N. Narayana Rao's book initiates Illinois ECE Series and continues "Illinois Way"

By JANE HUNTSMAN

The sixth edition of "Elements of Engineering Electromagnetics" by ECE Associate Department Head and Edward C. Jordan Professor of Electrical and Computer Engineering N. Narayana Rao is the first book in the Illinois ECE Series from Prentice Hall. This Illinois ECE Series continues a tradition of undergraduate education that has been practiced for more than a century by faculty in ECE. That tradition, which has come to be called "the Illinois Way," balances adherence to the tried-and-true with readiness to change decisively in order to shape a better future.

The Illinois Way encompasses more than textbooks. Early curricula in the department (then called Electrical Engineering) included courses in military drills, drafting, and surveying; later, Illinois would be the first program in the nation offering a freshman introduction to concepts in circuits, electromagnetics, electronics, control, and digital systems. Computer-based education in the department dates back to 1960 with PLATO (Programmed Logic for Automated Teaching Operations), a time-sharing network that gave rise to one of the world's first online communities.

The department's great pride in its world-class undergraduate laboratories. A century ago, facilities consisted of batteries, electrical machinery, and illumination equipment; now, the department houses unsurpassed educational laboratories for integrated circuit fabrication, digital signal processing, control systems, computer architecture, and more.

A teacher and his texts pass the torch of knowledge

Of all the textbooks written by ECE faculty over the years, Professor N. Narayana Rao's "Elements of Engineering Electromagnetics" may be the most successful. But the textbook is just one aspect of Rao's work, which has been recognized with more than a dozen major honors and awards in the course of his 60-year career.

ECE alumna Tony Zuccarino (BSEE'83) took ECE 450 (Lines, Fields, and Waves) with Rao and recalls lectures and handwritten notes that clearly conveyed the concepts under study and that would be incorporated into later editions of the textbook. "We didn't memorize things, we learned them," said Zuccarino.

Zuccarino attributes his career success to the good teachers he had in ECE. Professor Ed Davidson (now emeritus at the University of Michigan) taught a course on microarchitecture that allowed Zuccarino to begin designing computers for radar systems on his first day as an engineer with Hughes Aircraft. "What has stayed with me from Rao's class," added Zuccarino, "is how to best convey knowledge to another party; now an entrepreneur with several startups under his belt and a keen eye peeled for the next, Zuccarino values that ability to communicate. He also credits ECE lecturer Ricardo Uribe as one of the outstanding influences during his undergraduate days.

Zuccarino is giving back to his alma mater by helping U. of I. raise its profile on the west coast, where he lives. He visited UREC in September to discuss opportunities for commercializing ECE technologies (see photo). "I try to put myself in the student's position, and then I explain it to myself."

HUNT continued from page 1

Entrepreneur continued from page 8

emitting transistors) and make the device faster. According to Cheng, the major strengths of the center are its students, faculty leadership, the creative and collaborative environment, and outstanding facilities. The normal life span of a DARPA-sponsored university photonic research center is four years. This Center, though it is being directed out of the UI, also includes researchers from Columbia, Georgia Institute of Technology, and Stanford University as part of the research efforts. The total grant provided by DARPA to the HUNT Center will be more than $6.2 million dollars.

speakers who have taken part in this series have included serial entrepreneurs, corporate executives, venture capitalists, intellectual property attorneys, and corporate attorneys. The speakers involved in the gamut of involvement in the business of technology, bringing students a unique and valuable experience.

Laura Hollis, Program Director for Network Coordination and Marketing, said, "It's hard to put a price on that kind of opportunity." Brennan concurred, saying, "I've been able to hear about all different divisions in the business world and engineering. All the information seems really relevant."

Further information on the Technology Entrepreneur Center, its courses, and its certificate programs can be found at www.illinois.edu/ece.

Parents of ECE freshmen and transfer students

Ingeniety is a publication for students, faculty, and friends of the Department of Electrical & Computer Engineering at the University of Illinois at Urbana-Champaign.

We're sending you—the parents/guardians—this issue of Ingeniety so you can become acquainted with your daughter or son's academic environment. If you'd like to receive subsequent issues of Ingeniety, please complete this form, cut it out, and mail it to the address below. Voluntary contributions to help defray printing and mailing costs are always appreciated. Please make check payable to UofI/College of Engineering. By completing this form and mailing it back, you add your name to the permanent mailing list.

NAME

ADDRESS

CITY, STATE, ZIP

COMMENTS:

Send to: Office of Student Affairs, Department of Electrical & Computer Engineering, University of Illinois at Urbana-Champaign, 1306 W. Main Street, Urbana, IL 61801.

November 2004

7