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## GEORGIA INSTITUTE OF TECHNOLOGY: TOPS AMONG PUBLIC SCHOOLS IN ENGINEERING R & D EXPENDITURES

The Georgia Institute of Technology continues to maintain its number one ranking among publicly supported institutions doing engineering research, according to figures released this year by the National Science Foundation.

The statistics from fiscal year 1989, the most recent year for which data is available, show that Georgia Tech reported more engineering research and development expenditures than any other public institution in the nation: \$116 million, up from \$88 million in 1988.

Among all U.S. publicly and privately supported institutions, Georgia Tech was third in engineering R & D expenditures, accounting

### GEORGIA TECH RANKING HIGHLIGHTS

*According to the National Science Foundation's fiscal year 1989 study of research and development expenditures, Georgia Tech ranked first nationally in engineering R & D among publicly supported institutions. Among all publicly and privately supported institutions, Georgia Tech ranked:*

- \*Third nationally in total engineering R & D.*
- \*First nationally in electrical engineering R & D.*
- \*Third nationally in mechanical engineering R & D.*
- \*Fifth nationally in aerospace engineering R & D.*
- \*Fourth nationally in computer science R & D.*
- \*Tenth nationally in physics R & D.*

for almost five percent of all engineering R & D conducted at U.S. colleges and universities in 1989. Privately supported Johns Hopkins University and Massachusetts Institute of Technology are ranked first and second overall, with \$648 million and \$287 million in R & D expenditures, respectively.

The Institute also maintained its top ranking among all public and private institutions in electrical engineering studies, conducting almost \$68 million in research. Georgia Tech electrical engineering research accounts for more than 11 percent of all

such studies at U.S. schools.

Georgia Tech spent about \$175 million total on R & D in 1989, jumping from 27th to a 19th place ranking. The \$43 million increase from 1988 is excellent, but still leaves room for improvement, said Dr. Demetrius Paris, Georgia Tech's vice president for research and graduate programs.

"It's a gratifying record of performance in many respects," Paris said of the figures. "We still have to take a step back and see where improvements could and should be made. If we are

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ranked nineteenth in total expenditures, we've still got eighteen to go."

Georgia Tech R & D expenditures increased at a rate faster than would have been predicted, Paris said.

"We also did a much more careful assessment of expenditures than might have been the case in the past," he added.

Other Georgia Tech R & D high spots in 1989 included mechanical engineering, \$15 million, rising from fifth to third nationally; and aerospace engineering, \$9 million, rising from seventh to fifth.

Computer science and physics research at Georgia Tech recorded impressive jumps in the rankings. The Institute moved from ninth to fourth in computer science, conducting almost \$18 million in R & D over the year. The value of physics research on campus almost doubled, rising from \$7 million in 1988 to almost \$14 million in 1989, moving the institute from 33rd to 10th in that category.

One positive influence on the computer science figures may be increased interest in and use of such knowledge in many disciplines, Paris noted.

"We're seeing more and more activity, not only in computer engineering, but in units such as the Georgia Tech Research Institute, where people are engaged in computer science research," he said.

Dr. Peter Freeman, Dean of the College of

Computing, noted that "in terms of Georgia Tech, this is an indication of our increased focus on computer-related research and is a reflection of the esteem in which we are held by major funding agencies."

In addition, emphasis on computer system standards and the development of low-cost, high-performance equipment are allowing more government agencies and private sector groups to consider research solutions to problems, said Randolph Case, director of the Computer Science and Information Technology Lab at Georgia Tech Research Institute.

Other factors also help increase R & D expenditures, said Dr. Henry Valk, acting director of the school of physics.

"Basically its the activity and quality of the faculty," he said. "The increase also reflects the importance and focus our institution has in areas such as computer simulation and non-linear optics -- the importance of the potential applications."

Other Georgia schools also made excellent showings in the NSF rankings. The University of Georgia, Athens, ranked 27th nationally in total R & D expenditures with \$146 million, followed by Emory University, Atlanta, at 78th with \$64 million.

The University of Georgia ranked fourth in social sciences, 13th in biological sciences and 18th in psychology. Emory University ranked 69th in chemistry and

Georgia State University, Atlanta, ranked 65th in psychology.

Federal monies made up \$98 million, or 56 percent, of the R & D funds Georgia Tech received in 1989. Following were institutional funds, \$54 million, or 31 percent; industry funds, \$21 million, or 12 percent; and state/local government funds, \$1 million, or just less than one percent.

The NSF's research expenditure statistics are considered among the most reliable barometers of research activity, in part because NSF audits the figures.

Research is an important part of a good academic environment, according to a 1990 report to the Georgia Board of Regents from the Chancellor's Advisory Committee on Research.

"Without research there would be no expanding frontiers of knowledge, but simply the reiteration of the same 'truths' to generation after generation of students," the report reads. "Faculty members who are active in research are in the best position to incorporate the most recent discoveries and new knowledge in their field into the classroom."

Students at research universities also benefit from the opportunity to use the equipment and other resources that research programs require, the report says.

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