanities<br>History (except history of science—report in Other social sciences)<br>Letters | <b>5. Business and management</b><br>Business management and administrative services<br>Marketing distribution<br>Marketing operations |   |   |



**Question 10. Of the amount reported for Other federal sources in Question 9 (row K, column g), which agencies funded this R&D and how much of the reported amount was from each agency?**

If your institution reported \$0 in Question 9, row K, column g, check here  and go to Question 11.

- Use rows a–j to list up to 10 agencies that funded the largest R&D expenditures.
- Use row k to report any remaining amount.
- For subrecipient funding in this question, list the sponsor of the original award.
- Please see “Related Information” on the survey website for a list of federal agencies and their subagencies.

| Federal agencies (list up to 10)   | R&D expenditures<br>(Dollars in thousands) |
|--|--|
| a. <u>Department of Transportation (DOT)</u>                             | \$ <u>6961</u>                             |
| b. <u>U.S. Fish and Wildlife Services (FWS)</u>                          | \$ <u>928</u>                              |
| c. <u>Environmental Protection Agency (EPA)</u>                          | \$ <u>816</u>                              |
| d. <u>Department of the Interior (Interior)</u>                          | \$ <u>703</u>                              |
| e. <u>Department of Justice (DOJ)</u>                                    | \$ <u>401</u>                              |
| f. _____   | \$ _____                                   |
| g. _____   | \$ _____                                   |
| h. _____   | \$ _____                                   |
| i. _____   | \$ _____                                   |
| j. _____   | \$ _____                                   |
| k. Other agencies included in Question 9, column g, but not listed above | \$ <u>147</u>                              |
| l. <b>Total (should match Question 9, row K, column g.)<sup>1</sup></b>  | \$ <u>9956</u>                             |

<sup>1</sup> The column total is automatically generated on the Web survey.

**Question 11. How much of the federal R&D expenditures reported in Question 1, row a, was funded by the American Recovery and Reinvestment Act (ARRA)?**

|   | R&D expenditures<br>(Dollars in thousands) |
|---|--|
| <b>Total R&amp;D expenditures from ARRA funds</b> | \$ <u>2645</u>                             |

**Question 12A–B. What were your FY 2012 R&D expenditures in the engineering and physical sciences fields funded by the nonfederal sources below?**

- The totals in row K, page 20, should match the corresponding sources in Question 1, rows b–f.
- If an individual project involves more than one of the 36 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.

**R&D expenditures from nonfederal sources  
(Dollars in thousands)**

| <b>R&amp;D Fields</b><br>(See Question 9, pp. 11–12) | <b>(a)<br/>State and<br/>local<br/>government</b> | <b>(b)<br/>Business</b> | <b>(c)<br/>Nonprofit<br/>organizations</b> | <b>(d)<br/>Institutional<br/>funds</b> | <b>(e)<br/>Other<br/>nonfederal<br/>sources</b> | <b>(f)<br/>Total<sup>1</sup></b> |
|--|---|-------------------------|--|--|---|----------------------------------|
| <b>A. Engineering</b>                                |   |                         |  |  |   |                                  |
| 1. Aeronautical/<br>Astronautical                    | \$ 424  | \$ 0                    | \$ 0                                       | \$ 192                                 | \$ 0  | \$ 616                           |
| 2. Bioengineering/<br>Biomedical eng.                | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 3. Chemical  | \$ 5  | \$ 35                   | \$ 0                                       | \$ 623                                 | \$ 0  | \$ 663                           |
| 4. Civil   | \$ 13   | \$ 145                  | \$ 75                                      | \$ 1143                                | \$ 0  | \$ 1376                          |
| 5. Electrical  | \$ 68   | \$ 117                  | \$ 0                                       | \$ 1308                                | \$ 0  | \$ 1493                          |
| 6. Mechanical  | \$ 231  | \$ 430                  | \$ 0                                       | \$ 1398                                | \$ 0  | \$ 2059                          |
| 7. Metallurgical/Materials                           | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 8. Other engineering                                 | \$ 604  | \$ 136                  | \$ 107                                     | \$ 2961                                | \$ 0  | \$ 3808                          |
| 9. <b>Total<sup>1</sup></b>                          | \$ 1345   | \$ 863                  | \$ 182                                     | \$ 7625                                | \$ 0  | \$ 10015                         |
| <b>B. Physical Sciences</b>                          |   |                         |  |  |   |                                  |
| 1. Astronomy   | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 2. Chemistry   | \$ 18   | \$ 93                   | \$ 0                                       | \$ 2256                                | \$ 0  | \$ 2367                          |
| 3. Physics   | \$ 99   | \$ 284                  | \$ 0                                       | \$ 2735                                | \$ 0  | \$ 3118                          |
| 4. Other physical<br>sciences                        | \$ 27   | \$ 0                    | \$ 0                                       | \$ 13                                  | \$ 0  | \$ 40                            |
| 5. <b>Total<sup>1</sup></b>                          | \$ 144  | \$ 377                  | \$ 0                                       | \$ 5004                                | \$ 0  | \$ 5525                          |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Examples of disciplines for engineering and physical sciences fields of R&D are listed on pages 11–12.

**Question 12C–I. What were your FY 2012 R&D expenditures in the R&D fields listed below funded by the nonfederal sources below?**

**R&D expenditures from nonfederal sources**  
(Dollars in thousands)

| <b>R&amp;D Fields</b><br>(See Question 9, pp. 13–15) | <b>(a)</b><br><b>State and local government</b> | <b>(b)</b><br><b>Business</b> | <b>(c)</b><br><b>Nonprofit organizations</b> | <b>(d)</b><br><b>Institutional funds</b> | <b>(e)</b><br><b>Other nonfederal sources</b> | <b>(f)</b><br><b>Total<sup>1</sup></b> |
|--|---|-------------------------------|--|--|---|--|
| <b>C. Environmental Sciences</b>                     |   |                               |  |  |   |  |
| 1. Atmospheric sciences                              | \$ 0  | \$ 0                          | \$ 0   | \$ 0                                     | \$ 0  | \$ 0                                   |
| 2. Earth sciences                                    | \$ 23   | \$ 147                        | \$ 73  | \$ 2380                                  | \$ 0  | \$ 2623                                |
| 3. Oceanography                                      | \$ 0  | \$ 0                          | \$ 0   | \$ 27                                    | \$ 0  | \$ 27                                  |
| 4. Other environmental sciences                      | \$ 0  | \$ 0                          | \$ 0   | \$ 0                                     | \$ 0  | \$ 0                                   |
| 5. Total <sup>1</sup>                                | \$ 23   | \$ 147                        | \$ 73  | \$ 2407                                  | \$ 0  | \$ 2650                                |
| <b>D. Mathematical Sciences</b>                      | \$ 0  | \$ 0                          | \$ 9   | \$ 2211                                  | \$ 0  | \$ 2220                                |
| <b>E. Computer Sciences</b>                          | \$ 21   | \$ 17                         | \$ 0   | \$ 1143                                  | \$ 0  | \$ 1181                                |
| <b>F. Life Sciences</b>                              |   |                               |  |  |   |  |
| 1. Agricultural sciences                             | \$ 16226  | \$ 905                        | \$ 100                                       | \$ 9227                                  | \$ 0  | \$ 26458                               |
| 2. Biological sciences                               | \$ 6572   | \$ 995                        | \$ 21  | \$ 12061                                 | \$ 0  | \$ 19649                               |
| 3. Medical sciences                                  | \$ 6  | \$ 49                         | \$ 0   | \$ 6                                     | \$ 0  | \$ 61                                  |
| 4. Other life sciences                               | \$ 0  | \$ 0                          | \$ 0   | \$ 371                                   | \$ 0  | \$ 371                                 |
| 5. Total <sup>1</sup>                                | \$ 22804  | \$ 1949                       | \$ 121                                       | \$ 21665                                 | \$ 0  | \$ 46539                               |
| <b>G. Psychology</b>                                 | \$ 0  | \$ 0                          | \$ 9   | \$ 1487                                  | \$ 0  | \$ 1496                                |
| <b>H. Social Sciences</b>                            |   |                               |  |  |   |  |
| 1. Economics   | \$ 1176   | \$ 28                         | \$ 0   | \$ 957                                   | \$ 0  | \$ 2161                                |
| 2. Political science                                 | \$ 0  | \$ 0                          | \$ 0   | \$ 0                                     | \$ 0  | \$ 0                                   |
| 3. Sociology   | \$ 0  | \$ 1                          | \$ 0   | \$ 18                                    | \$ 0  | \$ 19                                  |
| 4. Other social sciences                             | \$ 202  | \$ 0                          | \$ 0   | \$ 2131                                  | \$ 0  | \$ 2333                                |
| 5. Total <sup>1</sup>                                | \$ 1378   | \$ 29                         | \$ 0   | \$ 3106                                  | \$ 0  | \$ 4513                                |
| <b>I. Other Sciences</b>                             | \$ 3977   | \$ 212                        | \$ 123                                       | \$ 2196                                  | \$ 0  | \$ 6508                                |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 13–15.

Question 12 continues on next page.

**Question 12J–K. What were your FY 2012 R&D expenditures in the non-science and engineering (non-S&E) fields funded by the nonfederal sources below?**

**R&D expenditures from nonfederal sources  
(Dollars in thousands)**

| <b>R&amp;D Fields</b><br>(See Question 9, p. 16)          | <b>(a)<br/>State and<br/>local<br/>government</b> | <b>(b)<br/>Business</b> | <b>(c)<br/>Nonprofit<br/>organizations</b> | <b>(d)<br/>Institutional<br/>funds</b> | <b>(e)<br/>Other<br/>nonfederal<br/>sources</b> | <b>(f)<br/>Total<sup>1</sup></b> |
|---|---|-------------------------|--|--|---|----------------------------------|
| <b>J. Non-S&amp;E Fields</b>                              |   |                         |  |  |   |                                  |
| 1. Education  | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 2. Law  | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 3. Humanities   | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 4. Visual and<br>performing arts                          | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 5. Business and<br>management                             | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 6. Communication,<br>journalism, and<br>library science   | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 7. Social work  | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 8. Other non-S&E<br>fields                                | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| 9. <b>Total<sup>1</sup></b>                               | \$ 0  | \$ 0                    | \$ 0                                       | \$ 0                                   | \$ 0  | \$ 0                             |
| <b>K. Total for All Fields of<br/>R&amp;D<sup>1</sup></b> | \$ 29692  | \$ 3594                 | \$ 517                                     | \$ 46844                               | \$ 0  | \$ 80647                         |

Totals in row K, columns a–e should match corresponding sources in Question 1, rows b–f.

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Examples of disciplines for non-S&E fields of R&D are listed on page 16.

**Question 13. Of the total amount of R&D expenditures reported in Question 1, row g, what were the amounts for the following types of costs?**

Please report only **direct costs** (including cost sharing) in rows a–e.  
Recovered and unrecovered **indirect costs** should be reported in rows f1 and f2.

**R&D expenditures**  
(Dollars in thousands)

**a. Salaries, wages, and fringe benefits**

Include compensation for all R&D personnel whether full-time or part-time, temporary or permanent. Include salaries, wages, and fringe benefits paid from your institution's funds and from external support.

\$ 95467

**b. Software purchases**

All payments for software. Include both purchases of software packages and license fees for systems.

**1. Noncapitalized software**

\$ 58

**2. Capitalized software** (If you are unable to distinguish capitalized software from capitalized equipment, report both in row c.)

\$ 134

**c. Capitalized equipment**

Payments for movable equipment exceeding your institution's capitalization threshold. Include ancillary costs such as delivery and setup.

\$ 4666

**d. Pass-throughs to other universities or organizations**

(should match the total in Question 8, row e, column 3)

\$ 10215

**e. Other direct costs**

Other costs that do not fit into one of the above categories, including (but not limited to) travel, tuition waivers, services such as consulting, computer usage fees, and supplies.

\$ 28951

**f. Indirect costs**

**1. Recovered indirect costs**

Reimbursement of Facilities and Administrative (F&A) costs from external sponsors.

\$ 9855

(Confidential<sup>1</sup>)

**2. Unrecovered indirect costs**

(should equal Question 1, row e3)

\$ 17177

(Confidential<sup>1</sup>)

**3. Total indirect costs<sup>2</sup>**

\$ 27032

**g. Total<sup>2</sup>**

(should match total from Question 1, row g)

\$ 166523

<sup>1</sup> Information from confidential items is not published or released for individual institutions; only aggregate totals will appear in publications. In accordance with the National Science Foundation Act of 1950, as amended, and other applicable federal laws, your responses will not be disclosed in identifiable form to anyone other than agency employees or authorized persons.

<sup>2</sup> Totals are automatically generated on the Web survey.

**Question 14. At the end of FY 2012, what were your institution's dollar capitalization thresholds (in thousands) for software and equipment?**

Dollars in thousands

(1)

Software

(2)

Equipment

Capitalization thresholds

\$ 5.0

\$ 5.0

**Question 15A–C. For the R&D fields below, what portion of your FY 2012 R&D expenditures went for the purchase of capitalized R&D equipment?**

Question 15 total (row K, column c) should match Question 13, row c (Capitalized equipment).

| R&D Fields<br>(See Question 9, pp. 11–13) | R&D equipment expenditures<br>(Dollars in thousands) |                   |                           |
|---|--|-------------------|---------------------------|
|   | (a)<br>Federal                                       | (b)<br>Nonfederal | (c)<br>Total <sup>1</sup> |
| <b>A. Engineering</b>                     |  |                   |                           |
| 1. Aeronautical/Astronautical             | \$ 0   | \$ 5              | \$ 5                      |
| 2. Bioengineering/Biomedical engineering  | \$ 0   | \$ 0              | \$ 0                      |
| 3. Chemical                               | \$ 96  | \$ 0              | \$ 96                     |
| 4. Civil                                  | \$ 9   | \$ 107            | \$ 116                    |
| 5. Electrical                             | \$ 24  | \$ 0              | \$ 24                     |
| 6. Mechanical                             | \$ 9   | \$ 58             | \$ 67                     |
| 7. Metallurgical/Materials                | \$ 0   | \$ 0              | \$ 0                      |
| 8. Other engineering                      | \$ 146   | \$ 266            | \$ 412                    |
| 9. <b>Total<sup>1</sup></b>               | \$ 284   | \$ 436            | \$ 720                    |
| <b>B. Physical Sciences</b>               |  |                   |                           |
| 1. Astronomy                              | \$ 0   | \$ 0              | \$ 0                      |
| 2. Chemistry                              | \$ 79  | \$ 277            | \$ 356                    |
| 3. Physics                                | \$ 228   | \$ 174            | \$ 402                    |
| 4. Other physical sciences                | \$ 0   | \$ 0              | \$ 0                      |
| 5. <b>Total<sup>1</sup></b>               | \$ 307   | \$ 451            | \$ 758                    |
| <b>C. Environmental Sciences</b>          |  |                   |                           |
| 1. Atmospheric sciences                   | \$ 0   | \$ 0              | \$ 0                      |
| 2. Earth sciences                         | \$ 5   | \$ 21             | \$ 26                     |
| 3. Oceanography                           | \$ 0   | \$ 0              | \$ 0                      |
| 4. Other environmental sciences           | \$ 0   | \$ 0              | \$ 0                      |
| 5. <b>Total<sup>1</sup></b>               | \$ 5   | \$ 21             | \$ 26                     |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 11–13.

**Question 15D–I.** For the R&D fields below, what portion of your FY 2012 R&D expenditures went for the purchase of capitalized R&D equipment?

| R&D Fields<br>(See Question 9, pp. 13–15) | R&D equipment expenditures<br>(Dollars in thousands) |                   |                           |
|---|--|-------------------|---------------------------|
|   | (a)<br>Federal                                       | (b)<br>Nonfederal | (c)<br>Total <sup>1</sup> |
| <b>D. Mathematical Sciences</b>           | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| <b>E. Computer Sciences</b>               | \$ <u>912</u>  | \$ <u>25</u>      | \$ <u>937</u>             |
| <b>F. Life Sciences</b>                   |  |                   |                           |
| 1. Agricultural sciences                  | \$ <u>164</u>  | \$ <u>731</u>     | \$ <u>895</u>             |
| 2. Biological sciences                    | \$ <u>244</u>  | \$ <u>433</u>     | \$ <u>677</u>             |
| 3. Medical sciences                       | \$ <u>3</u>  | \$ <u>0</u>       | \$ <u>3</u>               |
| 4. Other life sciences                    | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| 5. <b>Total<sup>1</sup></b>               | \$ <u>411</u>  | \$ <u>1164</u>    | \$ <u>1575</u>            |
| <b>G. Psychology</b>                      | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| <b>H. Social Sciences</b>                 |  |                   |                           |
| 1. Economics                              | \$ <u>26</u>   | \$ <u>0</u>       | \$ <u>26</u>              |
| 2. Political science                      | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| 3. Sociology                              | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| 4. Other social sciences                  | \$ <u>0</u>  | \$ <u>0</u>       | \$ <u>0</u>               |
| 5. <b>Total<sup>1</sup></b>               | \$ <u>26</u>   | \$ <u>0</u>       | \$ <u>26</u>              |
| <b>I. Other Sciences</b>                  | \$ <u>87</u>   | \$ <u>537</u>     | \$ <u>624</u>             |

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 13–15.

**Question 15J–K. For the non-science and engineering (non-S&E) R&D fields below, what portion of your FY 2012 R&D expenditures went for the purchase of capitalized R&D equipment?**

| <b>R&amp;D Fields</b><br>(See Question 9, p. 16)      | <b>R&amp;D equipment expenditures<br/>(Dollars in thousands)</b> |                           |                                  |
|---|--|---------------------------|----------------------------------|
|   | <b>(a)<br/>Federal</b>   | <b>(b)<br/>Nonfederal</b> | <b>(c)<br/>Total<sup>1</sup></b> |
| <b>J. Non-S&amp;E Fields</b>                          |  |                           |                                  |
| 1. Education  | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 2. Law  | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 3. Humanities   | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 4. Visual and performing arts                         | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 5. Business and management                            | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 6. Communication, journalism, and library science     | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 7. Social work  | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 8. Other non-S&E fields                               | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| 9. <b>Total<sup>1</sup></b>                           | \$ <u>0</u>  | \$ <u>0</u>               | \$ <u>0</u>                      |
| <b>K. Total for All Fields of R&amp;D<sup>1</sup></b> | \$ <u>2032</u>   | \$ <u>2634</u>            | \$ <u>4666</u>                   |

**Total for row K, column c, should match Question 13, row c (Capitalized equipment).**

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

**Examples of disciplines for non-S&E fields of R&D are listed on page 16.**



**Question 16. How many principal investigators and other personnel (headcount) were paid from the R&D salaries, wages, and fringe benefits you reported in Question 13, row a?**

- A **principal investigator (PI)** is designated by your institution to direct the R&D project or program and be responsible for the scientific and technical direction of the project. Co-investigators (co-PIs) may be designated for this role and should also be included in column 1.
- Count each person only once.
- If a person serves as a PI or co-PI on one project and other personnel on another project, count that person as a PI.
- Include all personnel and students paid from R&D accounts regardless of how much they received.

|                                     | (1)<br>Principal<br>investigators | (2)<br>All other<br>personnel | (3)<br>Total <sup>1</sup> |
|-------------------------------------|-----------------------------------|-------------------------------|---------------------------|
| <b>Number of people (headcount)</b> | Unavailable                       | Unavailable                   | Unavailable               |

<sup>1</sup> The row total is automatically generated on the Web survey.

**Question 17. Of the headcount reported in Question 16, column 3, how many are categorized as postdocs?**

NSF defines postdocs as meeting both of the following qualifications:

1. Holds a recent doctoral degree, generally awarded within the last 5 years
  - PhD or equivalent such as an ScD or DEng **or**
  - First professional degree in a medical or related field (MD, DDS, DO, DVM) **or**
  - Foreign equivalent to a U.S. doctoral degree
2. Has a limited-term appointment, generally no more than 5–7 years
  - Primarily for training in research or scholarship **and**
  - Working under the supervision of a senior scholar in a unit affiliated with **your** institution

|                                       |             |
|---------------------------------------|-------------|
| <b>Number of postdocs (headcount)</b> | Unavailable |
|---------------------------------------|-------------|

