FACULTY SUPPORT

Greeks' Groundbreaking Support

Computer scientist holds second professorship funded by UNC fraternity

BY CAROLINE HUTCHESON '08

Professor Dinesh Manocha, a renowned expert in the computer science field, says the finest products of his department at UNC are its students.

That may be because the department is one of the best in the nation, but it also attests to Manocha's dedication to his students and their academic pursuits.

Manocha was awarded the Phi Delta Theta/Matthew Mason Distinguished Professorship in the College of Arts and Sciences in 2006. The professorship was named in honor of Matthew Mason, a longtime employee of the fraternity who was later inducted as a member of the fraternity. It's the second College professorship funded by a Carolina fraternity.

In 2005, philosophy professor C.D.C. "David" Reeve became the Delta Kappa Epsilon Distinguished Professor, the first "Greek professor" named at UNC. Three sororities have launched campaigns for distinguished professorships in the College, including Delta Delta Delta, Kappa Kappa Gamma and Chi Omega.
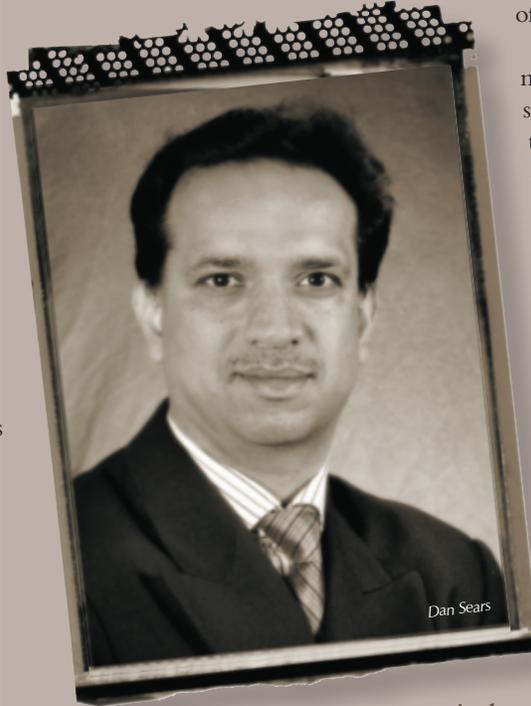
Led by the efforts of Shoff Allison '98 of Charlotte, N.C., nearly 300 Phi Delt alumni contributed more than $750,000 toward the professorship. Allison's enthusiasm for the campaign, along with the recognition for Mason, inspired one-third of the fraternity's alumni to make gifts.

The professorship links the fraternity with some of the nation's best teachers and scholars, such as Manocha, who concentrates his research on graphics, geometry and robotics, all sub-branches of computer science. His academic interests include computer-based simulation, which has a plethora of real-life applications.

"Take, for example, the movies 'A Bug's Life' and 'Toy Story,'" Manocha explained. "How do you make the graphics in these movies look realistic?"

This research has applications in entertainment and gaming — some recent endeavors are to create genuine emotion of characters in video games and to produce realistic-sounding synthetic noises for interactive applications.

Outside the entertainment industry, the U.S. Department of Defense uses Manocha's simulation work to prepare soldiers for training, especially for urban warfare. In addition, his group has worked closely with designers at Boeing, who employ computer-aided design methods to generate and validate a computer model of the 777 and 787 airplanes.

Manocha also contributes to the medical field by simulating procedures such as a catheter used in liver cancer treatment. Simulation techniques allow processes to be tested and perfected for optimal performance in real life. Some of the earlier simulation technologies produced by his research group are now used by tens of thousands of researchers worldwide and have been licensed to more than 40 commercial vendors.

Manocha integrates these realistic applications and research questions with teaching.

You can discuss cool stuff in the classroom, he said, like how to make sure a robotic vacuum cleaner covers an entire room. Students in his graduate course "Robot Motion Planning" recently tackled this matter.

Dan Sears

Dinesh Manocha, a renowned expert in the computer science field, says the finest products of his department at UNC are its students.

Manocha believes teaching is a two-way dialogue in which the professor should ask open questions to stimulate further academic inquiry.

"Computer science is still evolving," he said, "There are many opportunities to ask, 'Are we doing this right, or can we do it better?' And the classroom is the best place to figure that out."

Manocha and his research group are extending those learning opportunities outside UNC boundaries through outreach programs meant to expose middle and high school students to new computer technologies, such as a computer-based 3-D painting system. Through this haptic paint technology, students "paint" on a computer screen with a virtual paintbrush, each brushstroke simulating what would be produced with real paint. Manocha advocates this program to stimulate young people's excitement about computer science.

Manocha said he's honored to be the Phi Delta Theta/Matthew Mason Distinguished Professor. As funding for projects becomes harder to obtain, the support from this endowed professorship gives him many more options, including the flexibility to pursue a "new crazy idea," which in the past have led to significant breakthroughs with a multitude of applications. •