



The power of  
*Discovery*

**1997 Research Report  
The Ohio State University**

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## Introduction

The nation's premier academic institutions are distinguished by the quality and diversity of their research programs. Whether it be creating new knowledge the full potential of which can only be guessed at, developing new technology, or solving real-world problems, the excitement of discovery is everywhere. It permeates the classroom, the studio, the laboratory and a host of non-traditional learning settings. As the 19<sup>th</sup> ranked U.S. academic institution (based on National Science Foundation data), The Ohio State University has a distinguished presence in higher education, thanks in no small part to the impact of its research programs on our lives.

Performing high-impact research is not a new phenomenon at Ohio State. For example, university chemists provided the structural information that resulted in heparin becoming one of the most widely used drugs during surgery and in the treatment of heart diseases. We also owe octane ratings to Ohio State chemists. The pioneer of computer graphics is one of our faculty members. Graduates of the program, who went on to create their own companies, are responsible for special effects in movies like Jurassic Park. And, of course, feline leukemia vaccine, which has saved the lives of countless cats, was developed by OSU veterinarians.

The following are just a few examples of recent discoveries, and research projects with exciting potential:

- Land mines scattered over battlefields worldwide are made of plastic, which makes them invisible to metal detectors. Engineers at Ohio State are designing a detector that will differentiate between the plastic of land mines and 'trash' plastic.
- Ear infections, probably the most persistent childhood health problem, cost the U.S. billions of dollars annually in medical treatment, surgical management and lost income. Antibiotics are the current treatment of choice, but the organisms that cause the infections are beginning to show resistance. Researchers in otolaryngology are well on the way to developing a vaccine that will protect children against these troublesome infections.
- Materials scientists have developed stable, low-voltage plastics that emit different colored light depending on the applied voltage. Beyond being a designer's delight (enabling them to change the color of a wall with the flip of a switch), likely uses in the near future include supermarket and airport display signs. As reliability increases these plastics have the potential to be used in computer displays and other high-resolution applications.

- As a result of pioneering work by faculty members in dance, performances can be created—or re-created for documentation and in-depth study—using a multimedia, interactive computer program that combines video, visual artwork, text, music and Labanotation.
- Quality of vision following a corneal transplant depends on the exact shape, or topography, of the cornea. Until now, surgeons have had no way of knowing the corneal topography until after surgery. Biomedical engineers at Ohio State have adapted a technique normally used in an outpatient setting to monitor the shape of the cornea as it is being sutured in place. With this information, a surgeon can alter stitch tension or insert additional stitches to optimize corneal topography and postoperative vision.
- Continuous monitoring ensures efficiency and reliability in industrial processes. However, many of the sensors used for industrial monitoring are suboptimal because they are made from materials not designed to withstand extremely high-temperatures or corrosive environments. To meet immediate and ongoing industry needs, OSU scientists are developing new materials—primarily ceramics—and fabrication techniques specifically for sensors that will work in harsh environments.
- Physicians and engineers have developed an enhanced cardiac defibrillator that performs a sophisticated analysis of EKG. With this information, physicians can apply shocks to the heart at the time they will have the greatest benefit.
- Currently, code-quality welding on underwater pipelines, offshore drilling rigs, and ships is done in a large pressurized chamber that excludes water from the weld area. This process is prohibitively expensive. Manual wet welding is much cheaper, but the weld quality is inferior. Scientists at Ohio State are developing a smart underwater wet welding system that will significantly enhance the reliability of wet welds.

Discoveries such as these have obvious economic and quality-of-life impacts. But the quest for new knowledge has a profound impact on the campus environment, too. The exciting and intellectually challenging atmosphere enables the university to attract and retain some of the nation's best faculty. These faculty members share the joy of discovery by providing hands-on opportunities for students to participate in their research programs. The success of the Spring 1997 Undergraduate Research Forum—which afforded undergraduate students the opportunity to present their research results to faculty judges and to their peers—is but one testament to the positive effect of such opportunities. Even those students who are not directly involved in research activities benefit from the fact that faculty members bring the excitement of their research experiences into the classroom. The result is capable and competitive students who are well prepared for successful careers in the 21<sup>st</sup> century.

In concert with producing well-educated graduates, the university is actively developing creative and mutually beneficial partnerships with industry, the community and state agencies. The partner organizations gain access to new technologies, innovations and highly educated employees. The university benefits from experiential learning opportunities for students, research support, visibility in the community, royalty income and a reputation as a source of spin-off technology.

Providing the infrastructure and environment necessary for Ohio State to maintain its position as a leading research institution requires support from many sources. While much of that support is in the form of grants and contracts for specific projects and activities, there are also contributions from a number of sources that provide general support for research and scholarship. The charts and tables in the remainder of this report document the sources of funding, as well as their distribution across colleges and departments.

This report gives only a brief glimpse of the exciting and creative research activities at Ohio State. Much more information is available by selecting Research on the university's homepage ([www.osu.edu](http://www.osu.edu)). We encourage you to browse.

## Foreword

The 1997 Research Report summarizes new awards received and funds expended in support of scholarly activities at The Ohio State University in Fiscal Year 1997. 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 may be funded with a single payment. Because 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 1997 were approximately \$205.4 million. About 7,700 members of the university community were involved in these sponsored projects, including some 2,100 graduate and 1,300 undergraduate students.

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 Public Health and the Office of Health Sciences (\$48.6 million), followed by the College of Food, Agricultural and Environmental Sciences and the Office of Agricultural Administration (\$36.6 million), and the College of Engineering (\$34.4 million). Table 2 lists expenditures by the departments in which the work was conducted. The department names, as far as possible, are those in place at the end of Fiscal Year 1997.

Chart 2 shows the distribution of expenditures by sponsor. Sixty percent of the funds expended came from federal agencies, with over 25% from the Department of Health and Human Services. Nearly 15% percent of expended funds were provided by the State of Ohio.

In Fiscal Year 1997, Ohio State investigators were awarded over \$219 million to support their scholarly activities. The awards were made by many different external agencies (Chart 3), with 59% coming from the federal government. Fiscal Year 97 awards increased nearly 5% from the preceding year, with funds from the federal government and industrial sponsors each up about 15%.

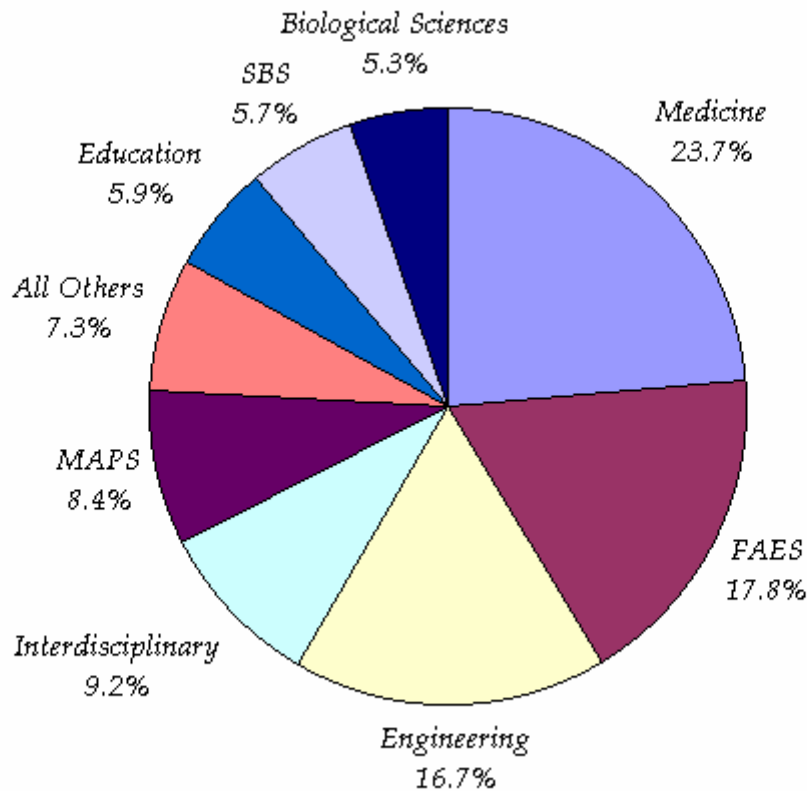
Chart 4 and Table 3 show the distribution of new awards by college or other administrative office, and Table 4 shows the distribution by department. Leading in awards with \$54.8 million was the College of Medicine and Public Health and the Office of Health Sciences. Next was the College of Food, Agricultural and Environmental Sciences and the Office of Agricultural Administration with \$37.4 million in awards, followed by the College of Engineering with \$36.9 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. Finally, the university's research activities receive general support from a wide variety of other sources. Table 6 provides a summary of these additional funds.

## Project Expenditures by Administrative Unit

OSURF	\$168,664,226
OARDC	\$24,250,120
CHRF	\$7,316,615
OTHER	\$5,179,580
<b>TOTAL</b>	<b>\$205,410,541</b>

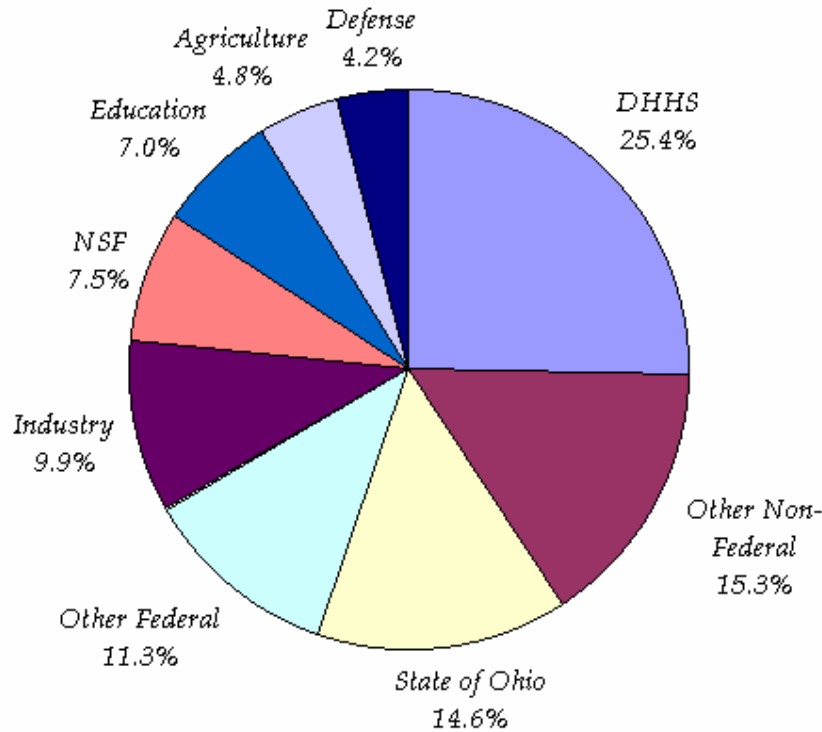
# Expenditures by College



**COLLEGE/OFFICE**

College of Medicine and Public Health and Office of Health Sciences ( <i>Medicine</i> )	\$ 48,616,591
College of Food, Agricultural and Environmental Sciences and Agricultural Administration ( <i>FAES</i> )	36,608,188
College of Engineering	34,357,053
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research ( <i>Interdisciplinary</i> )	18,948,676
College of Math and Physical Sciences ( <i>MAPS</i> )	17,214,600
College of Education	12,186,260
College of Social and Behavioral Sciences ( <i>SBS</i> )	11,695,447
College of Biological Sciences	10,949,860
All Others ( <i>See Table 1 for Details</i> )	14,833,866
<b>TOTAL EXPENDITURES</b>	<b>\$205,410,541</b>

# Expenditures by Sources of Funds



**FEDERAL**

Department of Health and Human Services ( <i>DHHS</i> )	\$ 52,189,990
National Science Foundation ( <i>NSF</i> )	15,424,690
Department of Education	14,373,754
Department of Agriculture	9,849,669
Department of Defense	8,543,982
Other Federal ( <i>including NASA, Depts. of Energy and Labor, EPA, NEA, NEH, etc.</i> )	23,289,773

**TOTAL FEDERAL**

**123,671,858**

**NON-FEDERAL**

State of Ohio	30,069,676
Industry	20,247,539
Other Non-Federal	31,421,468

**TOTAL NON-FEDERAL**

**81,738,683**

**TOTAL EXPENDITURES**

**\$205,410,541**

## 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	31	\$ 679,541
College of Biological Sciences	319	10,949,860
Fisher College of Business	15	342,935
College of Dentistry	56	2,432,243
College of Education	244	12,186,260
College of Engineering	1,059	34,357,053
College of Food, Agricultural and Environmental Sciences and Agricultural Administration	1,081	36,608,188
College of Human Ecology	54	766,418
College of Humanities	45	1,334,794
College of Law	4	48,730
College of Math and Physical Sciences	461	17,214,600
College of Medicine and Public Health and Office of Health Sciences	1,078	48,616,591
College of Nursing	43	905,827
College of Optometry	13	1,550,114
College of Pharmacy	89	2,907,546
College of Social and Behavioral Sciences	188	11,695,447
College of Social Work	6	83,216
College of Veterinary Medicine	83	2,911,493
Graduate School	6	425,001
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research	435	18,948,676
Office of Human Resources	3	54,752
Office of Student Affairs	2	9,621
Regional Campuses	12	200,512
University College	3	50,418
University Libraries	8	130,705
<b>TOTAL EXPENDITURES</b>	<b>5,338</b>	<b>\$205,410,541</b>

## Distribution of Projects and Expenditures Among Departments of the University

<b>DEPARTMENT</b>	<b># of Projects</b>	<b>Dollars Expended</b>
Academic Affairs Administration	27	\$ 1,503,815
Accounting and Management Information Systems	1	28,989
Adult Health and Illness Nursing	14	253,132
Advanced Computing Center for the Arts and Design	5	201,422
Aeronautical Engineering, Applied Mechanics and Aviation	102	4,178,515
Agricultural Administration	1	(1,500)
Agricultural and Natural Resources-OSUE	1	11,513
Agricultural Economics and Rural Sociology	40	940,184
Agricultural Economics and Rural Sociology-OARDC	41	928,584
Agricultural Education	19	597,989
Agricultural Education-OARDC	8	146,506
Agricultural Engineering	25	721,474
Agricultural Engineering-OARDC	27	1,156,341
Agricultural Engineering-OSUE	3	37,111
Agricultural Technical Institute - Academic Support	3	249,570
Agricultural Technical Institute - Administrative Support	9	557,675
Agricultural Technologies	1	7,236
Allied Medical Professions	12	295,229
Anesthesiology	12	347,283
Animal Science	9	137,837
Animal Sciences-OARDC	73	3,800,433
Animal Sciences-OSUE	1	864
Anthropology	12	161,724
Architecture	17	237,752
Art Education	17	238,261
Arts Administration	1	57,547
Astronomy	42	820,323
Biochemistry	34	1,474,264
Biological Sciences Administration	3	57,722
Biomedical Engineering	12	896,854
Black Studies	2	78,762
Business Administration	2	130,094
Byrd Polar Research Center	130	3,393,644

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Campus Electron Optics Facility	1	51
Cell Biology, Neurobiology and Anatomy	36	1,371,904
Center for Cognitive Science	17	334,770
Center for Education and Training for Employment	81	3,195,222
Center for Human Resource Research	33	6,897,081
Center for International Studies	26	1,226,318
Center for Lake Erie Area Research	56	1,263,952
Center for Mapping	51	2,465,155
Center for Molecular Environmental Health	9	130,927
Chemical Engineering	89	1,902,534
Chemical Instrumentation Center	4	237,265
Chemistry	146	6,729,608
Child Care Program	1	38,967
Civil and Environmental Engineering and Engineering Graphics	90	1,525,831
Community Dentistry	4	177,460
Community Development-OSUE	8	198,551
Community, Parent-Child, and Psychiatric Nursing	29	652,695
Comparative Studies in the Humanities	4	153,793
Comprehensive Cancer Center	78	2,783,179
Computer and Information Science	34	1,467,379
Consumer and Textile Sciences	7	48,583
County Operations-OSUE	43	559,734
Dance	1	13,556
Diagnostic Services-Dentistry	1	47,818
East Asian Languages and Literatures	4	5,412
Economics	9	58,970
Education Administration	34	1,665,871
Educational Policy and Leadership	4	17,609
Educational Services and Research	18	3,038,794
Educational Studies	47	2,565,060
Educational Theory and Practice	15	670,621
Electrical Engineering	196	6,077,571
Emergency Medicine	13	140,133
Endodontics	3	30,814
Engineering Experiment Station	35	2,139,223
English	7	104,520
English as a Second Language	2	82,315
Entomology	43	1,100,650
Entomology-OARDC	58	1,383,699
Entomology-OSUE	3	19,987

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Faculty and TA Development	2	108,447
Family Medicine	9	185,855
Family Relations and Human Development and Home Economics Education	18	507,001
Finance	3	61,428
Food Animal Health-OARDC	37	1,313,243
Food Science and Nutrition-OARDC	22	157,563
Food Science and Technology	37	688,061
Food Science and Technology-OSUE	1	1,298
Food, Agricultural and Environmental Sciences and Agricultural Administration	30	1,249,546
Foreign Language Center	10	566,090
Geography	24	337,895
Geological Sciences	80	1,603,226
Geriatrics and Gerontology	2	3,010
Graduate School Administration	6	425,001
Health Sciences Administration	1	(7,909)
Health Services Management and Policy	1	13,722
Health, Physical Education, and Recreation	24	189,029
HHHH-OSUE	3	55,575
History	3	(6,148)
History of Art	6	130,764
Home Economics Education	12	115,843
Horticultural Technologies	1	306
Horticulture and Crop Science	22	403,555
Horticulture and Crop Science-OARDC	131	3,480,786
Human Ecology Administration-OSUE	127	1,493,285
Human Ecology-OARDC	30	435,969
Human Nutrition and Food Management	12	60,114
Industrial, Interior, and Visual Communication Design	1	37,990
Industrial, Welding and Systems Engineering	157	4,028,820
Internal Medicine	215	9,632,948
International Affairs	2	20,943
Journalism	4	77,146
Law	4	48,730
Lima Campus	3	(633)
Linguistics	9	280,153
Management and Human Resources	4	68,675
Management Sciences	2	49,123
Mansfield Campus	4	107,188

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Marion Campus	1	4,491
Materials Science and Engineering	104	4,685,022
Mathematics	54	1,139,877
Mechanical Engineering	149	4,697,485
Medical Biochemistry	41	2,318,384
Medicine and Public Health Administration	15	1,810,195
Mershon Center	14	332,941
Microbiology	45	2,918,240
Microbiology and Immunology	32	2,270,847
Minority Affairs	2	250,255
Molecular Genetics	51	2,269,739
National Regulatory Research Institute	74	2,520,068
Natural Resources	52	720,412
Natural Resources-OARDC	77	2,354,938
Natural Resources-OSUE	1	3,568
Near Eastern, Judaic and Hellenic Languages and Literatures	1	2,711
Neurobiotechnology Center	20	1,189,901
Neurology	58	1,647,759
Newark Campus	4	89,466
Nisonger Center	19	458,242
Obstetrics and Gynecology	38	1,096,985
Ohio Agricultural Research and Development Center	26	10,467,340
Ohio Supercomputer Center	48	5,981,423
Ophthalmology	16	230,869
Optometry	13	1,550,114
Oral and Maxillofacial Surgery	8	186,855
Oral Biology	13	956,138
Oral Pathology	1	19,311
Orthodontics	3	103,058
OSUE Administration	2	111,134
Otolaryngology	11	762,214
Outlying Branchs-OARDC	7	54,651
Pathology	74	4,204,087
Pediatrics	120	5,870,625
Periodontology	6	228,862
Pharmacology	27	1,526,956
Pharmacy	89	2,907,546
Philosophy	1	67,828
Physical Medicine	25	1,340,260
Physics	130	6,720,144

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Physiology	35	2,183,948
Piketon Research and Extension Center-OARDC	18	262,572
Plant Biology	43	1,153,075
Plant Biotechnology	18	339,881
Plant Pathology	14	194,803
Plant Pathology-OARDC	71	1,442,864
Political Science	17	346,749
Preventive Medicine	27	1,124,918
Psychiatry	24	1,312,522
Psychology	54	2,954,079
Public Policy and Management	3	4,626
Radiology	19	845,999
Research Administration	19	515,774
Restorative and Prosthetic Dentistry	17	681,928
School of Educational Policy and Leadership	5	89,656
School of Physical Activity and Educational Services	6	100,285
School of Public Health	4	313,230
School of Teaching and Learning	6	463,351
Secrest Arboretum-OARDC	2	295,308
Slavic and East European Languages and Literatures	2	74,847
Social Work	6	83,216
Sociology	13	238,140
Spanish and Portuguese	1	4,827
Speech and Hearing	8	290,723
Statistics	9	201,422
Student Health Service	2	9,621
Surgery	92	3,332,352
Training and Career Development	1	13,196
University College Administration	3	50,418
University Hospitals	2	10,943
University Libraries	8	130,706
University Systems	26	1,494,471
Veterinary Biosciences	52	2,008,203
Veterinary Clinical Sciences	21	375,120
Veterinary Medicine Administration	5	487,599
Veterinary Medicine-OSUE	2	2,498
Veterinary Preventative Medicine	5	40,570
Wexner Center for the Arts - Education	2	12,154
Wexner Center for the Arts - Exhibitions	2	11,425
Wexner Center for the Arts - Film and Video	1	5,389

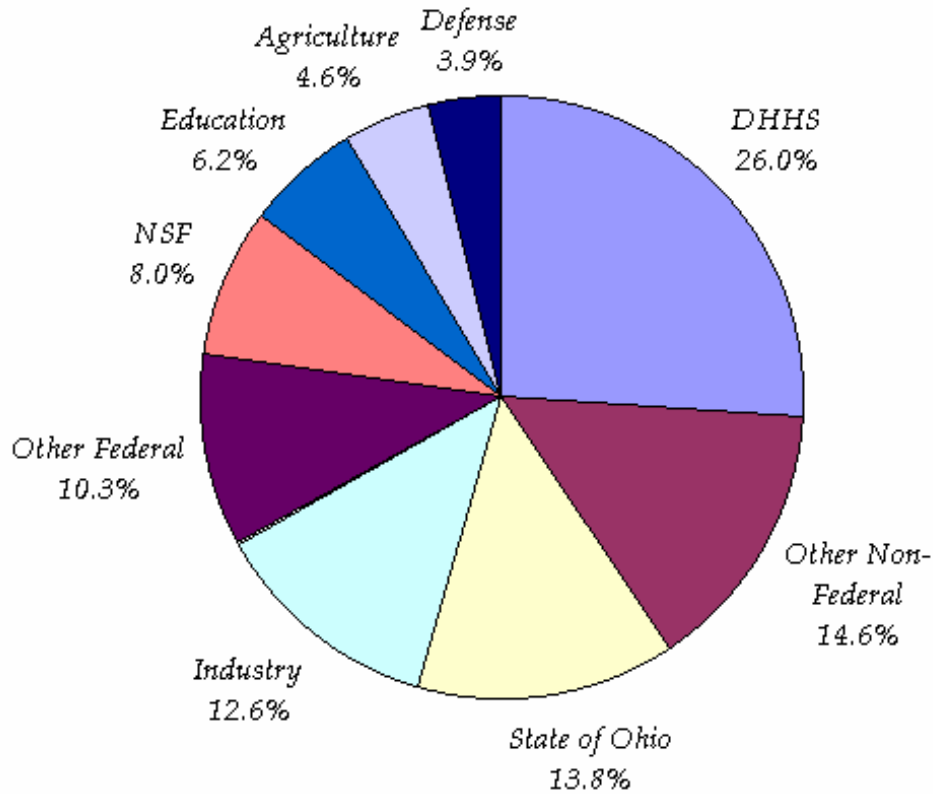
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Wexner Center for the Arts - Performing Arts	5	14,589
Women's Studies	1	2,000
Work and Family	1	2,588
Young Scholars Program	7	86,354
Zoology	82	1,636,289
<b>TOTAL EXPENDITURES</b>	<b>5,338</b>	<b>\$205,410,541</b>

## Awards by Administrative Unit

OSURF	\$181,570,755
OARDC	\$24,389,827
CHRF	\$8,530,051
OTHER	\$4,795,540
<b>TOTAL</b>	<b>\$219,286,173</b>

# Awards by Sources of Funds



**FEDERAL**

Department of Health and Human Services (DHHS)	\$ 57,072,334
National Science Foundation (NSF)	17,547,758
Department of Education	13,627,278
Department of Agriculture	10,181,306
Department of Defense	8,491,045
Other Federal (including NASA, Depts. of Energy and Labor, EPA, NEA, NEH, etc.)	22,410,546

**TOTAL FEDERAL**

**129,330,267**

**NON-FEDERAL**

State of Ohio	30,283,967
Industry	27,635,643
Other Non-Federal	32,036,296

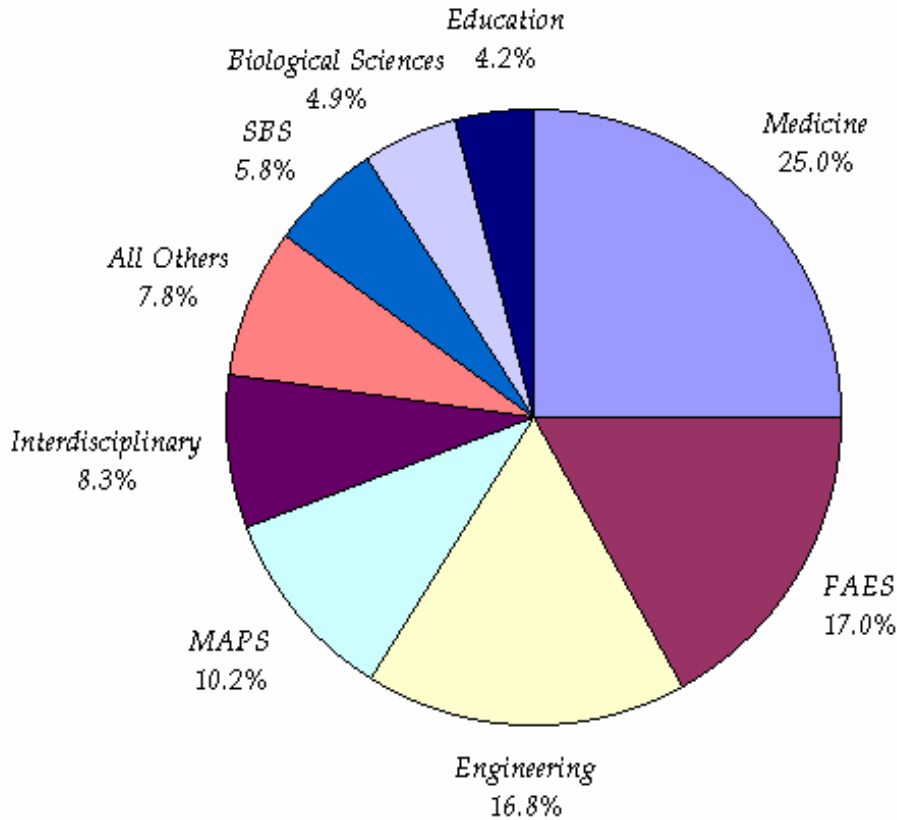
**TOTAL NON-FEDERAL**

**89,955,906**

**TOTAL AWARDS**

**\$219,286,173**

# Awards by College



**COLLEGE/OFFICE**

College of Medicine and Public Health and Office of Health Sciences ( <i>Medicine</i> )	\$ 54,792,347
College of Food, Agricultural and Environmental Sciences and Agricultural Administration ( <i>FAES</i> )	37,386,535
College of Engineering	36,897,404
College of Math and Physical Sciences ( <i>MAPS</i> )	22,349,900
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research ( <i>Interdisciplinary</i> )	18,101,555
College of Social and Behavioral Sciences ( <i>SBS</i> )	12,758,304
College of Biological Sciences	10,822,543
College of Education	9,124,843
All Others ( <i>See Table 3 for Details</i> )	17,052,742

**TOTAL AWARDS**

**\$219,286,173**

## Distribution of New Awards Among Colleges and Offices of the University

<b>COLLEGE/OFFICE</b>	<b>Number of Awards</b>	<b>Dollars Awarded</b>
College of the Arts	15	\$ 1,179,380
College of Biological Sciences	112	10,822,543
Fisher College of Business	5	407,712
College of Dentistry	31	2,699,752
College of Education	84	9,124,843
College of Engineering	534	36,897,404
College of Food, Agricultural and Environmental Sciences and Agricultural Administration	458	37,386,535
College of Human Ecology	11	670,351
College of Humanities	16	621,573
College of Law	3	119,900
College of Math and Physical Sciences	211	22,349,900
College of Medicine and Public Health and Office of Health Sciences	760	54,792,347
College of Nursing	25	1,549,013
College of Optometry	10	2,116,852
College of Pharmacy	48	2,993,210
College of Social and Behavioral Sciences	65	12,758,304
College of Social Work	2	73,342
College of Veterinary Medicine	52	3,821,675
Graduate School	2	290,600
Interdisciplinary Programs Reporting to the Offices of Academic Affairs and Research	131	18,101,555
Office of Human Resources	2	63,800
Office of Student Affairs	2	6,831
Regional Campuses	5	267,103
University College	3	74,957
University Libraries	4	96,691
<b>TOTAL AWARDS</b>	<b>2,591</b>	<b>\$219,286,173</b>

## Distribution of New Awards Among Departments of the University

<b>DEPARTMENT</b>	<b>Number of Awards</b>	<b>Dollars Awarded</b>
Academic Affairs Administration	1	\$ 9,361
Adult Health and Illness Nursing	8	342,979
Advanced Computing Center for the Arts and Design	3	251,913
Aeronautical Engineering, Applied Mechanics and Aviation	57	4,340,476
Agricultural and Natural Resources-OSUE	1	14,500
Agricultural Economics and Rural Sociology	1	40,000
Agricultural Economics and Rural Sociology-OARDC	35	2,111,316
Agricultural Education	3	276,830
Agricultural Education-OARDC	11	790,149
Agricultural Engineering-OARDC	24	1,806,366
Agricultural Technical Institute - Academic Support	2	462,584
Agricultural Technical Institute - Administrative Support	4	337,097
Allied Medical Professions	3	153,737
Anesthesiology	10	116,370
Animal Sciences-OARDC	43	4,145,655
Animal Sciences-OSUE	1	26,500
Anthropology	1	7,500
Architecture	9	194,247
Art Education	7	371,810
Arts Administration	1	364,471
Astronomy	25	1,230,954
Biochemistry	9	820,453
Biological Sciences Administration	1	9,000
Biomedical Engineering	8	1,106,238
Byrd Polar Research Center	49	2,428,997
Cell Biology, Neurobiology and Anatomy	15	1,598,364
Center for Cognitive Science	1	81,700
Center for Education and Training for Employment	44	2,131,194
Center for Health Policy Studies	1	20,598
Center for Human Resource Research	6	6,086,239
Center for International Studies	6	876,316
Center for Lake Erie Area Research	5	2,129,285
Center for Mapping	23	2,593,847

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Center for Molecular Environmental Health	1	0
Chemical Engineering	30	2,098,863
Chemistry	67	11,100,120
Child Care Program	1	47,760
Civil and Environmental Engineering and Engineering Graphics	34	2,372,721
Community Dentistry	2	233,045
Community Development-OSUE	1	69,388
Community, Parent-Child, and Psychiatric Nursing	16	1,156,930
Comparative Studies in the Humanities	1	78,066
Comprehensive Cancer Center	10	4,103,807
Computer and Information Science	18	1,947,973
Consumer and Textile Sciences	2	34,551
County Operations-OSUE	25	812,318
East Asian Languages and Literatures	1	9,600
Economics	2	118,393
Education Administration	8	2,153,804
Educational Policy and Leadership	4	69,774
Educational Services and Research	5	1,949,378
Educational Studies	5	1,007,869
Educational Theory and Practice	3	308,723
Electrical Engineering	125	6,593,384
Emergency Medicine	17	160,007
Engineering Experiment Station	30	2,261,896
English	3	161,966
English as a Second Language	1	82,512
Entomology	3	196,835
Entomology-OARDC	31	1,849,679
Faculty and TA Development	1	120,351
Family Medicine	3	202,354
Family Relations and Human Development and Home Economics Education	7	612,788
Finance	1	150,000
Food Animal Health-OARDC	16	1,425,440
Food Science and Nutrition-OARDC	31	73,435
Food Science and Technology-OSUE	1	7,500
Food, Agricultural and Environmental Sciences and Agricultural Administration	3	103,316
Foreign Language Center	2	125,863
Geography	4	161,539
Geological Sciences	21	1,232,100

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Geriatrics and Gerontology	2	6,500
Graduate School Administration	2	290,600
Health Sciences Administration	2	97,792
Health Sciences Library	1	720
Health, Physical Education, and Recreation	3	84,914
HHHH-OSUE	3	152,151
History	1	51,088
History of Art	3	141,186
Horticulture and Crop Science	1	20,000
Horticulture and Crop Science-OARDC	76	3,812,541
Human Ecology Administration-OSUE	3	1,563,511
Human Ecology-OARDC	13	436,087
Human Nutrition and Food Management	1	16,100
Industrial, Interior, and Visual Communication Design	1	50,000
Industrial, Welding and Systems Engineering	56	2,811,127
Internal Medicine	210	9,542,210
Journalism	1	72,974
Law	3	119,900
Lima Campus	2	76,000
Linguistics	6	122,990
Management and Human Resources	1	205,000
Management Sciences	1	30,000
Mansfield Campus	1	91,500
Materials Science and Engineering	75	6,298,633
Mathematics	32	1,625,082
Mechanical Engineering	79	4,892,739
Medical Biochemistry	17	2,135,212
Medicine and Public Health Administration	5	1,957,000
Mershon Center	4	325,500
Microbiology	27	2,911,674
Microbiology and Immunology	21	3,044,262
Minority Affairs	1	228,800
Molecular Genetics	24	3,007,702
National Regulatory Research Institute	13	1,979,107
Natural Resources	1	10,000
Natural Resources-OARDC	64	2,735,820
Natural Resources-OSUE	1	28,655
Neurobiotechnology Center	7	1,168,757
Neurology	92	1,841,605
Newark Campus	2	99,603

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Nisonger Center	10	897,094
Nursing Administration	1	49,104
Obstetrics and Gynecology	20	1,047,886
Ohio Agricultural Research and Development Center	12	10,842,107
Ohio Supercomputer Center	25	8,812,647
Ophthalmology	10	242,540
Optometry	10	2,116,852
Oral Biology	11	1,167,775
Oral Pathology	1	238,054
OSUE Administration	2	219,847
Otolaryngology	9	663,866
Outlying Branches-OARDC	5	71,053
Pathology	29	4,114,603
Pediatrics	91	6,406,964
Periodontology	6	370,955
Pharmacology	20	1,705,539
Pharmacy	48	2,993,210
Philosophy	1	70,000
Physical Medicine	9	1,209,870
Physics	61	6,923,968
Physiology	17	2,767,888
Piketon Research and Extension Center-OARDC	9	261,166
Plant Biology	20	1,506,934
Plant Biotechnology	7	724,399
Plant Pathology-OARDC	33	1,685,129
Political Science	6	461,083
Preventive Medicine	11	899,117
Psychiatry	24	1,676,968
Psychology	31	4,570,231
Public Policy and Management	2	22,712
Radiology	17	1,357,317
Research Administration	3	533,597
Restorative and Prosthetic Dentistry	11	689,923
School of Educational Policy and Leadership	2	34,686
School of Physical Activity and Educational Services	3	437,836
School of Public Health	8	924,282
School of Teaching and Learning	5	743,802
Secret Arboretum-OARDC	1	295,308
Social Work	2	73,342
Sociology	7	623,915

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Speech and Hearing	3	330,930
Statistics	5	237,676
Student Health Service	2	6,831
Surgery	69	4,729,118
University College Administration	3	74,957
University Libraries	4	96,691
Veterinary Biosciences	30	2,470,615
Veterinary Clinical Sciences	19	1,184,814
Veterinary Medicine Administration	2	146,246
Veterinary Medicine-OSUE	1	8,000
Veterinary Preventative Medicine	1	20,000
Wexner Center for the Arts - Education	2	7,654
Wexner Center for the Arts - Exhibitions	4	38,704
Wexner Center for the Arts - Film and Video	1	16,186
Wexner Center for the Arts - Performing Arts	6	50,337
Women's Studies	1	2,000
Work and Family	1	16,040
Young Scholars Program	3	294,124
Zoology	21	1,645,546
<b>TOTAL AWARDS</b>	<b>2,591</b>	<b>\$219,286,173</b>

# Awards to Support Interdisciplinary Research Center Activity

<b>CENTER</b>	<b>Dollars (Millions)</b>
Advanced Computing Center for the Arts and Design (ACCAD)	\$ 1.1
Aeronautical and Astronautical Research Laboratory	2.6
Biomedical Engineering Center	5.7
Byrd Polar Research Center	2.4
Center for Automotive Research	9.1
Center for Cognitive Science	2.4
Center for Health Policy Studies	0.5
Center for Human Resource Research	6.1
Center for Lake Erie Area Research	4.8
Center for Mapping	4.6
Center for Materials Research	18.8
Center for Medieval and Renaissance Studies	0.2
Center for Molecular Environmental Health	6.7
Center for Retrovirus Research	6.7
Center for Socio-Legal Studies	0.2
Center for Special Needs Populations	1.9
Center on Education and Training for Employment (CETE)	2.1
Comprehensive Cancer Center	44.0
ElectroScience Laboratory	3.6
Gas Turbine Laboratory	2.0
Mershon Center	0.8
National Regulatory Research Institute (NRRI)	2.0
Net Shape Manufacturing, Engineering Research Center (ERC)	2.1
Neurobiotechnology Center	1.6
Ohio Agricultural Research and Development Center (OARDC)	24.4
Ohio Supercomputer Center	8.8
Plant Molecular Biology and Biotechnology Program (PMBB)	3.6
Water Resources Center	0.6

## Other Support for Research Activities

**SOURCE OF FUNDS****Dollars (Millions)**

College of Engineering Transportation Research Fund	\$ 1.0
College of Medicine and Public Health, Private Sources	20.7
Fee Waivers for Graduate Research Associates	10.3
Gifts from Corporations and Foundations to Support Research	8.4
Graduate School Postdoctoral Fellowships	0.3
Individual Awards to Faculty in the Colleges of the Arts and Humanities	0.6
Ohio Board of Regents Action Fund	0.6
Ohio Board of Regents Investment Fund	2.1
Ohio Board of Regents Research Challenge Fund	4.7
Royalty Income from Patents and Licenses	2.2