## NATIONAL SCIENCE FOUNDATION

FORM APPROVED OMB No. 3145-0100 Expiration Date: 04/30/02

## ARLINGTON, VA 22230

## SURVEY OF RESEARCH AND DEVELOPMENT EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1999

Organizations are requested to complete and return this form to:

Quantum Research Corporation 7315 Wisconsin Avenue, Suite 400W Bethesda, MD 20814-3202

If you prefer, your response to the survey may be sent by email to: igreer@qrc.com

This form should be returned by January 24, 2000.

REMEMBER: Now you can submit your data on the Web at http://www.qrc.com/expweb. For more information, please see the informational brochure on the Web collection. Please note that your Web user ID and password are printed on the adjacent label, which also contains your name and address.

Your cooperation in returning the survey questionnaire promptly is very important.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of \$25,342 should be rounded to the nearest thousand dollars and reported as \$25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Data on research centers and facilities administered by your institution should be included. In addition, include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical programs of your medical schools.

**NOTE:** Academic institutions should exclude data for federally funded research and development centers (FFRDCs). Data for these facilities are collected separately.

Please correct if name or address has changed				

If you have any questions please contact Marge Machen of NSF at (703) 306-1772, or Jennifer Greer of QRC at (301) 657-3077, ext. 132.

Financial data are requested for your institution's 1999 fiscal year.

Please circle the month in which your institution's fiscal year begins

1 2 3 4 5 6 7 8 9 10 11 12

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Do you include expenditure	data for R&D	performed at a l	nospital?
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Yes □ No □

If so, please name the hospital.

It is estimated that response to this survey will require 13 hours. If you wish to comment on this burden, please contact Suzanne H. Plimpton of NSF at (703) 306-1125, ext. 2017, or email splimpto@nsf.gov.

How many person hours were required to complete this form? \_

Date submitted \_\_\_

## Scope:

This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D) in science and engineering. Definitions used are compatible with OMB Circular A-21, revised April 26, 1996. Items 1 and 2 ask for *current fund expenditures* by source of funds and by field of science and engineering. Item 3 collects data on that *portion of current fund expenditures* reported in Items 1 and 2 that went for the purchase of scientific and engineering research equipment.

## **Definitions:**

Research and Development (R&D). R&D for purposes of this survey is the same as "organized research" as defined in Section B.1.b. of OMB Circular A-21 (revised). It includes all R&D activities of an institution that are *separately budgeted and accounted for*. R&D includes both "sponsored research" activities (sponsored by Federal and non-Federal agencies and organizations) and "university research" (separately budgeted under an internal application of institutional funds).

**Research** is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

**Development** is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

Current fund expenditures. These are expenditures of funds available for current operations. Such expenditures include all unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.

## PERSON WHO SUBMITTED THIS FORM (PLEASE TYPE OR PRINT)

NAME:	TELEPHONE NUMBER:	
TITLE:	EMAIL:	
	FAX:	

## PERSON WHO PREPARED THIS FORM (IF DIFFERENT FROM ABOVE)

NAME:	TELEPHONE NUMBER:	
TITLE:	EMAIL:	
	FAX:	

## Instructions for Items 1 and 2

Separately budgeted research and development (R&D) includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. *Include* research equipment purchased under research project awards from "current fund" accounts. Also *include* research funds for which an outside organization, educational or other, is a subrecipient. *Exclude* training grants, public service grants, demonstration projects, clinical trials, and departmental research expenditures that are not separately budgeted. Also, *exclude* any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, as well as all other non-science fields. Allocate funding to the original sources whenever possible, as specified below. If this information is unknown, report the proximate funding source.

## Total

- a. Federal Government. Report awards for R&D (including direct and reimbursed indirect costs) by all agencies of the Federal Government.
- b. State and local governments. Include funds for R&D (including direct and reimbursed indirect costs) from state, county, municipal, or other local governments and their agencies. Include here state funds that support R&D at agricultural and other experiment stations.
- c. Industry. Include all awards for R&D (including direct and reimbursed indirect costs) from profit-making organizations, whether engaged in production, distribution, research, service, or other activities. Do not include awards from nonprofit foundations financed by industry; these should be reported under "All other sources" (line 1175).
- d. Institution funds. Report funds, including related indirect costs, that your institution spent for R&D activities from the following unrestricted sources: general-purpose state or local government appropriations; general-purpose awards from industry, foundations, or other outside sources; tuition and fees; endowment income; gifts; and other institutional funds. In addition, estimate your institution's on-campus and off-campus unreimbursed indirect costs associated with externally funded R&D projects, including mandatory and voluntary cost sharing. To estimate unreimbursed indirect costs, preferably on a project-by-project basis, use your appropriate on-campus or off-campus negotiated research indirect cost rate(s) multiplied by the corresponding base(s) minus actual indirect cost recovery.
- e. All other sources. Include awards for R&D (including direct and reimbursed indirect costs) from nonprofit foundations and voluntary health agencies as well as from all other sources not elsewhere classified. Funds from foundations that are affiliated with, or granted solely to your institution, should be included under line 1160, "Institution funds." Funds for R&D received from a health agency that is a unit of a state or local government should be reported under "State and local governments" (line 1125). Also include gifts from individuals that are restricted by the donor to research.

## ITEM 1. CURRENT FUND EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS: FY 1999 (Include indirect costs)

Source of Funds	Line No.	(1) Total (Dollars in Thousands)	(2) Percentages of Total & Federal Funds That Are Basic Research
a. Federal Government	1110	\$	%
b. State and local governments	1125		Basic research is directed toward an
c. Industry	1150		increase of knowledge; it is
d. Institution funds (sum of lines 1161 and 1162)	1160		research where the primary aim of the investigator is a
(1) Institutionally financed organized research	1161		fuller knowledge or understanding of
(2) Unreimbursed indirect costs and related sponsored research	1162		the subject under study rather than a
e. All other sources	1175		specific application thereof.
f. TOTAL (sum of a through e)	1100	\$	%

## **BASIC RESEARCH**

Please provide the percentages of total and Federal expenditures that are basic research (not applied research) as defined in column (2).

## CONFIDENTIALITY

Information received from individual institutions in lines 1161 and 1162, or estimates for basic research expenditures, will NOT be published or released; only aggregate totals will appear in tabulations.

## ITEM 1A. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING PASSED THROUGH THE INSTITUTION TO SUBRECIPIENTS

How much of your total R&D (line 1100) and Federal R&D (line 1110) expenditures was passed through by your institution to subrecipients?

Subrasinianta	Line	Dollars in Thousands		
Subrecipients	No.	(1) Total	(2) Federal	
Educational subrecipients	1910			
Other subrecipients	1920			
Total	1900			

For Federal awards, **subrecipient** means the entity that expends Federal awards received from a pass-through entity to carry out a Federal program, but does not include an individual that is a beneficiary of such a program. A subrecipient may also be a recipient of other Federal awards directly from a Federal awarding agency. —*OMB Circular A-133, Section .105 (revised April 22, 1996)* For awards from non-Federal sources, the subrecipient definition is analogous to the Federal one.

**Educational** [subrecipients] refers to all academic colleges and universities and all units owned, operated, and controlled by such institutions.

## ITEM 2. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE AND ENGINEERING: FY 1999 (Include indirect costs)

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in Item 1, line 1100, column 1.

Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in Item 1, line 1110, column 1.

Field of colones 9 anninessing	Line	(Dollars in thousands)		
Field of science & engineering	No.	(1) Total	(2) Federal	
a. ENGINEERING (TOTAL)	1410	\$	\$	
(1) Aeronautical & astronautical	1411			
(2) Bioengineering/biomedical engineering	1418			
(3) Chemical	1412			
(4) Civil	1413			
(5) Electrical	1414			
(6) Mechanical	1415			
(7) Metallurgical & materials	1417			
(8) Other	1416			
b. PHYSICAL SCIENCES (TOTAL)	1420			
(1) Astronomy	1421			
(2) Chemistry	1422			
(3) Physics	1423			
(4) Other	1424			
c. ENVIRONMENTAL SCIENCES (TOTAL)	1430			
(1) Atmospheric	1431			
(2) Earth sciences	1432			
(3) Oceanography	1433			
(4) Other	1434			
d. MATHEMATICAL SCIENCES (TOTAL)	1441			
e. COMPUTER SCIENCES (TOTAL)	1442			
f. LIFE SCIENCES (TOTAL)	1450			
(1) Agricultural	1451			
(2) Biological	1452			
(3) Medical	1453			
(4) Other	1454			
g. PSYCHOLOGY (TOTAL)	1460			
n. SOCIAL SCIENCES (TOTAL)	1470			
(1) Economics	1471			
(2) Political science	1472			
(3) Sociology	1473			
(4) Other	1474			
i. OTHER SCIENCES, not elsewhere classified (TOTAL)	1480			
j. TOTAL (sum of a through i)	1400	\$	\$	

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields.

## ITEM 3. CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE AND ENGINEERING: FY 1999

Please report that portion of current fund expenditures reported in items 1 and 2 that went for the purchase of research equipment. This includes all research equipment purchased under sponsored research project awards from current fund accounts.

For column (1), report current fund expenditures for R&D from all sources: Federal Government, state, county, municipal or other governments and their agencies (including state funds supporting R&D at agricultural experiment stations); industry; institution funds; and private foundations and voluntary health agencies, individuals, and associations.

For column (2), include funds from awards for R&D sponsored by agencies of the Federal Government.

Field of spiones & anginopring	Line	(Dollars in thousands)		
Field of science & engineering	No.	(1) Total	(2) Federal	
a. ENGINEERING (TOTAL)	1810	\$	\$	
(1) Aeronautical & astronautical	1811			
(2) Bioengineering/biomedical engineering	1818			
(3) Chemical	1812			
(4) Civil	1813			
(5) Electrical	1814			
(6) Mechanical	1815			
(7) Metallurgical & materials	1817			
(8) Other	1816			
D. PHYSICAL SCIENCES (TOTAL)	1820			
(1) Astronomy	1821			
(2) Chemistry	1822			
(3) Physics	1823			
(4) Other	1824			
c. ENVIRONMENTAL SCIENCES (TOTAL)	1830			
(1) Atmospheric	1831			
(2) Earth sciences	1832			
(3) Oceanography	1833			
(4) Other	1834			
d. MATHEMATICAL SCIENCES (TOTAL)	1841			
e. COMPUTER SCIENCES (TOTAL)	1842			
f. LIFE SCIENCES (TOTAL)	1850			
(1) Agricultural	1851			
(2) Biological	1852			
(3) Medical	1853			
(4) Other	1854			
g. PSYCHOLOGY (TOTAL)	1860			
n. SOCIAL SCIENCES (TOTAL)	1870			
(1) Economics	1871			
(2) Political science	1872			
(3) Sociology	1873			
(4) Other	1874			
. OTHER SCIENCES, not elsewhere classified (TOTAL)	1880			
. TOTAL (sum of a through i)	1800	\$	\$	

Current fund expenditures in each field for scientific research equipment is that PORTION or SUBTOTAL of the amounts reported in the corresponding cells of the "Total" and "Federal" columns in Item 2.

## CROSSWALK BETWEEN NSF FIELDS OF SCIENCE & ENGINEERING AND THE NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS

The left-hand column shows each of the detailed fields as displayed on the questionnaire form. The right-hand column shows the NCES fields that are included within the NSF category as well as some additional illustrative disciplines. These additional disciplines are intended to be guidelines—not sharp definitions—as to what should be reported under a particular field.

Questionnaire Field	NCES Classif	ication	and Additional Illustrativ	ve Disc	ciplines
a. ENGINEERING (1) Aeronautical & Astronautical	14.02 Aerospace, Aeronautical, and A (also aerodynamics, space technology)	Astronauti	cal Engineering		
(2) Bioengineering/ Biomedical Engineering	14.05 Bioengineering and Biomedical	Engineer	ing		
(3) Chemical	03.0509 Wood Science (also petroleum refining process)	14.07 14.32	Chemical Engineering Polymer/Plastics Engineering	14.25	Petroleum Engineering
(4) Civil	04.02 Architecture 14.14 Environmental/Environmental H (also geotechnical, hydraulic, hydrologic,			14.08 ansportat	Civil Engineering
(5) Electrical	14.09 Computer Engineering (also power engineering)	14.10	Electrical, Electronics, and Communications Engineering		
(6) Mechanical	14.11 Engineering Mechanics	14.19	Mechanical Engineering		
(7) Metallurgical & Materials	14.06 Ceramic Sciences and Eng. 14.18 Materials Engineering 14.28 Textile Sciences and Eng. (also welding)	14.15 14.20 14.31	Geological Engineering Metallurgical Engineering Materials Science	14.16 14.21 40.0701	Geophysical Engineering Mining and Mineral Eng. I Metallurgy
(8) Other	<ul> <li>14.01 Engineering, General</li> <li>14.13 Engineering Science</li> <li>14.23 Nuclear Engineering</li> <li>14.27 Systems Engineering</li> <li>14.99 Engineering, Other</li> <li>(also marine and ocean engineering systems)</li> </ul>	14.03 14.17 14.24 14.29 30.06 ems)	Agricultural Engineering Industrial/Manufacturing Eng. Ocean Engineering Engineering Design Systems Science and Theory	14.12 14.22 14.30	Engineering Physics Naval Architecture and Marine Engineering Eng./Industrial Management
b. PHYSICAL SCIENCES  (1) Astronomy	40.02 Astronomy (also Gamma-ray, neutrino, optical and ra	40.03 dio, X-ray	Astrophysics		
(2) Chemistry	40.05 Chemistry (also analytical, inorgence biochemistry))	ganic, org	anic, organo-metallic, pharmace	eutical, pl	hysical, polymer sciences
(3) Physics	40.08 Physics (also acoustics, atomic optics, plasma, theoretical/mathematical)		r, chemical, condensed matter,	element	ary particles, nuclear structure,
(4) Other	40.01 Physical Sciences, General (used for multidisciplinary projects within p		Miscellaneous Physical Sciences, Other ciences and for disciplines not r	40.99 equested	Physical Sciences, Other d separately)
c. ENVIRONMENTAL SCIENCES (Earth, Atmospheric, & Ocean) (1) Atmospheric	40.04 Atmospheric Sciences and Mete (also aeronomy, extraterrestrial atmosphe		, weather modification)		
(2) Earth Sciences	15.1102 Surveying 40.0703 Earth & Planetary Sciences (also engineering geophysics, general geophysics, organic geochemistry, paleon	ology, ged		m, hydro	
(3) Oceanography	26.0607 Marine/Aquatic Biology (also biological, chemical, geological, physical)		Oceanography		
(4) Other	(used for multidisciplinary projects within I	Earth, Atr	nospheric, and Ocean Sciences	)	
d. MATHEMATICAL SCIENCES	27.01 Mathematics, General 27.05 Mathematical Statistics (also algebra, analysis, foundations and lo	27.03 27.99 ogic, geor	Applied Mathematics Mathematics, Other netry, numerical analysis, topolo	30.08	2 Operations Research Math./Computer Sciences

Questionnaire Field	NCES Classification	on and Additional Illustrative D	Disciplines (cont.)
e. COMPUTER SCIENCES	11 Computer and Information Science (also design, development, and application		ment Information Systems e and manipulation, information science)
f. LIFE SCIENCES  (1) Agricultural	02.01 Agricultural Sciences	01.0303 Aquaculture 02.04 Plant Sciences 04.06 Landscape Architecture mal science, conservation, fish and wild	01.07 International Agriculture 02.05 Soil Science
(2) Biological	26.0203 Biophysics 26.05 Microbiology/Bacteriology 26.0609 Nutritional Sciences 26.0613 Genetics, Plant and Animal 26.0699 Misc. Bio. Specializations, Other 26.0704 Pathology, Human and Animal 26.0799 Zoology, Other 26.99 Biolog./Life Sciences, Other 51.1307 Medical Immunology	26.0705 Pharmacology, Human and Animal 51.1301 Medical Anatomy 51.1308 Medical Microbiology 51.1314 Medical Toxicology	26.0202 Biochemistry 26.04 Cell and Molecular Biology 26.0603 Ecology 26.0612 Toxicology 26.0615 Biostatistics 26.0702 Entomology 26.0706 Physiology, Human and Animal 51.1302 Medical Biochemistry 51.1312 Medical Pathology 51.2203 Epidemiology anthropology, virology)
(3) Medical	51.1201 Medicine, General 51.17 Optometry 51.20 Pharmacy 51.24 Veterinary Medicine¹ Anesthesiology Dental/Oral Surgery Gastroenterology Hematology Neonatal-Perinatal Medicine Nuclear Medicine Oncology Otorhinolaryngology Physical and Rehabilitative Medicine	26.0611 Radiation Biology/Radiobiol. 51.1399 Med. Basic Sciences, Other 51.19 Osteopathic Medicine 51.21 Podiatry  Cardiology Dermatology General Surgery Internal Medicine Neurological Surgery Nuclear Radiology Ophthalmology Pediatrics Plastic Surgery Thoracic Surgery	51.04 Dentistry 51.1610 Nursing Psychiatry/ Mental Health 51.22 Public Health  Colon and Rectal Surgery Family Medicine Geriatric Medicine Medical Programs, Other Neurology Obstetrics and Gynecology Orthopedics/Orthopedic Surgery Pharmacology Preventive Medicine Urology
(4) Other	51.10 Health and Medical Laboratory Technologies	51.02 Communication Disorders Sciences and Services 51.16 Nursing Technologies 51.2399 Rehab./Therapeutic Services fe sciences)	51.07 Health and Medical Administrative Services 51.2306 Occupational Therapy 51.99 Health Professions and Related Services, Other
g. PSYCHOLOGY	42.01 Psychology, General 51.2301 Art Therapy (also animal behavior, educational, experin	42.02 Clinical Psychology	42.17 School Psychology ality, social)
h. SOCIAL SCIENCES (1) Economics	01.0103 Agricultural Economics (also applied, development, econometrics, resource)	45.06 Economics industrial, international, labor, public final	52.06 Business/Managerial Econ. ance and fiscal policy, quantitative,
(2) Political Science	44.04 Public Administration 44.99 Public Admin. and Services, Oth 45.10 Political Science and Governmer (also comparative government, legal system	nt	and Affairs
(3) Sociology	45.02 Anthropology (Social and Cultural only) (also comparative and historical, complex of social problems and welfare theory)	45.05 Demography and Population Studies organizations, cultural and social structu	45.11 Sociology re, group interactions,
(4) Other	Regional Planning 45.01 Social Sciences, General	05 Area and Ethnic Studies 43.01 Crim'l. Justice & Corrections 45.03 Archaeology 45.99 Social Sciences, Other ography)	16.0102 Linguistics 44.02 Community Services 45.07 Geography
i. OTHER SCIENCES, n.e.c.	(used when the multidisciplinary and interd make the classification under one primary		

<sup>&</sup>lt;sup>1</sup> Institutions with schools of veterinary medicine should distribute R&D expenditures among the appropriate disciplines (agricultural, biological, and medical) rather than only in medical sciences.



## OPTIONAL ITEM 2A. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT BY NON-SCIENCE AND ENGINEERING FIELD: FY 1999 (Include indirect costs)

(include maneet costs)

**NOTE:** For rows 2A(a) through 2A(i), report only data that have not been reported in Items 1 and 2 on this survey. Non-S&E R&D should **include** any separately budgeted scholarly and creative activity, but should **exclude** training.

Non-science & engineering fields		(Dollars in thousands)	
	No.	(1) Total	(2) Federal
a. EDUCATION	1510		
b. LAW	1520		
c. HUMANITIES	1530		
d. VISUAL & PERFORMING ARTS	1540		
e. BUSINESS AND MANAGEMENT	1550		
f. COMMUNICATIONS, JOURNALISM, AND LIBRARY SCIENCE	1560		
g. SOCIAL WORK	1570		
h. OTHER NON-S&E FIELDS, please specify:	1580		
i. TOTAL, NON-S&E FIELDS	1500		
: TOTAL CSE (from Itom 2 line i)	1400		
j. TOTAL, S&E (from Item 2, line j)	1700		
k. GRAND TOTAL	1600		

NOTE: If you cannot provide expenditures by non-S&E fields, please provide the Total (column 1, line 1500) and Federal Total (column 2, line 1500).

## CROSSWALK BETWEEN NSF NON-SCIENCE & ENGINEERING FIELDS AND THE NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS

Questionnaire Field	CIP Code	CIP Program Category Title
Education	13.xx	Education
Law	22.xx	Law and Legal Studies
Humanities	16.xx 23.xx 24.xx 38.xx 39.xx 45.08	Foreign Languages & Literature English Language and Literature/Letters Liberal Arts & Sciences, General Studies & Humanities Philosophy and Religion Theological Studies and Religious Vocations History (except History of Science)
Visual & Performing Arts	50.xx	Visual and Performing Arts
Business and Management	52.xx 08.xx	Business Management and Administrative Services Marketing Operations/Marketing Distribution
Communications, Journalism, and Library Science	09.xx 25.xx 10.xx	Communications Library Science Communications Technologies
Social Work	44.07	Social Work
Other Non-S&E Fields	31.xx 29.xx	Parks, Recreation, Leisure and Fitness Studies Military Technologies

## **OPTIONAL ITEM 2B**

## CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE & ENGINEERING: FY 1999 (Include indirect costs)

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in Item 1, line 1100, column 1. Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in Item 1, line 1110, column 1.

Allocate funding to the original sources whenever possible. If that information is unknown, report the proximate funding source.

KEY: USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" Federal sources include all other Federal agencies.

Field of science and		(Dollars in thousands)								
	Line	TOTAL TOTAL SPECIFIC FEDERAL AGENCIES								
engineering	No.	ALL	FEDERAL	USDA	DoD	DOE	HHS*	NASA	NSF	Other
a. Engineering (Total)	1410									
(1) Aeronautical & astronautical	1411									
(2) Bioengineering/biomedical engineering	1418									
(3) Chemical	1412									
(4) Civil	1413									
(5) Electrical	1414									
(6) Mechanical	1415									
(7) Metallurgical & materials	1417									
(8) Other	1416									
b. Physical Sciences (Total)	1420									
(1) Astronomy	1421									
(2) Chemistry	1422									
(3) Physics	1423									
(4) Other	1424									
c. Environmental Sciences (Total)	1430									
(1) Atmospheric	1431									
(2) Earth sciences	1432									
(3) Oceanography	1433									
(4) Other	1434									
d. Mathematical Sciences (Total)	1441									
e. Computer Sciences (Total)	1442									
f. Life Sciences (Total)	1450									
(1) Agricultural	1451									
(2) Biological	1452									
(3) Medical	1453									
(4) Other	1454									
g. Psychology (Total)	1460									
h. Social Sciences (Total)	1470									
(1) Economics	1471									
(2) Political science	1472									
(3) Sociology	1473									
(4) Other	1474									
i. Other Sciences (Total)	1480									
j. Total (sum of a through i)	1400									

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields. \* Includes NIH.

## **PROPOSED NEW ITEM FOR FY 2000**

NSF would like to include the following item in the FY 2000 survey. This item will be in addition to the current Item 1A. Please review the proposed item and provide your comments and suggestions in the space below.

## CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED R&D IN THE SCIENCES AND ENGINEERING RECEIVED AS A SUBRECIPIENT

How much of your total R&D (line 1100) and Federal R&D (line 1110) expenditures did your institution receive as a subrecipient?

Pass-through entity	Line	Dollars in Thousands			
providing the funds	No.	(1) Total	(2) Federal		
Educational	2010				
Other	2020				
Total	2000				

COMMENTS/SUGGESTIONS:				

## BASIC RESEARCH

## How should basic research be calculated?

The percentage of basic research should be defined at the individual grant level by each principal researcher. Where this is not possible, grants should be reviewed by each department head or other relevant research coordinator.

Here is another method used by one institution to estimate the amounts of basic and applied research: All federally funded grants and R&D funded from other universities, foundations, and nonprofit organizations are considered to be basic research. R&D funds received through Federal cooperative agreements and Federal contracts, all state-funded R&D (except that from the state's Advanced Research Program), and R&D funds received from private for-profit institutions are considered to be applied research.

## DATA USES AND AVAILABILITY How are these data typically used?

Congress and Federal and state government planners use the data for science policy analysis, national and international studies, legislative hearing reports, budget formulation sessions, and other measurements of the adequacy of the nation's research base. Academic institutions use the information for policy analysis, publicity, and other purposes. Industrial firms often request data to prepare for on-campus recruiting. The data often appear in higher education studies and publications.

## How are the data made available?

NSF's annual Academic Research and Development Expenditures Survey compiles detailed data in a comprehensive document, available on request. Institutional profiles show trend data for responses at the institutional level from all academic S&E surveys.

Survey data are now available through the World Wide Web on the Internet. To obtain the most recent survey publications and data tables, data files, institutional profiles, and access to WebCASPAR, the Webbased Computer-Aided Science Policy Analysis and Research database system, direct your browser to http://www.nsf.gov/sbe/srs/stats.htm.

For more information, contact Marge Machen at (703) 306-1772 (email: mmachen@nsf.gov).

## **Questions and Answers**

This booklet answers common questions about the academic R&D expenditures survey.

## FIELD OF SCIENCE CLASSIFICATIONS

# How should I assign field classifications for research and development (R&D) performed in interdisciplinary centers?

Interdisciplinary research should be categorized by individual research project according to the nature of the research performed. When individual projects encompass multiple fields of science and engineering (S&E), prorate expenditures to report the proportions of each discipline involved. Do not lump funds together into "other" field categories unless the type of research is actually defined as "other." NSF recommends crediting such research to the appropriate S&E discipline when the project first begins.

# How should I allocate research dollars spent for computing or supercomputing services?

Report research dollars spent for computer usage to the individual fields of science and engineering for which the R&D is performed. Do not report these funds in computer science, unless computer science research was performed.

## What fields should be excluded?

Exclude fields that are considered to be non-science—education, law, humanities, business, music, the arts, library science, and physical education. Note that you would report separately budgeted R&D for the philosophy of science (a science category), but not philosophy (one of the humanities). The NSF/NCES Crosswalk included with the questionnaire lists all S&E fields.

## SOURCES OF FUNDING

# Should faculty practice plan income be included in the survey?

Expenditures for faculty practice plans are not considered research and should not be included. If income from such plans is used to fund other research and the funds are separately budgeted, then the expenditures should be included in institutional funds.

# **H**ow much of our administrative costs can be reported in the survey?

Administrative salaries and other administrative costs, particularly at your organized research units, can be reported only if funded through projects specifically restricted and budgeted for research. General administrative costs should not be reported.

## ${f H}$ ow should I report institutional funds?

All research dollars reported for your institution should be funds that are separately budgeted and restricted for research, such as sponsored research accounts or general accounts that are specifically budgeted for research. Do not include funds not specifically budgeted for research.

If your institution does not track underrecovery of indirect costs, use the underrecovery formula included in the questionnaire instructions. Do not forget to include and distribute unreimbursed indirect costs by detailed field in survey Item 2.

Be sure to report all indirect costs related to your institutional funds.

## Can I report donated research equipment in the survey?

Since donated research equipment is not typically captured in university accounting systems, the value of donated research equipment should not be reported.

## COLLABORATIVE RESEARCH ARRANGEMENTS

# Should I report expenditures received through collaborative research ventures with other institutions?

Report only what your institution actually expends and accounts for when participating in joint research ventures.

# How do I distinguish between being a subrecipient of pass-through funds and being a subcontractor of R&D services?

A subrecipient is an entity that receives Federal financial assistance from the state or any other entity to administer a program (OMB Circular A-110). The subrecipient actually administers or controls the program, as opposed to the subcontractor who contracts for a specific service on a per-unit basis. A key factor in determining if a subrecipient arrangement exists is determining if the entity assumes the responsibility to administer the program. Subrecipients tend to be the co-authors of publications, writers of technical reports discussing findings, inventors, etc. Unlike a subrecipient relationship, a subcontract is a procurement of goods and/or services. Payments to subcontractors are expenditures for services, not expenditures for research, and are different from pass-through funds to subrecipients.

## ORGANIZATIONAL UNITS

## Which organizational units should I include in the survey?

Include research conducted through units that are considered part of your institution's organizational structure. For example, report expenditures from branch campuses, medical schools, agricultural stations, research centers and institutes, and any other units whose expenditures are separately budgeted and are accounted for by your institution's financial system. Exclude R&D expenditures performed by federally funded research and development centers (FFRDCs), nonprofit institutions, and private laboratories. Do not report salaries of faculty doing research at outside institutions unless your institution accounts for the funding of that research.

## Academic R&D Expenditures (On Line V)

**Security:** Your data are password-protected to ensure confidentiality.

- Data reporting is easier—enter your data directly onto your computer screen.
- Help and instructions are readily available to you on each Web survey page.
- Data errors are reported to you instantly. Everything's done on your computer screen. Totals

are computed for you. Flags indicate when your survey is ready to submit to NSF.

## **How It Works**

On your computer, open your Web browser (such as Netscape Navigator or Microsoft Internet Explorer) and visit http://www.grc.com/expweb

Log in by entering the Institution ID and password you received from NSF. (If you forget them, e-mail us at expweb@grc.com).

Then you can ...

- update your contact information and
- enter survey data.

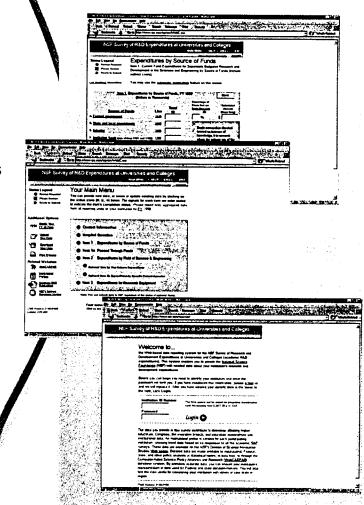
## **You Can Also**

- print the finished survey on paper for your records,
- work offline using spreadsheets and data files, and
- get personalized help on your computer screen.

## For Further Information

If you have any questions about this Web survey, please contact Jennifer Greer or Hilary Jones by telephone at (301) 657-3070 or by email at expweb@grc.com. For any other survey data

questions, please contact Marge Machen of NSF at (703) 306-1772 or by email at mmachen@nsf.gov.



## **More Features:**

- You can review and revise your data at any time.
- The data are reviewed for errors every time you click on "Save."
- Data are saved to a central database, accessible to you at your convenience.
- After you complete all survey questions, make the data available to NSF by the simple click of a button.