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## RAJU RECEIVES 2004 AWARD FOR EXCELLENCE IN FACULTY OUTREACH



(left to right: P. K. Raju, David Wilson, and Edward Richardson)

P. K. Raju, Thomas Walter Professor in Auburn University's Department of Mechanical Engineering, has been selected to receive the first ever Award for Excellence in Faculty Outreach. Raju has been instrumental in aiding Alabama industry and devising methods to enhance teaching.

"Dr. Raju is the ideal recipient of the inaugural Award for Excellence in Faculty Outreach," said David Wilson, associated provost and vice president for AU Outreach.

"He has had enormous impact in the manufacturing industry in Alabama," said Wilson. "His work has led to the creation of additional jobs, the retention of jobs in the state and the overall increased efficiency of those industries. In addition, he's a first-class teacher and a world-class researcher."

After earning his bachelor's, master's and doctoral degrees in his home country of India, Raju came to Auburn in 1984. "Since then he has taught in all three areas offered by the Mechanical Engineering Department — Mechanics, Systems and Design and Thermal Sciences," said David Dyer, professor and chair of the Mechanical Engineering Department. Dyer nominated Raju for the award.

"During his 20-year tenure with us he has taught 20 different courses in the mechanical engineering curricula, divided equally among the 200-600 levels," said Dyer.

"Not only has he taught this wide range of courses at every level, he has done so with excellence, earning numerous awards at both the university and national levels," Dyer added.

Raju provided leadership for the engineering programs included in the Auburn Industrial Extension Service (AIES), a partnership between the colleges of business, engineering, AU's Economic Development Institute and the Alabama Cooperative Extension System (ACES) from 1996-99. This collaboration used Extension county agents as liaisons between small- and medium-sized businesses in Alabama and the expertise available from the university.

In 1999 AIES was replaced with the Auburn Engineering Technical Assistance Program (AETAP) located in the College of Engineering. AETAP offers expertise in aerospace, bio-systems, chemical, civil, computer science and software, electrical and computing, industrial and systems, mechanical and textile engineering.

AETAP provides manufacturers continuing education, on-site assessments and demonstrations, maintenance solutions, recycling options and problem solving.

"Under the direction of Dr. Raju and supported by AETAP personnel and engineering faculty and students, the program has helped Alabama's companies increase their competitiveness in a rapidly changing atmosphere of national and international commerce," said Dyer.

In fact, included in the nomination are 19 statements from cities, local, state and national businesses and industries — including NASA and U.S. Steel — commending Raju and AETAP.

"Dr. Raju and the faculty and staff of the Auburn Engineering Technical Assistance Program have been a valuable resource to the City of Auburn during the past decade," said Phillip Dunlap of the city of Auburn's economic development department.

"One example," said Dunlap, "is the setting up of German-based clutch manufacturing plant, Hoerbiger Driveteck USA Inc. in Auburn. The management of Hoerbiger was impressed with the kind of technology transfer and technical support that AETAP could provide to their industry and cited the availability of this resource as one of the reasons for their choice of Auburn for locating their U.S. unit."

AETAP has had a huge impact on industrial development in the Auburn/Opelika area over the last seven years, bringing 1,600 new jobs and a capital investment of \$113.5 million in Opelika, and 2,815 new jobs and a capital investment of \$282.8 million in Auburn.

But in addition to assisting business and industry, Raju "has the unusual ability for a scientist to take the complex and translate it into a form that can be readily be used by both laymen and practicing engineers," stated Warren McCord, Assistant Director Emeritus, ACES, in one of six letters of support included in the nomination.

"During a conversation with Dr. Raju approximately two years ago, I mentioned my frustration in not having 4-H programs that would encourage high school students to become interested in math and science," said McCord. "Dr. Raju responded by returning in three months with a CD based 'math and science day camp for high school juniors.'"

In addition to Raju's teaching and outreach activities, he obtained over \$1.4 million from the National Science Foundation and regional industries. Those funds were used in the creation of the Laboratory for Innovative Technology and Engineering Education (LITEE).

"Under Dr. Raju's leadership, LITEE has developed multimedia modules that illustrate how science and math principles are used in solving real-world problems," said Dyer. "Using these modules, the faculty and students of LITEE have developed excellent hands-on programs that are now being used to stimulate interest in learning science and math in high school students.

"As part of an outreach effort, Dr. Raju, along with his LITEE colleagues conducted a series of workshops during 2001-03 for high school and 4-H students throughout Alabama," Dyer said, adding that the workshops have received "rave reviews" from students, high school science and math teachers, and parents.

"Evaluations and feedback from participants showed that the multimedia science and math instructional materials developed by LITEE are highly effective in motivating students to learn more about these subjects," said Dyer

Raju has also developed a new professional publication to meet the need for high quality case studies and papers that integrate real-world issues with current theories in science, math, engineering and technology subjects. He now co-edits the *Journal of SMET Education: Innovations and Research*.

In addition, Raju has presented at international conferences from France to Singapore, has authored/edited 18 books, published seven book chapters and 140 papers in journals and conference proceedings. He has also been a consultant for a number of industries in the United States and abroad in the areas of acoustics, vibrations, noise control and engineering education.

And David Wilson, vice president for AU Outreach, couldn't be happier with the first recipient of the Award for Excellence in Faculty Outreach — an award his office instituted to recognize extraordinary outreach scholarship and achievement.

"Professor Raju has demonstrated that great research leads to great outreach, great outreach leads to great teaching, and all these functions influence each other," said Wilson. "We are fortunate to have him as a faculty member at Auburn University and congratulate him on this seminal achievement."

The University Senate will recognize Raju at its May 11 meeting.