# Research

The University System received \$795 million in external contracts and grants in FY2002 to support research and service, of which \$488 million was for research, \$79 million for instruction grants, and \$227 million for public service grants.

Research universities received \$717 million in external grants and contracts.

Regional universities received \$11 million in external grants and contracts.

State universities received \$51 million in external grants and contracts.

State colleges received \$4.5 million in external grants and contracts.

Two-year colleges received \$11 million in external contracts and grants.

### **Research Universities**

Research activities serve to expand the existing body of knowledge, provide learning opportunities for graduate students, and find solutions for problems. The research mission in the University System is concentrated primarily in the four research universities. In addition, Fort Valley State University has an agricultural research mission assigned to it as a result of its designation as an 1890 Land Grant Institution, and it operates an Agricultural Research Station at Fort Valley. Research programs carried out in the universities had a total extramural support in FY2002 of \$771 million, of which \$476 million was for research and \$241 million for instruction and public service grants. Georgia Southern University and Valdosta State University have research missions focused on applied topics.

#### GEORGIA INSTITUTE OF TECHNOLOGY

Georgia Tech is a major center for advanced technology in Georgia and the Southeast. The Institute conducts research of national significance, provides services and facilities to faculty, students, industry, and government agencies, and supports the economic and technological growth of the state. Research operations are carried out through a group of schools, centers, and laboratories, each performing research in a particular field of interest. Most of the research is supported by contracts with government organizations and private industry. A significant portion of the total research activity is within the broad fields of electronics, environmental science and technology, manufacturing, biotechnology, materials, microelectronics, transportation, and telecommunications. Signal processing, tribology, acoustics, fusion, combustion, rotary wing aircraft, and work on energy conservation and applications are also important areas, as are domestic and international economic development, computer technology and applications, mechanics, and the fields of biological, physical, chemical, material, earth, atmospheric, and social sciences. To assist with the State's economic development, Georgia Tech maintains field offices in Albany, Augusta, Brunswick, Carrollton, Columbus, Douglas, Dublin, Gainesville, Macon, Madison, Rome, Savannah and Warner Robins. Research is also being conducted at various locations throughout the nation and the world. Extramural support for FY2002 was \$279 million, of which \$255 million was for research.

#### GEORGIA STATE UNIVERSITY

Located in the heart of downtown Atlanta, Georgia State University (GSU) is a leading research university with a wide range of extramural research programs in each of its six colleges. In addition to a broad agenda of programs that have national prominence, a number of the research programs play a significant role in supporting the growth of both the economy and technology of Georgia. Some of the research projects include the development of biotechnology and drug design, brain sciences and health, digital arts, computer design, both biological and policy research of the environment, high angular resolution astronomy, media education, brain-computer interface, and neural communication and computation. Policy research includes water planning and policy, applied research for addressing national and local policy issues, Georgia health policy, evaluation of state and local fiscal and economic policy, and international studies in which GSU faculty work in over 30 foreign countries. Various research programs in the areas of learning and development, teacher education, educational policy, adult learning and community outreach provide a strong link between GSU and the K-12 system in Georgia. Research in the field of business-to-business marketing, development of models related to national, regional and local economies, and international business training and skills development benefit from the longterm relationships that GSU has developed with national and international business communities. Innovative cross-college teacher preparation programs, including the Biobus, serve as national models for education reform. Applied research to reduce health risks includes the study of victim empowerment issues, current substance abuse treatment strategies, the Georgia Fatherhood Program, and the influence of nursing care on patient outcomes in U.S. Army hospitals. Georgia State University extramural support for FY2002 was \$57 million, of which \$32 million was for research.

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## **Research Universities (Continued)**

MEDICAL COLLEGE OF GEORGIA

Extramurally funded research programs are disease oriented and are carried out in both basic and clinical disciplines in the five schools of Medicine, Dentistry, Nursing, Allied Health Sciences, and Graduate Studies. Institutes which focus on specific research disciplines are the Georgia Institute for Prevention of Human Disease and Accidents, the Institute of Molecular Medicine and Genetics, and the Vascular Biology Center. A special initiative involves the research and development of telecommunications in health care delivery known as Telemedicine. There is an Alzheimer's program to develop and test new drugs and agents for improving memory. A specialized Heart Development Group carries out research on the origin and molecular biology of congenital heart defects. Significant priorities in research are: cancer, neurological disease, (e.g., Alzheimer's disease, epilepsy, stem cell research), cardiovascular diseases (stroke, Sickle cell disease, hypertension, heart development), and infection/inflammation research. Much of this research is translation (i.e., bench to bedside). There is considerable focus on research relating to children's diseases and health services research that includes minority and women's health. Applied and basic research places emphasis on the development of new intellectual properties, biotechnology and technology transfer. The latter is focused on the economic growth of the State and involves consortia with other universities including the Georgia Research Alliance (GRA). Sponsored awards for FY2002 was \$177 million, of which \$50 million was for research.

#### UNIVERSITY OF GEORGIA

The University of Georgia is both a land-grant and sea-grant college. All thirteen schools/colleges have extensive research programs. The following areas are representative of some of the recognized research strengths. Research in biology and chemistry is conducted in many colleges, departments, and multidisciplinary units, including the Complex Carbohydrate Research Center, the Center for Metalloenzyme Studies, the Center for Plant Cellular and Molecular Biology, the Center for Biological Resource Recovery, and the Center for Computational Quantum Chemistry. Biotechnology research focuses on plant development and production, crop protection, forest science and applications, animal improvement and health, human health, and fermentation applications. Research in the College of Pharmacy focuses on the development of new drugs and toxicology. Agricultural research is conducted at the three major Georgia Agricultural Experiment Stations in Athens, Griffin, and Tifton, and five smaller stations in the state. Research emphasis is on environmentally sound and inputefficient production practices. The Veterinary Medicine Experiment Station and the Poultry Disease Research Center in Athens conduct research on disease problems of agricultural and companion animals. The Veterinary Diagnostic Assistance Laboratories have facilities in Athens and Tifton. Environmental and ecological research is a major emphasis across several colleges, with the recognized activities in the Institute of Ecology and the Savannah River Ecology Laboratory. Marine research is concentrated at the Marine Institute of Sapelo Island, the Marine Extension Center at Brunswick, and the Skidaway Institute of Oceanography. Research strengths in other areas are highlighted in the Institute for Behavioral Research, the Center for East-West Trade Policy, the Humanities Center, the Center for Remote Sensing and Mapping Science, and the Center for Simulational Physics. Ongoing research in math, reading, and science education, as well as learning disorders, is conducted by faculty in the College of Education. Extramural support to the University of Georgia for FY2002 was \$205 million, of which \$139 million was for research.

Source: Research Advisory Committee; Office of Associate Vice Chancellor of Strategic Research and Analysis

## Received by Universities and Regional Universities, FY1993-FY2002

				DOLLA	RS IN MIL	LIONS				
Liverpore	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	2002
<u>Universities</u>										
GEORGIA INSTITUTE OF TECHNOLOG Research Awards	<b>GY</b> 146.0	144.6	167.1	158.3	179.9	176.2	204.4	217.2	217.5	254.8
Instructional and Public Service Awards	16.9	17.4	18.7	15.7	17.4	10.9	12.7	15.2	<u>19.9</u>	24.2
TOTAL AWARDS	\$162.9	\$162.0	\$185.8	\$174.0	\$197.3	\$187.1	\$217.1	\$232.4	\$237.4	\$279.0
GEORGIA STATE UNIVERSITY	40.0			40.4	20.5	2= 4	22.2			24.5
Research Awards Instructional and Public Service Awards	12.2 7.5	12.1 9.8	16.7 11.0	19.4 12.7	20.6 16.5	37.1 23.9	25.2 14.0	23.1 15.6	27.3 19.6	31.5 25.6
TOTAL AWARDS	\$19.7	\$21.9	\$27.7	\$32.1	\$37.1	\$61.0	\$39.2	\$38.7	\$46.9	\$57.1
MEDICAL COLLEGE OF GEORGIA										
Research Awards	13.1	14.8	16.9	17.3	18.6	19.7	26.3	31.1	42.0	50.3
Instructional and Public Service Awards TOTAL AWARDS	\$19.2	\$21.9	\$23.4	9.5 \$26.8	\$26.4	$\frac{82.7}{102.4}$	97.6 \$123.9	\$133.0	117.5 \$159.5	\$176.5
UNIVERSITY OF GEORGIA										
Research Awards	93.9	97.7	110.0	95.9	95.5	84.3	86.6	97.3	120.1	139.4
Instructional and Public Service Awards TOTAL AWARDS	\$122.4	\$129.9	33.7 \$143.7	\$1 <u>.3</u> \$127.2	30.3 \$125.8	\$132.7	\$1.5 \$138.1	<u>57.4</u> \$154.7	<u>51.5</u> \$171.5	\$204.5
	Φ122.4	\$129.9	φ143.7	\$127.2	\$123.6	Φ132.7	φ136.1	φ134.7	φ1/1.3	\$204.3
UNIVERSITIES Research Awards	265.2	269.2	310.7	290.9	314.6	317.3	342.6	368.7	406.9	476.0
Research Awards Instructional and Public Service Awards		269.2 66.5	310.7 69.9	290.9 69.2	314.6 72.0	317.3 165.9	342.6 175.7	368.7 190.1	406.9 208.4	476.0 241.1
Research Awards										
Research Awards Instructional and Public Service Awards	<u>59.0</u>	66.5	69.9	69.2	<u>72.0</u>	165.9	175.7	<u>190.1</u>	208.4	<u>241.1</u>
Research Awards Instructional and Public Service Awards	<u>59.0</u>	66.5	69.9	69.2	<u>72.0</u>	165.9	175.7	<u>190.1</u>	208.4	<u>241.1</u>
Research Awards Instructional and Public Service Awards	<u>59.0</u>	66.5	69.9	69.2	<u>72.0</u>	165.9	175.7	<u>190.1</u>	208.4	<u>241.1</u>
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES	<u>59.0</u>	66.5	69.9	69.2	<u>72.0</u>	165.9	175.7	<u>190.1</u>	208.4	<u>241.1</u>
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards	<u>59.0</u>	66.5	69.9	\$360.1	\$386.5 \$2.1	165.9 \$483.2	175.7	<u>190.1</u>	208.4 \$615.2	241.1 \$717.1
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards	1.3 4.0	.8 4.2	.8 6.0	\$360.1 1.2 3.3	72.0 \$386.5	1.1 3.1	1.6 3.6	190.1 \$558.9	208.4 \$615.2	241.1 \$717.1
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS	\$\frac{59.0}{\$324.2}\$	\$335.7	69.9 \$380.6	\$360.1	\$386.5 \$2.1	165.9 \$483.2	175.7 \$518.3	190.1 \$558.9	208.4 \$615.2	241.1 \$717.1
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  VALDOSTA STATE UNIVERSITY	1.3 4.0	.8 4.2 \$5.0	.8 6.0 \$6.7	1.2 3.3 \$4.5	2.1 3.3 \$5.5	1.1 3.1 \$4.2	1.6 3.6 \$5.2	1.5 4.1 \$5.6	208.4 \$615.2 1.7 2.9 \$4.7	2.2 3.9 \$6.2
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  VALDOSTA STATE UNIVERSITY Research Awards Instructional and Public Service Awards	1.3 4.0 \$5.3	.8 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	.8 6.0 \$6.7	1.2 3.3 \$4.5	72.0 \$386.5 2.1 3.3 \$5.5	1.1 3.1 \$4.2	1.6 3.6 \$5.2	1.5 4.1 \$5.6	208.4 \$615.2 1.7 2.9 \$4.7	241.1 \$717.1 2.2 3.9 \$6.2
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  VALDOSTA STATE UNIVERSITY Research Awards	1.3 4.0 \$5.3	.8 4.2 \$5.0	.8 6.0 \$6.7	1.2 334.5	2.1 3.3 \$5.5	1.1 3.1 \$4.2	1.6 3.6 \$5.2	1.5 4.1 \$5.6	208.4 \$615.2 1.7 2.9 \$4.7	2.2 3.9 \$6.2
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  VALDOSTA STATE UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES	1.3 4.0 \$5.3 1.4	.8 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	.8 6.0 \$6.7 .9 1.7 \$2.6	1.2 3.3 \$4.5	2.1 3.3 \$5.5 1.7 2.7 \$4.4	1.1 3.1 \$4.2 .7 4.4 \$5.1	1.6 3.6 \$5.2 3.7 \$4.1	1.5 4.1 \$5.6 .4 4.1 \$4.5	208.4 \$615.2 1.7 2.9 \$4.7 .3 4.3 \$4.6	2.2 3.9 \$6.2
Research Awards Instructional and Public Service Awards TOTAL AWARDS  REGIONAL UNIVERSITIES  GEORGIA SOUTHERN UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS  VALDOSTA STATE UNIVERSITY Research Awards Instructional and Public Service Awards TOTAL AWARDS	1.3 4.0 \$5.3 1.4 1.3	.8 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	.8 6.0 \$6.7	1.2 3.3 \$4.5	72.0 \$386.5 2.1 3.3 \$5.5	1.1 3.1 \$4.2	1.6 3.6 \$5.2	1.5 4.1 \$5.6	208.4 \$615.2 1.7 2.9 \$4.7	241.1 \$717.1 2.2 3.9 \$6.2

Notes: Totals may not add due to rounding. Student financial aid monies are not included in this table.

Source: Annual Report of Contracts and Grants, Office of Strategic Research and Analysis

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## Received by State Universities, FY1998 - FY2002

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A L D A NINZ COD A DDC LINIUS ZOD CODY	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	FY2001	<u>FY2002</u>
ALBANY STATE UNIVERSITY Research Awards	212,743	200,000	158,585	750,000	1,194,313
Instructional and Public Service Awards TOTAL AWARDS	3,938,302 \$4,151,045	3,485,557 \$3,685,557	4,254,103 \$4,412,688	5,635,803 \$6,385,803	4,259,267 \$5,453,580
	, , - ,	ψ3,003,337	ψ4,412,000	ψ0,505,005	ψ3,433,300
ARMSTRONG ATLANTIC STATE UNIVERSI Research Awards	9,222	113,289	66,889	115,085	49,898
Instructional and Public Service Awards TOTAL AWARDS	2,076,825 \$2,086,047	1,778,736 \$1,892,025	2,061,819 \$2,128,708	\$\frac{1,534,036}{1,649,121}\$	1,589,844 \$1,639,742
	Ψ2,000,047	Ψ1,072,023	Ψ2,120,700	ψ1,042,121	ψ1,032,742
AUGUSTA STATE UNIVERSITY Research Awards	2,374	52,894	140,283	115,014	85,813
Instructional and Public Service Awards TOTAL AWARDS	\$343,489 \$345,863	293,042 \$345,936	\$\frac{335,188}{475,471}	\$\frac{325,143}{440,157}\$	259,316 \$345,129
		Ψ3+3,730	Ψ+75,+71	ψ++0,137	Ψ3+3,12)
CLAYTON COLLEGE & STATE UNIVERSIT Research Awards	Y				
Instructional and Public Service Awards TOTAL AWARDS	3,069,747 \$3,069,747	2,426,336 \$2,426,336	2,331,329 \$2,331,329	3,111,431 \$3,111,431	3,425,509 \$3,425,509
	ψ3,002,747	φ2,420,330	\$2,331,327	φ5,111,451	\$5,425,507
COLUMBUS STATE UNIVERSITY Research Awards	195,165	59,624	297,505	105,552	244,177
Instructional and Public Service Awards TOTAL AWARDS	\$\frac{1,384,958}{1.580,123}	1,823,195 \$1,882,819	2,463,293 \$2,760,798	3,017,573 \$3,123,125	1,859,062 \$2,103,239
	φ1,360,123	ψ1,002,017	\$2,700,778	φ3,123,123	\$2,103,237
FORT VALLEY STATE UNIVERSITY Research Awards	2,311,311	2,660,811	2,847,473	3,263,311	3,751,233
Instructional and Public Service Awards TOTAL AWARDS	7,765,884 \$10,077,195	7,717,307 \$10,378,118	8,724,253 \$11,571,726	9,486,057 \$12,749,368	13,860,162 \$17,611,395
	. , ,	φ10,570,110	Ψ11,571,720	Ψ12,749,300	Ψ17,011,373
GEORGIA COLLEGE & STATE UNIVERSIT Research Awards	90,248	46,984	7,315	50,230	62,104
Instructional and Public Service Awards TOTAL AWARDS	1,699,246 \$1,789,494	2,407,252 \$2,454,236	\$\frac{1,051,945}{1.059,260}\$	\$\frac{1,624,099}{1.674,329}\$	1,711,364 \$1,773,468
GEORGIA SOUTHWESTERN STATE UNIVE	, , , .	Ψ2, 10 1,200	\$1,000, <b>2</b> 00	\$1,07.1,0 <b>2</b> 5	\$1,775,100
Research Awards	237.502	643,577	749,786	899,218	309,259
Instructional and Public Service Awards TOTAL AWARDS	935,127 \$1,172,629	699,379 \$1,342,956	796,387 \$1,546,173	1,293,511 \$2,192,729	1,884,795 \$2,194,054
KENNESAW STATE UNIVERSITY	, ,	, , ,	, , ,	, , ,	
Research Awards	327,332	367,090	295,823	334,371	152,902
Instructional and Public Service Awards TOTAL AWARDS	\$\frac{1,573,752}{1,901,084}\$	3,317,773 \$3,684,863	3,693,534 \$3,989,357	3,691,506 \$4,025,877	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
NORTH GEORGIA COLLEGE & STATE UNI	V.				
Research Awards Instructional and Public Service Awards		222 620	1.057.095	943,340	004 704
TOTAL AWARDS	339,184 \$339,184	$\frac{222,620}{$222,620}$	\$1,057,095	\$943,340	994,704 \$994,704
SAVANNAH STATE UNIVERSITY					
Research Awards Instructional and Public Service Awards	600,840 4,078,634	1,840,086 4,081,526	1,694,463 4,121,174	1,765,362 5,289,977	2,102,948 4,608,260
TOTAL AWARDS	\$4,679,474	\$5,921,612	\$5,815,637	\$7,055,339	\$6,711,208
SOUTHERN POLYTECHNIC STATE UNIVE	RSITY				
Research Awards Instructional and Public Service Awards	88,128 1,221,048	146,348 1,109,804	359,312 491,895	271,878 559,183	307,457 1,194,680
TOTAL AWARDS	\$1,309,176	\$1,256,152	\$851,207	\$831,061	\$1,502,137
STATE UNIVERSITY OF WEST GEORGIA					
Research Awards Instructional and Public Service Awards	425,066 1,322,504	824,970 1,483,960	950,822 1,569,684	1,315,166 1,246,195	1,059,565 1,902,044
TOTAL AWARDS	\$1,747,570	\$2,308,930	\$2,520,506	\$2,561,361	$\$\frac{2,961,609}{2,961,609}$
STATE UNIVERSITIES	4.400.00	. 055		0.007.105	0.040.440
Research Awards Instructional and Public Service Awards	4,499,931 21,982,816	6,955,673 30,846,487	7,568,256 32,951,699	8,985,187 37,757,854	9,319,669 41,604,734
TOTAL AWARDS	\$34,248,631	\$37,802,160	\$ <del>40,519,955</del>	\$46,743,041	\$ <del>50,924,403</del>

Note: Excludes student financial aid monies.

Source: Annual Report of Contracts and Grants, Office of Strategic Research and Analysis

## Total Awards Received by State and Two-Year Colleges, FY1998-FY2002

			DOLLARS IN	THOUSANDS	
	<u>FY1998</u>	FY1999	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>
Dalton State College	\$2,123.5	\$2,433.7	\$2,573.6	\$3,054.4	\$2,791.8
Macon State College	810.3	489.0	377.1	920.0	1,745.5
STATE COLLEGES	\$2,933.8	\$2,922.7	\$2,950.7	\$3,974.5	\$4,537.3
Abraham Baldwin Agric. College	\$669.7	\$892.5	\$1,398.9	1,318.7	1,695.2
Atlanta Metropolitan College	2,216.7	1,124.4	1,038.3	991.1	1,052.0
Bainbridge College	996.3	1,000.7	1,261.7	1,249.1	1,436.6
Coastal Ga. Community College	1,428.9	1,514.8	1,383.3	1,631.3	1,945.0
Darton College	476.5	314.5	339.5	1,197.0	803.4
East Georgia College	64.6	64.2	702.8	1,508.6	1,168.8
Floyd College	274.9	597.2	378.0	699.1	445.7
Gainesville College	265.6	261.1	309.2	480.0	763.0
Georgia Perimeter College	252.3	384.9	497.3	1,353.4	1,072.8
Gordon College	-0-	-0-	-0-	-0-	-0-
Middle Georgia College	-0-	-0-	2,789.8	215.4	522.8
South Georgia College	221.1	229.9	230.9	234.5	260.7
Waycross College	11.4	5.5	22.2	42.7	26.0
TWO-YEAR COLLEGES	\$6,878.0	\$6,389.8	\$10,352.0	\$10,921.0	\$11,191.9
SYSTEM TOTAL	\$536,662.3	\$574,678.4	\$622,795.0	\$686,139.5	\$794,474.8

Note: Includes instructional and public service awards.

TOTAL A	AWARDS RECEI	IVED BY SY	YSTEM INS	TITUTIONS	S			
		DOLLARS IN MILLIONS						
	<u>FY1998</u>	FY1999	FY2000	FY2001	FY2002			
Research Universities	\$483.2	\$518.2	\$558.9	\$615.2	\$717.1			
Regional Universities	\$9.3	\$9.2	\$10.1	\$9.3	\$10.7			
State Universities	\$34.2	\$37.8	\$40.5	\$46.7	\$50.9			
State Colleges	\$2.9	\$2.9	\$3.0	\$4.0	\$4.5			
Two-Year Colleges	\$6.9	\$6.4	\$10.3	\$10.9	\$11.2			

Source: Annual Report of Contracts and Grants, Office of Strategic Research and Analysis

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## FY2002

## Funds to Research Universities by Source, FY2002 \$475.9 Million

