Colorado State University's Information Science and Technology Center (ISTeC)

Presents

Dr. Nick Tredennick

Editor of the *Gilder Technology Report,*
IEEE Fellow

ISTeC Distinguished Lecture

"Semiconductor Trends 2005"

Thursday, September 8, 2005

Reception: 9:00 to 9:30 am
Lecture: 9:30 to 10:30 am
Engineering E105

ABSTRACT

I will begin with a short overview of Moore's law: what it is, why it works, and where we are. Ten years of Moore's-law progress led to the development of the microprocessor. Ten more years of Moore's-law progress led to the personal computer (PC). After more than twenty years of development, PCs are good enough for most consumers. The emergence of these "value PCs" will precipitate changes in the semiconductor industry as designs shift from cost-performance to cost-performance-per-watt. Logic design innovation stalled with the commercial introduction of the microprocessor. The microprocessor isn't efficient enough for mobile systems and application-specific integrated circuits, though efficient enough for mobile systems, are becoming too expensive to design, so design methods will improve toward more efficient implementations. The result will be the emergence of reconfigurable systems, the horizontal fragmentation of the semiconductor industry, the ascendance of foundries, and the rise of programmable logic.

Dr. Nick Tredennick is Editor of the *Gilder Technology Report*. He is an advisor and investor in numerous pre-IPO startups and is a member of technical advisory boards for several companies including Ascenium, Impinj, QuickSilver Technology, Terakeet, and the Venture X Group. He is on the editorial advisory board for several technical publications including *IEEE Spectrum* and *Microprocessor Report*. He is an IEEE representative to the Engineering Accreditation Commission (EAC), which oversees university accreditation for all engineering programs. He was a member of the Army Science Board for six years and is a registered professional engineer.

Dr. Tredennick was named a Fellow of the IEEE for his contributions to microprocessor design. He has over thirty years experience in computer and microprocessor design, holds nine patents, and has more than fifty technical publications, including a textbook on microprocessor design (*Microprocessor Logic Design*). He was a Senior Design Engineer at Motorola, a Research Staff Member at IBM's Watson Research Center, and Chief Scientist at Altera. Dr. Tredennick did the logic design and microcode for Motorola's MC68000 and for IBM's Micro/370 microprocessors. He has taught at the University of Texas at Austin and the University of California, Berkeley. He has been a founder of several Silicon Valley startups.

To arrange a **meeting with the speaker**, please contact Dr, Sanjay Rajopadhye at (970) 491-7323 or Sanjay.Rajopadhye@ColoState.edu.

ISTeC (Information Science and Technology Center) is a university-wide organization for promoting, facilitating, and enhancing CSU's research, education, and outreach activities pertaining to the design and innovative application of computer, communication, and information systems. For more information please see ISTeC.ColoState.edu.