



Research Report  
1996

Introduction ..... 3  
Foreword ..... 7  
**Project Expenditures by Administrative Unit**..... 9  
Chart 1 - Expenditures by College..... 10  
Chart 2 - Expenditures by Sources of Funds..... 11  
Table 1 - Distribution of Projects and Expenditures Among Colleges and Offices of the University..... 12  
Table 2 - Distribution of Projects and Expenditures Among Departments of the University..... 13  
**Awards by Administrative Unit** ..... 19  
Chart 3 - Awards by Sources of Funds ..... 20  
Chart 4 - Awards by College ..... 21  
Table 3 - Distribution of New Awards Among Colleges and Offices of the University ..... 22  
Table 4 - Distribution of New Awards Among Departments of the University ..... 23  
Table 5 - Awards to Support Interdisciplinary Research Center Activity ..... 29  
Table 6 - Other Support for Research Activities ..... 30

## Introduction

The Ohio State University is in the challenging position of being both the leading research institution and the land grant institution in the State of Ohio. As a research institution we are looked to for the creation of new knowledge. As the land grant institution we are expected to provide high-quality, accessible education to students and to make the University's skill and knowledge bases available to the citizens of Ohio. While research, teaching and service are sometimes perceived as enterprises at odds, The Ohio State University has acknowledged and welcomed the challenge of truly serving each of these seemingly disparate missions. By providing an environment that attracts and retains the most talented creators of new knowledge, while simultaneously placing a high priority on outstanding teaching, the University provides its students the kind of high-quality education that will position them for productive and successful careers in the 21<sup>st</sup> century.

To maintain a stimulating research environment with up-to-date equipment and facilities, the University must obtain significant support for the activities of its faculty and students from a number of sources. The most significant sources of external funding are the grants and contracts that faculty members receive from a wide variety of sponsors to support specific scholarly projects. In Fiscal Year 1996, faculty members were awarded almost \$210 million in new funds for projects spread across almost all disciplines. This funding level puts the University among the top 25 institutions in the nation according to data provided by the National Science Foundation. Just over half of the funds came from the federal government, primarily from the National Institutes of Health and the National Science Foundation. Compared with last year, federal funding is down somewhat this year. While there are a variety of reasons for the decrease, it is at least in part a consequence of the federal government shut-downs last December and January. The backlog of awards resulting from the shut-downs was only slowly being cleared as the government approached September 30<sup>th</sup>, the end of its fiscal year.

Much of the federal funding supports ongoing and highly successful programs such as the long-running Spinal Cord Injury Research Center supported by the National Institutes of Health, the Department of Energy-sponsored elementary particle physics research program conducted by the high energy physics group, and the longitudinal national opinion studies carried out by the Center for Human Resources Research, with support from the Bureau of Labor Statistics in the Department of Labor. A number of exciting new programs were also funded this year. For example, NASA provided support for the RADARSAT program, which will provide the first ever essentially simultaneous high-resolution radar map of all of Antarctica, and the Department of

Defense provided funding for development of new food processing technologies. This latter study may well have a significant impact on the Ohio economy since food production and processing is the State's largest industry.

While support from the federal government was somewhat lower in Fiscal Year 1996, support from other sectors increased. Particularly noteworthy was the increase in funding from industrial sponsors, up over 40% from Fiscal Year 1995. It is important to recognize that much of the industry support is for the further refinement of technologies initially developed with government funding. Thus, these two sources of support are interdependent, and each is essential for moving forward our research agenda.

A significant part of the increase in industry support was for programs in the College of Engineering. Many faculty members within the College have ongoing, productive relationships with businesses and industries all over the United States. These companies provide significant support for a wide range of projects, both basic and applied. We are also seeing another exciting trend - that of increased collaboration between industries and universities to work with federal and sometimes state governments on a broad range of economic and strategic issues. One such collaborative activity is the Center for Industrial Sensors and Measurement. This Center, which has as its focus the development of novel sensors for use in harsh industrial environments, was established with federal, state and industrial funds as part of the National Science Foundation's highly competitive State/ Industry/University Cooperative Research Centers program. Another example is the Gas Turbine Research Institute, which the University established this year with support from both the State of Ohio and the aerospace industry. It is the nation's premier jet engine testing facility. The presence of such research centers on campus gives our students an outstanding opportunity to not only interact with some of the country's best academics, but also to gain exposure to the kinds of real-life problems they will be expected to solve, whether their future careers are in the public or private sector.

Another area where there has been significant growth in industrial support in the College of Medicine, where an increasing number of physicians are becoming involved in industry-sponsored clinical trials. This activity fits well with both the teaching and service missions of the University. Medical students are able to see the research process in action, and our patients receive the newest and often most effective treatments. Investigators in the College of Pharmacy have developed a major research partnership with a pharmaceutical company, which is reflected in an increase in industry awards to that College.

The University has long recognized the importance of its relationships with business and industry, both directly, in the form of grants and contracts to individual investigators, and indirectly in terms of technology transfer. To increase the visibility of these interactions and strengthen the partnerships, a formal Industrial Initiative has been launched. The University's

Offices of Industrial Outreach, Industrial Research and Development, and Technology Licensing, along with the Research Park Corporation and the Business Technology Center, are working together to provide enhanced educational opportunities for students, to increase support for research and to increase commercialization of the University's research, for the benefit of all of the citizens of Ohio.

Finally, international activities are an important component of the University's research portfolio. This year we received additional support for an established training program that the College of Education has developed with the Government of Indonesia, as well as continued support for an agricultural development program in the Dominican Republic. New activities include the development of business training programs for Kyrgyzstan and a study of financing for start-up businesses in Romania.

All of these sponsored projects have a number of positive impacts on the education of our students. Perhaps the most obvious benefit is that about 2,200 graduate students and 1,350 undergraduates receive stipends from grants and contracts. The University makes a very direct contribution to these students by providing some \$5.2 million in fee waivers to accompany the stipends paid from grants and contracts. Through the Graduate School, the University also provides more than \$20 million to support graduate teaching assistants and more than \$260,000 to the highly competitive University Postdoctoral Fellowship Program to support postdoctoral fellows across the campus.

This year, the Office of Research acknowledged the important dimension that hands-on research experience adds to undergraduate education by hosting the first annual undergraduate research forum. Sixty-four undergraduate students prepared poster displays describing their work, which they presented to faculty members and other interested participants. Awards were given to both students and their faculty mentors for the best presentations in a number of broad interdisciplinary areas.

In addition to creative and dedicated faculty members and students, successful research programs are also highly dependent on appropriate facilities. Through its Action and Investment Funds, the Ohio Board of Regents plays a critical role in supporting the research infrastructure. The Action Fund provides state support to increase the competitiveness of proposals for large equipment and renovation projects. This year, the University received just over \$800,000 from the Action Fund, which resulted in additional external awards of some \$4 million. The Investment Fund, which supports major building projects, helped the University increase the capacity of the transgenic animal facility. State bond sales also supported completion of a new primate facility. These specialized facilities are necessary if our faculty are to be able to conduct the sophisticated studies that will provide us with a fundamental understanding of the biological processes and the changes that occur in disease. Finally, the Board of Regents also

provided approximately \$4.7 million through its Research Challenge Program in Fiscal Year 1996. This program provides start-up funds and seed grants for junior faculty members just beginning their academic careers, equipment matching funds and support for interdisciplinary activities including the targeted interdisciplinary seed grant program.

Much of the research funding discussed in this report is awarded to faculty for specific projects or facilities. However, such funding also helps leverage funds from other sources that provide less targeted support for research activities. For example, in Fiscal Year 1996 the College of Medicine received about \$12 million from private sources for general support of its research program. The College of Engineering received some \$1 million from its affiliated Transportation Research Center for general support of transportation-related research activities. Business and industry, either directly or through corporate foundations, provided approximately \$8.2 million in gifts for general support of research activities. Finally, organizations like the National Endowment for the Humanities, the National Humanities Center and the Fulbright program often make awards directly to faculty members, particularly in the Colleges of the Arts and Humanities. In Fiscal Year 1996 these awards, which frequently support study trips or sabbatical leaves at other institutions, both in the United States and overseas, totaled over \$1 million.

In summary, research at The Ohio State University is a multifaceted endeavor, supported from a wide range of sources, and entirely in consonance with the University's teaching and service missions.

## Foreword

The 1996 Research Report summarizes new awards received and funds expended in support of scholarly activities at The Ohio State University in Fiscal Year 1996. Awards are new funds that the University received from external sources to fund research activities. The award amounts may include dollars that will support projects for several years, e.g., multiyear projects are sometimes funded with a single payment. Since award dollars may not be expended in the year in which they are received, there can be fluctuations in award amounts that do not reflect actual project expenditures. Thus, changes in annual project expenditures are a more reliable indicator of a unit's sponsored research activity than are changes in award dollars.

The numbers below and in the charts and tables that follow reflect expenditure and award dollars for projects administered by The Ohio State University Research Foundation (OSURF), the Ohio Agricultural Research and Development Center (OARDC), Children's Hospital Research Foundation (CHRF), and a small number of projects administered by other units (OTHER). The additional sources of support listed in Table 6 are not included.

Project expenditures in Fiscal Year 1996 were almost \$208 million, a decrease of 2.7% over Fiscal Year 1995. About 7,600 members of the university community were involved in these sponsored projects, including some 2,200 graduate and 1,350 undergraduate students.

### Project Expenditures by Administrative Unit

Chart 1 and Table 1 show the distribution of sponsored project expenditures across the University's colleges and other administrative offices. Expenditures were highest in the College of Medicine and the Office of Health Sciences (\$48.4 million), followed by the College of Food, Agricultural and Environmental Sciences and the Office of Agricultural Administration (\$42.5 million) and the College of Engineering (\$31.9 million). Table 2 lists the expenditures by department in which the work was conducted. The department names, as far as possible, are those in place at the end of Fiscal Year 1996.

Chart 2 shows the distribution of expenditures by sponsor. Almost 60% of the funds expended came from federal agencies, with 24.3% from the Department of Health and Human Services. Nearly 17% of expended funds were provided by the State of Ohio.

In Fiscal Year 1996, Ohio State University investigators were awarded almost \$210 million to support their scholarly activities, a decrease of 6% from the preceding year. The decrease is, at least in part, attributable to the federal government shutdowns in December and January. The

awards were made by many different external agencies (Chart 3), with just over half (53.6%) coming from the federal government.

## Awards by Administrative Unit

Chart 4 and Table 3 show the distribution of awards by college or other administrative office, and Table 4 shows the distribution by department. The College of Medicine and the Office of Health Sciences led in awards with \$50.6 million, followed by the College of Food, Agricultural and Environmental Sciences and the Office of Agricultural Administration with \$43.2 million and the College of Engineering with \$36.2 million.

A significant proportion of externally supported research falls within the mission of the University's interdisciplinary research centers. To acknowledge these important activities, Table 5 summarizes the external support for work that fits within each center's area of activity.

In addition to the awards discussed above, the University's research activities receive general support from a number of additional sources. These additional funds are summarized in Table 6.

## Project Expenditures by Administrative Unit

OSURF     \$166,318,987

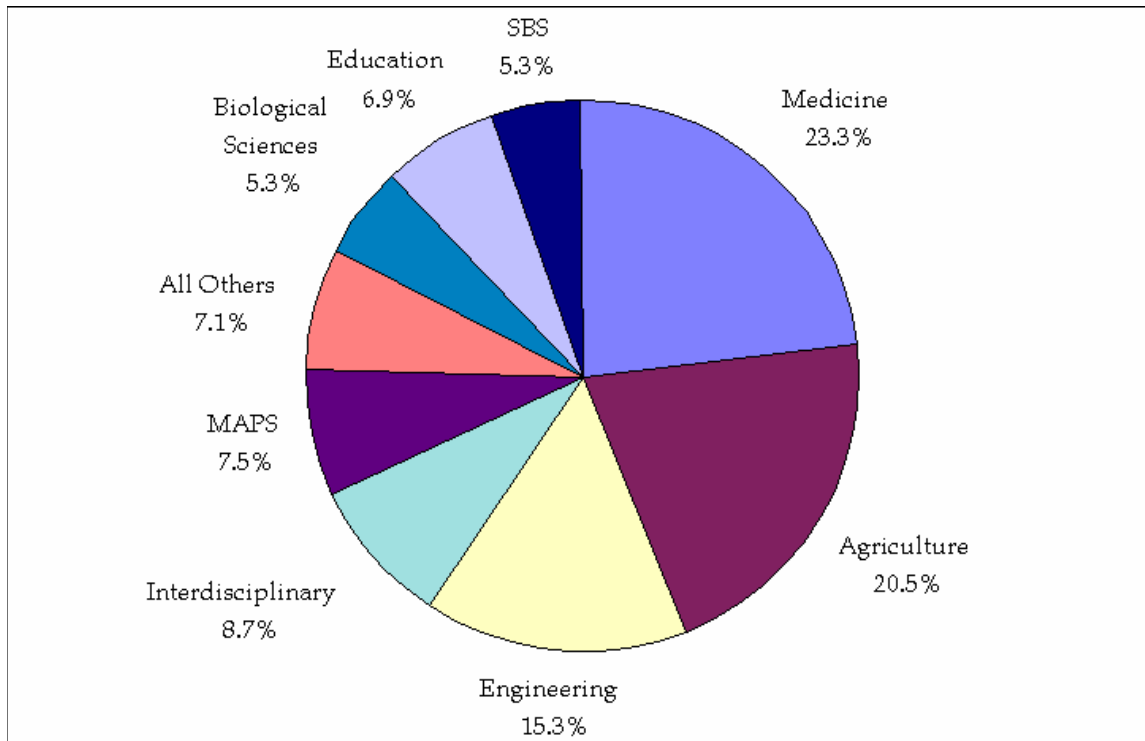
OARDC     \$29,958,739

CHRF       \$6,866,789

OTHER     \$4,589,034

**TOTAL     \$207,733,549**

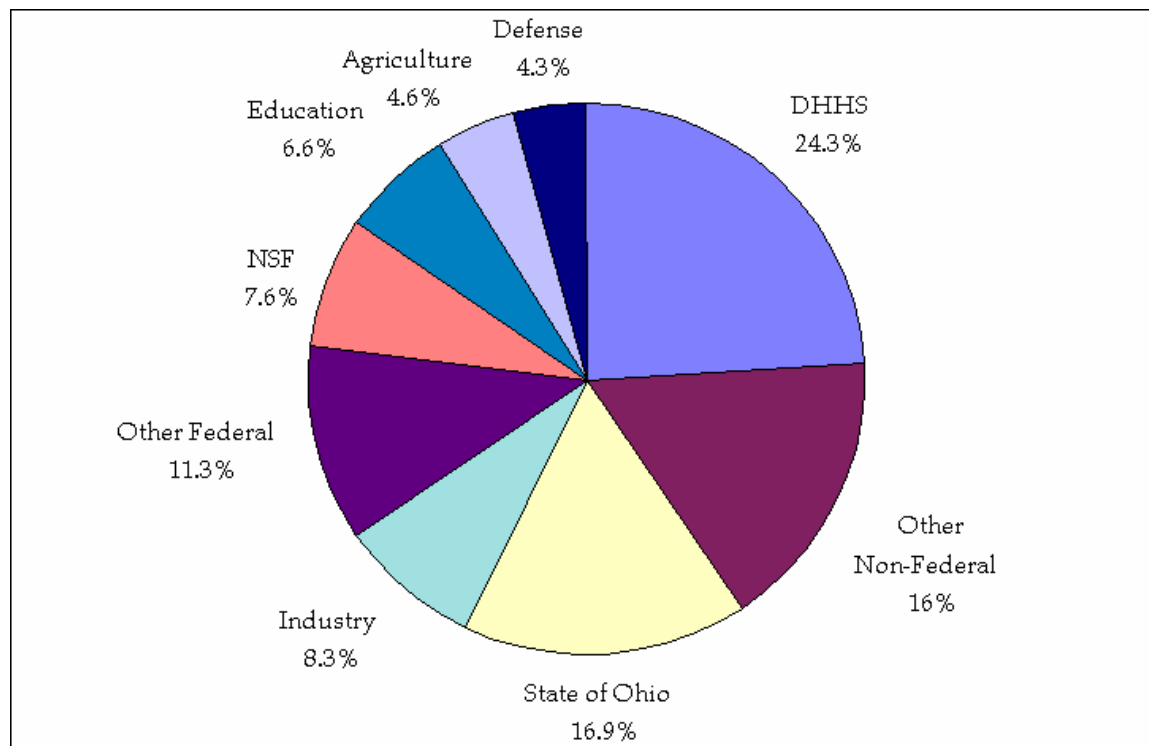
# Chart 1 - Expenditures by College



COLLEGE/OFFICE

College of Medicine and Office of Health Sciences (Medicine)	\$48,448,103
College of Food, Agricultural and Environmental Sciences and Agricultural Administration (Agriculture)	42,490,451
College of Engineering	31,858,943
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research (Interdisciplinary)	18,007,032
College of Math and Physical Sciences (MAPS)	15,639,793
All Others (See Table 1 for Details)	14,790,536
College of Education	14,371,027
College of Biological Sciences	11,096,031
College of Social and Behavioral Sciences (SBS)	11,031,634
<b>TOTAL EXPENDITURES</b>	<b>\$207,733,549</b>

## Chart 2 - Expenditures by Sources of Funds



**FEDERAL**

Department of Health and Human Services (DHHS)	\$50,390,082
National Science Foundation (NSF)	15,742,888
Department of Education	13,624,985
Department of Agriculture	9,638,600
Department of Defense	8,942,173
Other Federal (including NASA, Depts. of Energy and Labor, EPA, NEA, NEH, etc.)	23,387,921

**TOTAL FEDERAL** **121,726,649**

**NON-FEDERAL**

State of Ohio	35,182,956
Industry	17,254,199
Other Non-Federal	33,569,745

**TOTAL EXPENDITURES** **\$207,733,549**

## Table 1 - Distribution of Projects and Expenditures Among Colleges and Offices of the University

<b>College/Office</b>	<b># of Projects</b>	<b>Dollars Expended</b>
College of the Arts	20	748,833
College of Biological Sciences	308	\$11,096,031
College of Business, Max M. Fisher	13	537,321
College of Dentistry	60	2,609,604
College of Education	284	14,371,027
College of Engineering	962	31,858,943
College of Food, Agricultural and Environmental Sciences and Agricultural Administration	882	42,490,451
College of Human Ecology	53	689,866
College of Humanities	37	1,532,192
College of Law	8	97,999
College of Math and Physical Sciences	406	15,639,793
College of Medicine and Office of Health Sciences	1,112	48,448,103
College of Nursing	30	848,813
College of Optometry	4	351,750
College of Pharmacy	81	3,265,600
College of Social and Behavioral Sciences	204	11,031,634
College of Social Work	5	113,836
College of Veterinary Medicine	150	2,819,817
Graduate School	4	500,758
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research	456	18,007,032
Office of Human Resources	3	9,459
Regional Campuses	15	423,044
University Libraries	10	241,644
<b>Total</b>	<b>5,107</b>	<b>\$207,733,549</b>

## Table 2 - Distribution of Projects and Expenditures Among Departments of the University

<b>Department</b>	<b># of Projects</b>	<b>Dollars Expended</b>
Academic Affairs Adjuncts	1	\$120
Academic Affairs Administration	26	1,226,249
Accounting and Management Information Systems	1	163,119
Adult Health and Illness Nursing	11	259,842
Advanced Computing Center for the Arts and Design	3	396,851
Aeronautical Engineering, Applied Mechanics and Aviation	85	2,689,613
Agricultural Administration	2	42,409
Agricultural and Natural Resources-OSUE	1	44,787
Agricultural Economics and Rural Sociology	45	1,164,835
Agricultural Economics and Rural Sociology-OARDC	30	856,387
Agricultural Education	22	601,105
Agricultural Education-OARDC	5	115,902
Agricultural Engineering	26	868,859
Agricultural Engineering-OARDC	22	848,181
Agricultural Engineering-OSUE	4	109,680
Agricultural Technical Institute - Academic Support	2	199,141
Agricultural Technical Institute - Administrative Support	8	426,954
Agricultural Technologies	1	4,311
Agronomy	31	312,975
Agronomy-OARDC	92	3,475,131
Allied Medical Professions	14	331,352
Anesthesiology	14	276,809
Animal Science	11	86,664
Animal Science-OARDC	36	4,046,127
Anthropology	19	192,164
Architecture	12	178,985
Art Education	11	320,701

**Annual Report****Fiscal Year 1996**

Astronomy	30	753,427
Biochemistry	27	1,607,630
Biological Sciences Administration	2	53,125
Biomedical Engineering	18	1,298,538
Biotechnology Center	2	-339
Black Studies	1	59,331
Business Administration	2	80,728
Byrd Polar Research Center	117	3,777,761
Campus Electron Optics Facility	2	13,542
Cell Biology, Neurobiology and Anatomy	33	1,240,443
Center for Cognitive Science	17	277,033
Center for Education and Training for Employment	94	4,217,105
Center for Human Resource Research	31	6,533,288
Center for International Studies	23	938,635
Center for Lake Erie Area Research	71	1,267,780
Center for Mapping	48	2,506,360
Center for Materials Research	1	230,189
Center for Molecular Environmental Health	9	500,715
Chemical Engineering	74	1,899,965
Chemical Instrumentation Center	4	393,332
Chemistry	126	5,542,034
Civil and Environmental Engineering and Engineering Graphics	66	1,586,274
Classics	1	1,447
Community Dentistry	6	255,338
Community Development-OSUE	3	88,802
Community, Parent-Child, and Psychiatric Nursing	19	588,970
Comparative Studies in the Humanities	2	68,269
Comprehensive Cancer Center	79	2,775,547
Computer and Information Science	26	958,696
County Operations-OSUE	40	489,552
Dance	1	18,598
Diagnostic Services-Dentistry	1	139,528
East Asian Languages and Literatures	4	60,784

**Annual Report****Fiscal Year 1996**

Economics	9	134,160
Education Administration	38	1,832,587
Educational Policy and Leadership	12	256,398
Educational Services and Research	39	2,788,905
Educational Studies: Humanities, Science, Technological, and Vocational	54	2,801,620
Educational Theory and Practice	23	2,119,140
Electrical Engineering	170	5,013,775
Emergency Medicine	14	305,554
Endodontics	3	35,293
Engineering Experiment Station	69	2,835,875
English	6	57,795
English as a Second Language	2	68,358
Entomology	46	1,293,136
Entomology-OARDC	54	1,328,523
Entomology-OSUE	2	12,313
Faculty and TA Development	2	104,254
Family Medicine	14	253,299
Family Relations and Human Development	5	53,254
Finance	3	128,421
Food Animal Health-OARDC	33	1,520,598
Food Science and Nutrition-OARDC	10	123,537
Food Science and Technology	26	547,818
Food, Agricultural and Environmental Sciences and Agricultural Administration	25	1,226,819
Foreign Language Center	9	601,389
Geodetic Science and Surveying	17	356,425
Geography	18	338,261
Geological Sciences	57	1,147,271
Geriatrics and Gerontology	1	1,083
Graduate School Administration	4	500,758
Health Services Management and Policy	2	25,096
Health, Physical Education, and Recreation	20	182,661

**Annual Report****Fiscal Year 1996**

History	2	50,271
History of Art	3	12,393
Home Economics Education	24	402,397
Human Ecology-OARDC	14	415,932
Human Ecology Administration-OSUE	108	1,249,535
Human Nutrition and Food Management	14	117,442
Industrial, Welding and Systems Engineering	139	3,832,304
Internal Medicine	247	9,421,377
International Affairs	3	78,043
Journalism	8	85,297
Law	8	97,999
Lima Campus	3	145,203
Linguistics	7	267,185
Management and Human Resources	3	46,925
Management Sciences	3	64,599
Mansfield Campus	6	208,971
Marion Campus	2	3,765
Materials Science and Engineering	85	4,319,464
Mathematics	58	1,260,203
Mechanical Engineering	135	4,647,200
Medical Biochemistry	41	2,531,667
Medicine Administration	18	1,923,020
Mershon Center	16	389,006
Microbiology	43	3,024,263
Microbiology and Immunology	32	2,202,954
Minority Affairs	3	78,233
Molecular Genetics	47	2,115,619
Music	1	145
National Regulatory Research Institute	66	2,241,830
Natural Resources	58	821,425
Natural Resources-OARDC	61	2,073,868
Natural Resources-OSUE	1	3,308
Near Eastern, Judaic and Hellenic Languages and Literatures	2	255,606

**Annual Report****Fiscal Year 1996**

Neurobiotechnology Center	24	1,651,773
Neurology	50	803,308
Newark Campus	4	65,105
Nisonger Center	26	1,320,141
OARnet	1	479,343
Obstetrics and Gynecology	37	1,201,803
Ohio Agricultural Research and Development Center	25	17,390,100
Ohio Supercomputer Center	41	4,073,375
Ophthalmology	15	244,221
Optometry	4	351,750
Oral and Maxillofacial Surgery	7	120,727
Oral Biology	15	1,025,382
Orthodontics	3	144,436
OSUE Administration	14	145,972
Otolaryngology	7	407,107
Outlying Branches-OARDC	3	58,198
Pathology	57	2,623,831
Pediatric Dentistry	1	3,367
Pediatrics	120	6,253,589
Periodontology	7	281,007
Pharmacology	32	2,144,656
Pharmacy	81	3,265,600
Physical Medicine	40	1,595,355
Physics	126	6,766,447
Physiology	33	2,325,059
Piketon Research and Extension Center-OARDC	12	210,744
Plant Biology	46	1,197,272
Plant Biotechnology	11	271,724
Plant Pathology	10	320,635
Plant Pathology-OARDC	50	1,343,763
Political Science	22	223,135
Preventive Medicine	28	1,484,609
Psychiatry	28	1,272,203

**Annual Report****Fiscal Year 1996**

Psychology	54	2,239,970
Public Policy and Management	1	53,529
Radiology	21	1,016,687
Research Administration	25	535,961
Restorative and Prosthetic Dentistry	17	604,525
School of Public Health	1	50,055
Slavic and East European Languages and Literatures	3	110,115
Social Work	5	113,836
Sociology	14	534,097
Speech and Hearing	13	362,256
Statistics	9	170,411
Surgery	82	2,761,592
Textiles and Clothing	4	29,046
Theatre	1	145
Training and Career Development	2	11,689
University Hospitals	2	3,912
University Libraries	10	241,644
University Systems	26	1,226,249
Veterinary Biosciences	79	2,182,326
Veterinary Clinical Sciences	53	573,260
Veterinary Medicine-OSUE	1	3,285
Veterinary Medicine Administration	4	9,173
Veterinary Preventative Medicine	14	55,058
Wexner Center for the Arts - Education	4	19,637
Wexner Center for the Arts - Exhibitions	7	90,108
Wexner Center for the Arts - Film and Video	5	39,675
Wexner Center for the Arts - Performing Arts	10	75,451
Work and Family	1	-2,230
Young Scholars Program	10	179,579
Zoology	86	1,533,263
<b>Total</b>	<b>5,107</b>	<b>\$207,733,549</b>

## Awards by Administrative Unit

OSURF     \$167,394,678

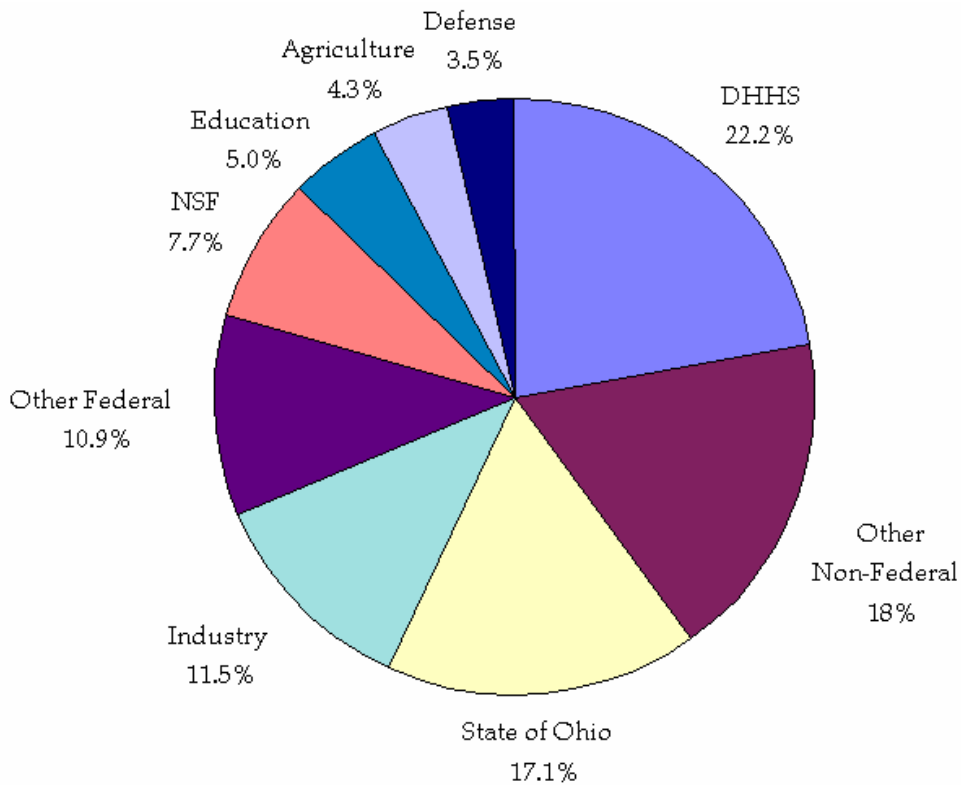
OARDC     \$30,018,839

CHRF       \$8,076,419

OTHER     \$4,379,140

**TOTAL     \$209,869,076**

### Chart 3 - Awards by Sources of Funds



**FEDERAL**

Department of Health and Human Services (DHHS)	\$46,548,260
National Science Foundation (NSF)	16,235,539
Department of Education	10,440,541
Department of Agriculture	9,059,968
Department of Defense	7,297,148
Other Federal (including NASA, Depts. of Energy and Labor, EPA, NEA, NEH, etc.)	22,918,685

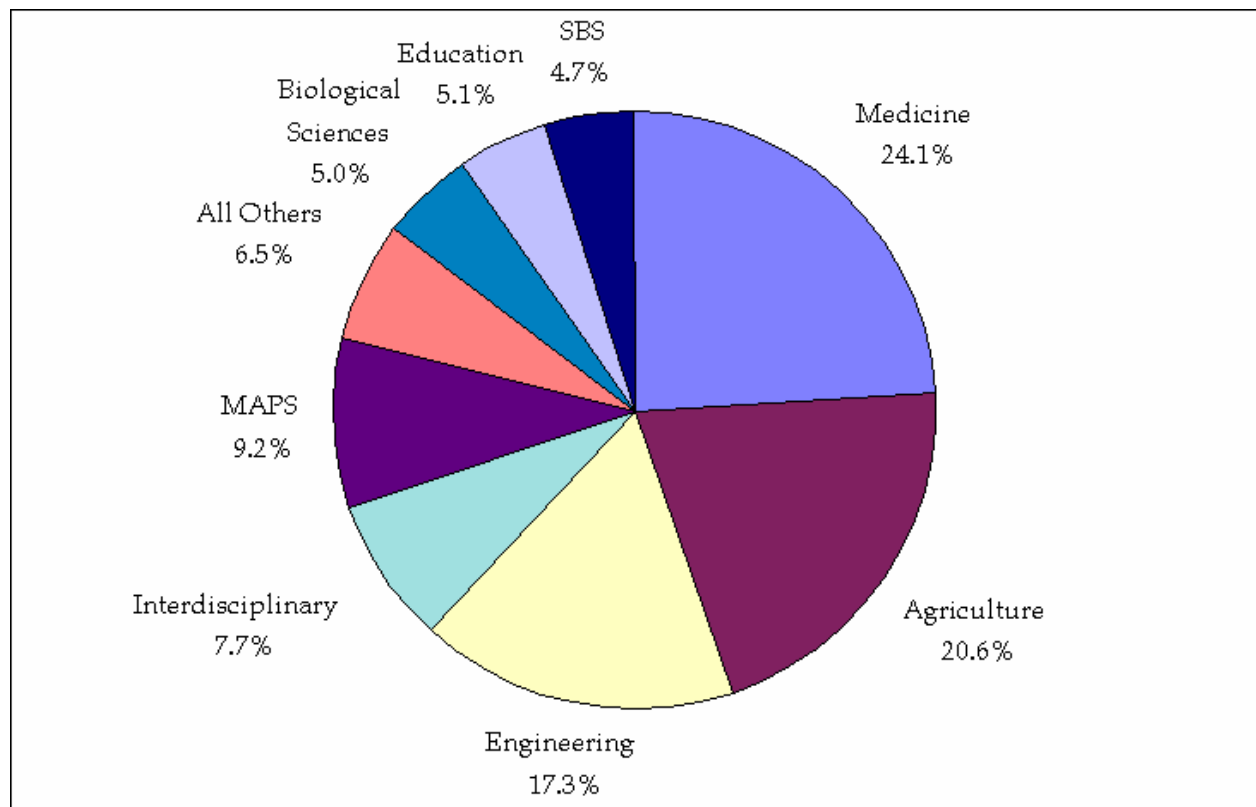
**TOTAL FEDERAL** 112,500,141

**NON-FEDERAL**

State of Ohio	35,854,326
Industry	24,203,039
Other Non-Federal	37,311,570

**TOTAL AWARDS** **\$209,869,076**

### Chart 4 - Awards by College



COLLEGE/OFFICE	
College of Medicine and Office of Health Sciences (Medicine)	\$50,617,632
College of Food, Agricultural and Environmental Sciences and Agricultural Administration (Agriculture)	43,197,734
College of Engineering	36,242,859
College of Math and Physical Sciences (MAPS)	19,326,560
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research (Interdisciplinary)	16,112,013
All Others (See Table 1 for Details)	13,549,699
College of Education	10,600,556
College of Biological Sciences	10,447,206
College of Social and Behavioral Sciences (SBS)	9,774,819
<b>TOTAL AWARDS</b>	<b>\$209,869,076</b>

## Table 3 - Distribution of New Awards Among Colleges and Offices of the University

<b>College/Office</b>	<b># of Awards</b>	<b>Dollars Awarded</b>
College of the Arts	9	467,361
College of Biological Sciences	124	\$10,447,206
College of Business, Max M. Fisher	5	358,650
College of Dentistry	36	2,303,710
College of Education	77	10,600,556
College of Engineering	490	36,242,859
College of Food, Agricultural and Environmental Sciences and Agricultural Administration	443	43,197,734
College of Human Ecology	13	845,325
College of Humanities	12	1,194,495
College of Law	2	18,000
College of Math and Physical Sciences	192	19,326,560
College of Medicine and Office of Health Sciences	795	50,617,632
College of Nursing	13	691,070
College of Optometry	5	375,180
College of Pharmacy	52	4,125,895
College of Social and Behavioral Sciences	58	9,774,819
College of Social Work	4	126,796
College of Veterinary Medicine	41	2,429,247
Graduate School	3	487,965
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research	107	16,112,013
Office of Human Resources	1	15,000
Office of Student Affairs	1	9,504
Regional Campuses	3	96,653
University Libraries	2	4,848
<b>Total</b>	<b>2,488</b>	<b>\$209,869,076</b>

## Table 4 - Distribution of New Awards Among Departments of the University

<b>Department</b>	<b># of Awards</b>	<b>Dollars Awarded</b>
Adult Health and Illness Nursing	5	\$231,407
Advanced Computing Center for the Arts and Design	1	75,000
Aeronautical Engineering, Applied Mechanics and Aviation	62	4,011,154
Agricultural Economics and Rural Sociology	15	1,823,684
Agricultural Economics and Rural Sociology-OARDC	27	844,792
Agricultural Economics and Rural Sociology-OSUE	1	3,000
Agricultural Education	3	220,060
Agricultural Education-OARDC	6	584,086
Agricultural Engineering	3	538,000
Agricultural Engineering-OARDC	30	1,247,785
Agricultural Technical Institute - Academic Support	1	226,757
Agricultural Technical Institute - Administrative Support	3	553,311
Agronomy	2	19,000
Agronomy-OARDC	87	4,051,817
Allied Medical Professions	7	353,744
Anesthesiology	14	434,328
Animal Science-OARDC	37	4,045,894
Anthropology	5	36,347
Architecture	7	624,089
Art Education	5	276,928
Astronomy	13	434,199
Biochemistry	11	952,913
Biological Sciences Administration	1	9,500
Biomedical Engineering	8	1,313,217
Byrd Polar Research Center	47	6,122,929
Campus Electron Optics Facility	1	1,038
Cell Biology, Neurobiology and Anatomy	18	2,104,159

**Annual Report****Fiscal Year 1996**

Center for Cognitive Science	3	156,422
Center for Education and Training for Employment	38	2,474,058
Center for Human Resource Research	3	6,182,214
Center for International Studies	6	1,071,578
Center for Lake Erie Area Research	4	353,933
Center for Mapping	15	2,058,123
Center for Molecular Environmental Health	1	250,000
Chemical Engineering	37	2,036,310
Chemistry	57	9,986,896
Civil and Environmental Engineering and Engineering Graphics	38	1,928,346
Community Dentistry	2	212,545
Community Development-OSUE	2	154,935
Community, Parent-Child, and Psychiatric Nursing	8	459,663
Comparative Studies in the Humanities	1	12,000
Comprehensive Cancer Center	8	2,479,478
Computer and Information Science	11	1,258,094
County Operations-OSUE	16	646,349
Diagnostic Services-Dentistry	1	9,600
East Asian Languages and Literatures	2	31,528
Economics	3	43,739
Education Administration	5	1,839,390
Educational Policy and Leadership	6	131,163
Educational Services and Research	8	1,969,303
Educational Studies: Humanities, Science, Technological, and Vocational	7	1,352,896
Educational Theory and Practice	7	2,420,976
Electrical Engineering	90	5,641,808
Emergency Medicine	22	277,534
Engineering Experiment Station	31	2,584,714
English	2	82,272
English as a Second Language	1	84,890
Entomology	14	1,093,094
Entomology-OARDC	33	1,923,309

**Annual Report****Fiscal Year 1996**

Entomology-OSUE	1	13,000
Faculty and TA Development	1	117,746
Family Medicine	3	193,127
Family Relations and Human Development	2	55,000
Finance	1	100,000
Food Animal Health-OARDC	18	1,212,597
Food Science and Nutrition-OARDC	12	203,529
Food Science and Technology	2	588,239
Food Science And Technology-OSUE	3	169,418
Foreign Language Center	4	831,584
Geography	2	132,658
Geological Sciences	17	622,125
Graduate School Administration	3	487,965
Health Services Management and Policy	2	30,096
Health, Physical Education, and Recreation	4	210,134
History of Art	1	106,907
Home Economics Education	3	157,103
Human Ecology-OARDC	14	415,932
Human Ecology Administration-OSUE	4	1,912,436
Human Nutrition and Food Management	2	30,624
Industrial, Welding and Systems Engineering	68	3,350,450
Internal Medicine	242	8,849,208
International Affairs	1	243,589
Journalism	3	122,856
Law	2	18,000
Linguistics	2	167,137
Management and Human Resources	1	155,000
Management Sciences	2	20,097
Marion Campus	1	5,000
Materials Science and Engineering	56	4,457,016
Mathematics	29	1,065,461
Mechanical Engineering	70	4,235,349
Medical Biochemistry	27	2,828,275

**Annual Report****Fiscal Year 1996**

Medicine Administration	2	1,774,586
Mershon Center	1	21,947
Microbiology	31	2,814,817
Microbiology and Immunology	12	2,427,338
Minority Affairs	2	440,000
Molecular Genetics	17	2,335,115
Music	1	6,000
National Regulatory Research Institute	12	4,802,312
Natural Resources	6	44,333
Natural Resources-OARDC	61	3,187,381
Neurobiotechnology Center	4	521,257
Neurology	76	1,271,324
Newark Campus	2	91,653
Nisonger Center	7	381,962
Obstetrics and Gynecology	24	1,707,466
Ohio Agricultural Research and Development Center	12	17,242,422
Ohio Supercomputer Center	10	4,728,331
Ophthalmology	8	262,308
Optometry	5	375,180
Oral Biology	10	845,233
OSUE Administration	1	69,000
Otolaryngology	6	884,138
Outlying Branch-OARDC	3	58,198
Pathology	29	3,438,527
Pediatric Dentistry	1	1,770
Pediatrics	78	7,098,110
Periodontology	5	407,762
Pharmacology	32	2,404,333
Pharmacy	52	4,125,895
Philosophy	1	69,974
Physical Medicine	4	211,173
Physics	71	7,004,804
Physiology	22	2,899,382

**Annual Report****Fiscal Year 1996**

Piketon Research and Extension Center-OARDC	7	148,475
Plant Biology	19	1,161,585
Plant Biotechnology	1	80,000
Plant Pathology-OARDC	35	1,536,907
Political Science	2	208,149
Preventive Medicine	12	1,146,901
Psychiatry	33	1,508,921
Psychology	33	2,538,710
Public Policy and Management	1	83,553
Radiology	15	1,058,093
Research Administration	2	531,597
Restorative and Prosthetic Dentistry	17	826,800
School of Public Health	2	470,968
Social Work	4	126,796
Sociology	5	340,502
Speech and Hearing	1	147,697
Statistics	5	213,075
Student Health Service	1	9,504
Surgery	85	3,588,896
Textiles and Clothing	3	112,185
Theatre	1	2,526
Training and Career Development	1	15,000
University Hospitals	1	12,000
University Libraries	2	4,848
Veterinary Biosciences	24	1,876,979
Veterinary Clinical Sciences	11	389,859
Veterinary Medicine-OSUE	1	3,500
Veterinary Medicine Administration	2	110,639
Veterinary Preventative Medicine	4	51,770
Wexner Center for the Arts - Education	3	24,214
Wexner Center for the Arts - Exhibitions	5	51,771
Wexner Center for the Arts - Film and Video	3	26,064
Wexner Center for the Arts - Performing Arts	3	18,794

**Annual Report****Fiscal Year 1996**

Young Scholars Program

1 33,630

Zoology

30 2,000,182

**Total****2,488 \$209,869,076**

## Table 5 - Awards to Support Interdisciplinary Research Center Activity

<b>Center</b>	<b>Dollars (Millions)</b>
Biomedical Engineering Center	\$6.70
Byrd Polar Research Center	6.2
Center for Cognitive Science	2.5
Center for Human Resources Research	6.3
Center for Lake Erie Area Research	1.7
Center for Mapping	2.2
Center for Materials Research	13.6
Center for Net Shape Manufacturing	2
Comprehensive Cancer Center	33.7
Electroscience Lab	3.9
Mershon Center	0.6
Molecular and Environmental Health Center	7.2
National Regulatory Research Institute	4.8
Neurobiotechnology Center	7.6
Ohio Supercomputer Center	4.7
Plant Biotechnology	2.2

## Table 6 - Other Support for Research Activities

<b>Source of Funds</b>	<b>Dollars (Millions)</b>
College of Engineering Transportation Research Fund	\$1.0
College of Medicine, Private Sources	12.0
Fee Waivers and Stipends for Graduate Teaching Assistants	20.7
Fee Waivers for Graduate Research Assistants	5.2
Gifts from Corporations and Foundations to Support Research	8.2
Graduate School Postdoctoral Fellowships	0.3
Individual Awards to Faculty in the Colleges of The Arts and Humanities	1.0
Ohio Board of Regents Action Fund	0.8
Ohio Board of Regents Research Challenge Fund	4.7
Royalty Income from Patents and Licenses	1.1