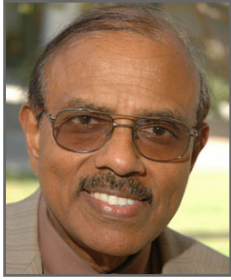


ENGINEERING STAR



Raman Unnikrishnan: Committed to Teaching and Excellence in Engineering

[By Akbar Ali]

When it comes to engineers in the academic world, few are more accomplished or celebrated than Dr. Raman Menon Unnikrishnan, Ph.D., who serves as dean of the College of Engineering and Computer Science at California State University, Fullerton, in Fullerton, California. His expertise is as expansive as it is comprehensive; he has taught and researched in a variety of disciplines, including control systems, power electronics, and signal processing. He has also authored a number of notable research papers and presentations in addition to working as an industry consultant.

Known affectionately to CSUF students as “Dean Unni,” Unnikrishnan was born in the major port city of Cochin, India, where he received his formative education. His decision to pursue a career in engineering was a result of his success in the technical subjects.

“I chose engineering because I was good in science and mathematics,” he says. “The other two choices were medical school and a degree in English literature. After some agonizing moments considering these options, the choice was engineering, and I have never looked back.”

He completed his initial instruction in engineering at the University of Kerala in India at its Trivandrum campus. Two years in, it was time to select a specialization.

He reveals, “My heart was in electrical engineering. However, I knew that the two top students from my class had already chosen electrical engineering. So I chose mechanical engineering, where I could be first in my class by default.”

The head of the electrical engineering department, who happened to be a friend of his father, disagreed strongly with his decision and sought to recruit Unnikrishnan into his program. Unnikrishnan was compelled to sign up with the electrical engineering department, which was admittedly a difficult thing to be pressured into.

“While the choice has been professionally gratifying, I do not know if I have gotten over

Q. What do you do for fun?

A. I am a long-distance runner training for the Long Beach Marathon scheduled for mid-October. Running is a pleasurable sport. I do not listen to anything while running. Instead, I think and complete projects in my mind. It is amazing what one can do by concentrating on ideas while running.

Q. What CD is in your CD player right now?

A. I have a CD with Indian classical music in my CD player.

Q. What is the last magazine you read?

A. I read both fiction and nonfiction. However, the last magazine I read was *PC World*.

Q. What is your favorite TV show?

A. NFL football and NCAA basketball. My all-time favorite regular shows are the old ones like *All in the Family* and *Fawlty Towers*.

Q. Who is your role model?

A. Me! Why not? However, I do think a modern miracle man is Bill Gates. Many people fail to understand the quality of his vision, tenacity, and, above all, humanity. At the end of the 19th century, Thomas Edison had the same qualities, and he too was taken on by the establishment interest of the times viciously. History repeated at the turn of the 21st century with Bill Gates.

Q. What makes you laugh?

A. Intelligent humor where the joke is not in your face but needs reflection for a moment or two. I like the political humor in *Saturday Night Live* and *The Tonight Show with Jay Leno*. I can laugh my heart out with these.

the sadness of not being able to come out at the top of my class,” he confesses.

It wasn’t all smooth sailing from that point on for him, though the initial challenges brought opportunities for him to excel:

“Our first electrical circuits course was taught by a particularly bad instructor. I managed to obtain several reference books and prepare extensive study notes. My dormitory friends who borrowed these notes also wanted me to explain the details of what I had prepared. Such efforts quickly degenerated into their insistence on my giving full-fledged lectures on the material. My ‘class’ was almost as large as the class where I was a student. This experience gave me an opportunity to teach material that I was learning, a necessary attribute to any successful college professor.”

With this early (and unplanned) teaching experience under his belt, he began to work as a lecturer in electrical engineering at the University of Kerala’s Trichur campus. Soon thereafter he enrolled in the graduate program at the Indian Institute of Technology, Kharagpur. While he was there, he was encouraged by a visiting professor from Iowa State University, Dr. Paul Anderson, to further pursue his studies abroad in the United States. He completed his master’s in electrical engineering at South Dakota State University and his doctorate in electrical engineering at the University of Missouri.

After completing his advanced degrees in the United States, Unnikrishnan spent a

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decade as a faculty member and later head of the Rochester Institute of Technology (RIT) Department of Electrical Engineering in New York. While there, he served as associate dean for graduate studies and research for the College of Engineering from 1989 to 1991. From 1991 to 2001 he assumed the post of head of the electrical engineering department.

Unnikrishnan has also been the recipient of a number of accolades, including the highly prestigious Institute of Electrical and Electronics Engineers (IEEE) Millennium Medal in 2000. He has also been designated as an IEEE fellow, an honor awarded "for contributions to automatic control systems and power electronics education." In 2006 he received the Missouri Honor Award for his contributions to engineering.

Given the vastness of his expertise, there have been a number of notable career milestones for Unnikrishnan over the years, many of which reached beyond his own career and affected the lives of others.

He was responsible for a proposal written to the Xerox Corporation in Rochester, New York, which sought to ameliorate the growing discontent of company technicians who appeared trapped in dead-end careers. The proposal, entitled "Technicians Opportunity Program (TOP)," provided Xerox technicians with the opportunity to pursue a BSEE from

the Rochester Institute of Technology on a part-time basis. Once their degrees were completed, the technicians would be hired by Xerox as engineers, giving them an outlet to explore unlimited career opportunities.

"This program was very popular with management and an instant success with employees when it was launched. Xerox honored me publicly for my work, and the project won several internal awards in the company. For a relatively young professional, this was an overwhelming acknowledgement from a major corporation," he observes.

He has also been the recipient of the Eisenhart Award for outstanding teaching at the Rochester Institute of Technology.

"This award was especially sweet since it recognized me for doing something I naturally loved to do," he says.

Unnikrishnan also acknowledges that many individuals have helped shape his career, both directly and indirectly.

"Some took the time to strengthen my weaknesses, and some painstakingly polished the tarnishes," he discloses.

The most influential mentor he has had has been Dr. Richard Kenyon, dean emeritus of Rochester Institute of Technology.

"He gave me opportunities that I barely deserved, gambling on abilities that I did not fully realize that I had," Unnikrishnan says. "As his associate dean at an early age, I learned a lot and moved forward in my career."

As dean, Unnikrishnan has certainly seen his fair share of students come and go, many moving on to achieve astonishing career success under his tutelage.

He advises young engineers, "Work hard and embrace opportunities. There is nothing better than hard work. Do it to satisfy your own standards and not to meet the guidelines set by someone else. Sometimes it might appear that you are working twice as hard as the next person to get half as much as him or her. Hang in there — hard work will always be noticed and rewarded."

For Unnikrishnan, the reward of his experience is passing it on to his students and, ultimately, the field of engineering.

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