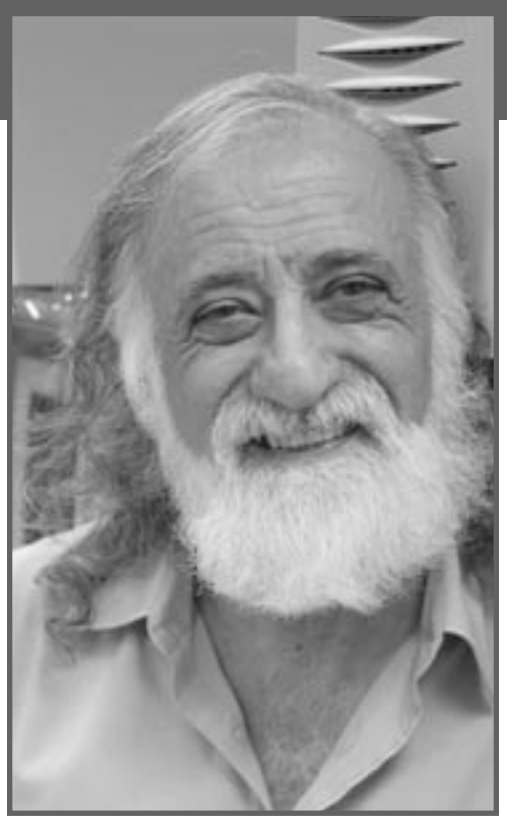
UNIVERSITY of WISCONSIN
LA CROSSE

Distinguished Lecture Series in Computer Science

Monday, April 22, 2002

Yale Patt, Ph.D.



Yale Patt is professor of electrical and computer engineering and the Ernest Cockrell, Jr., Centennial Chair in Engineering at the University of Texas at Austin.

He enjoys teaching the freshmen to the graduate school level students, and directing the research of nine Ph.D. students in high performance computer implementation. He has, for more than 30 years, combined an active research program with extensive consulting and a strong commitment to teaching.

The focus of his research is generally five to 10 years beyond what industry provides at that point in time. His rationale has always been that he does not do revenue shipments, preferring to produce knowledge that will be useful to future revenue shipments and, more importantly, graduates who will design those future products.

Yale Patt earned his B.S. at Northeastern University and his M.S. and Ph.D. at Stanford University, all in electrical engineering. He received the 1995 IEEE Emannuel R. Piore Medal "for contributions to computer architecture leading to commercially viable high performance microprocessors," the 1996 IEEE/ACM Eckert-Mauchly Award "for important contributions to instruction level parallelism and superscalar processor design," and the 1999 IEEE Wallace W. McDowell Award "for your impact on the high performance microprocessor industry via a combination of important contributions to both engineering and education." He is a fellow of both the IEEE and the ACM.

For his teaching, he has received several awards, most notably the ACM Karl V. Karlstrom Outstanding Educator Award for 2000. He also received the 2002 Texas Excellence Teaching Award for the College of Engineering at The University of Texas at Austin. He was named "Outstanding Professor of the Year," by the Michigan Chapter of Eta Kappa Nu in 1992. He received the Teaching Excellence Award of the EECS department at Michigan in 1995 and the College of Engineering of Michigan in 1996. In 1998, he was named an Arthur F. Thurnow professor at Michigan for his commitment to undergraduate education. In 1999 (for the academic year 1998-1999), and again in 2001 (for the academic year 2000-2001), he was named the National ACM Lectureship Program's Outstanding Lecturer of the Year.

Schedule of Events

9:30 a.m. **Registration**
Valhalla, Cartwright Center-Gunning Addition

10 a.m. **SYMPOSIUM: "The Microprocessor Six or Seven Years From Now"**
Process technology continues to provide more and more resources on each silicon die. In 1971, there were 2300 transistors on a chip. Today there are almost 200 million, operating at a frequency of 2 GHz. In less than 10 years (six or seven years, probably), we will easily have one billion transistors on each chip, operating at a frequency of 10 GHz. There are plenty of naysayers who argue that harnessing this capability is just too hard, and we should instead work on easier problems. In this talk we will first discuss what these naysayers are trumpeting, and whether or not we should pay any attention to them. Then we will examine the fundamental problems to continued progress, and explore some of the ways we are hoping to solve them.

11:30 a.m. **Reception for Dr. Patt**
Valhalla, Cartwright Center-Gunning Addition

4 p.m. **KEYNOTE: "The Future Of Computing: Where We Are Likely To Be And Where We Are Likely To Not Be In 20 Years"**
The electronic idiot known as a digital computer seems to do our bidding in more and more sophisticated ways. We are able to get the electrons in these devices to carry out the work we specify in some natural language like English. We do this by means of a sequence of transformations from natural language to algorithm to mechanical language to machine language to microarchitecture to circuits to the voltage differences that cause the electrons to actually do the work. Each of these transformations involves one or more subdisciplines within computer science and engineering. The continuing improvement in the capability of computer systems depends on the improvements in these subdisciplines. In this talk, we will examine briefly some of these subdisciplines and what each brings to the table. From there we will look at a number of uses of computers that might be considered science fiction today. We will give an opinion as to which will be real and which will still be science fiction 20 years from now.

5 p.m. **Informal questions/social**
Valhalla, Cartwright Center-Gunning Addition

For further information about the lecture contact:
David Riley, Ph.D., Computer Science Department • University of Wisconsin-La Crosse
1725 State Street, La Crosse, WI 54601 • (608) 785-6806
E-mail: riley@cs.uwlax.edu

Co-sponsored by the University of Wisconsin-La Crosse Foundation, Inc.; Department of Computer Science; College of Science & Allied Health; Trane Company of La Crosse, Wisconsin