

IEEE SCV Signal Processing Society

Date: Dec 13th 2004
Title: Reconfigurable Systems Emerge
Speaker: Nick Tredennick, PhD

Location: National Semiconductor Credit Union Building (Building 31), 955 Kifer Rd., Sunnyvale (Near the intersection of Lawrence and Central Expressway);

Coordinates: N37deg 22.464' W122deg 00.272' (WGS84);
http://maps.yahoo.com/maps_result?ed=Lz2FO.p_0TpVKFWBuA124OtTr9dn&csz=Sunnyvale%2C+CA&country=us

Directions: Take 101 to Lawrence Expressway. Head south on Lawrence to Kifer (past Central). Turn right on Kifer. Go 0.5 miles on Kifer and turn right into the Credit Union parking lot. Entrance is on the back side of the building.

Time: 6:30pm: Fast Food & drinks (\$1 Donation Recommended towards Refreshments)
7:00pm: Announcement
7:05pm: Talks starts

Abstract:

As the world shifts from tethered to mobile, reconfigurable systems will emerge. After twenty years of progress, the PC is good enough for most consumers. As PC development becomes less profitable, design emphasis shifts to mobile systems such as digital cameras, MP3 players, and cell phones. Mobile systems change the design goal from cost performance to cost-performance-per-watt. Smaller transistors won't help because they are too expensive and they leak too much. The microprocessor, which has held back advances in hardware design for thirty years, won't be the workhorse in mobile systems of the future. Microprocessors and DSPs are unsuitable for mobile systems because instruction-based processing is computationally inefficient and because they use too much energy. Today's memory components are also unsuitable for mobile systems. New programmable logic devices based on next-generation non-volatile memory will enable efficient reconfigurable systems.

Biography:

Dr. Nick Tredennick has been a dishwasher, Air Force pilot, oil field worker, Navy captain, truck driver, engineer, and janitor. At Motorola he developed the logic and microcode for the Motorola 68000 microprocessor. At IBM's Watson Research Center he designed the Micro/370 microprocessor. He was Chief Scientist at Altera. Nick has founded several Silicon Valley startups and is an investor or member of the technical advisory board of numerous others. He taught at the University of Texas at Austin and U.C. Berkeley, is a Fellow of the IEEE, a registered professional engineer, and represents the IEEE on the Engineering Accreditation Commission. Nick is an editor of *Gilder Technology Report* and serves or has served on the editorial advisory boards for *IEEE Spectrum*, for *Microprocessors and Microsystems*, for *Embedded Developers Journal*, and for *Microprocessor Report*. He has published more than fifty technical works, including a textbook, *Microprocessor Logic Design*, and holds nine patents.