Harry L. (Nick) Tredennick

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Interests: Microelectromechanical systems (MEMS), semiconductors, dynamic logic, industry trends.

Gilder Publishing, Great Barrington, MA ***Aug 00 to Present*** **Editor**

I am a technology analyst for Gilder Publishing. I speak on topics in semiconductors, microprocessors, dynamic logic, reconfigurable systems, and MEMS (microelectromechanical systems). See www.gildertech.com.

Tredennick, Inc., San Jose, CA ***Jul 88 to Present*** **President**

We consult on custom and semi-custom VLSI CPU design and reconfigurable systems. We analyze microprocessor industry trends. We also study patents and provide expert testimony. We work with and invest in pre-IPO startups.

Altera Corporation, San Jose, CA ***Mar 93 to Sep 95*** **Chief Scientist**

I studied reconfigurable logic to identify business opportunities in programmable hardware. I managed numerous outside research projects in reconfigurable logic. Two patents issued in reconfigurable systems (5,537,295 and 5,583,749).

Nexgen Microsystems, San Jose, CA ***Jan 87 to Jul 88*** **Director of Product Development**

I built and managed Nexgen's engineering organization. There were five chip design groups (doing eight chips) and a circuit and system design group. Nexgen built high-end, Intel-compatible, pipelined, multi-chip, semi-custom CPU implementations. I was a founder of the company, which went public in May 1995 and later merged into AMD.

IBM T.J. Watson Research Center, Yorktown Heights, NY ***Oct 79 to Jan 87*** **Research Staff Member**

I did the microcode and logic design for the Micro/370 microprocessor (about 200,000 transistors). I managed the project for two years. I also did circuit layout for about a year. I applied for several patents for design aspects of the control logic, execution unit, and interrupt handling. Brion Shimamoto and I wrote a book, *Microprocessor Logic Design*, published in 1987.

University of California, Berkeley, CA ***Apr 83 to Jun 84*** **Visiting Faculty, EECS**

Sabbatical leave from IBM to teach computer organization, chip design, and the Flowchart Method to upper-division and graduate students. I managed one master's thesis and was on the committee for another.

Motorola, Integrated Circuits Division, Austin, TX ***Sep 77 to Oct 79*** **Senior Design Engineer**

I specified and designed the two-level microprogrammed controller for the MC68000 microprocessor. I did the Flowcharts (microcode) for all instruction execution. I assembled and placed the microinstruction sequences in the control store. I did most of the logic design (except the bus controller). I have six patents (controller, execution unit, branch unit, instruction decoders, ALU control table, and a special function unit). I did not define the architecture (user's manual), the electrical specification at the pins, or the bus controller. I did not do circuit design, layout, software, windows, or floors.

Ph.D. 1976 Electrical Engineering, University of Texas, Austin, TX.
MSEE 1970 Electrical Engineering, Texas Tech University, Lubbock, TX.
BSEE 1968 Electrical Engineering, Texas Tech University, Lubbock, TX.

Selected Professional Publications (complete list available on request):

- "Microprocessor-based Computers," *Computer*, Vol. 29 No. 10, October 1996, pp. 27-37.
- "The Future for Programmable Logic," *Dr .Dobb's Journal*, Vol. 20 No. 7, July 1995, pp. 60-68.
- "Die Like a Man," *Microprocessor Report*, Vol. 6 No. 6, 6 May 1992, pp. 18-21.
- "It's Not RISC vs. CISC—It's New vs. Old," *Microprocessor Report*, Vol. 3 No. 2, February 1989, pp. 12-16.
- *Microprocessor Logic Design*. Bedford, MA: Digital Press, 1987. (ghost co-author Brion Shimamoto)
- "How to Flowchart for Hardware," *IEEE Computer*. December 1981, pp. 87-102.
- w/ Brion N. Shimamoto. "On Systematic Generation of Scientific Papers," *IEEE Transactions on Professional Communication*, Vol. PC-24, No. 3. September 1981, pp. 124-127.

Other:

Commercial multi-engine instrument pilot's license. CA commercial driver.

Texas Tech Electrical Engineering Academy (Elected 94). Texas Tech Distinguished Engineering Graduate (Elected 97).

Nine patents in microprocessor implementation and computing.

Professional organizations: IEEE (Fellow), Sigma Xi, Naval Reserve Association, MVPA, and others.

IEEE Accreditation Board for Engineering and Technology (ABET) reviewer for EE and for Computer Engineering (82-86, 91-).

IEEE-ABET Committee on Engineering Accreditation Activities (CEAA) (94-02, 07-).

IEEE representative to the Engineering Accreditation Commission (EAC) (00-06); member of Executive Committee.

Contributing Editor *Microprocessor Report* (~88-05). Editorial Advisory Board for *Microprocessors and Microsystems*, for *Embedded Developers Journal*, and for *IEEE Spectrum* (01-03, 06-).

USAF Undergraduate Pilot Training, Laredo AFB, TX, 70-71. Academic Training Award (top academic student). Major and Senior Pilot, U.S. Air Force (active, reserve, and National Guard; 70-84). Captain and Aerospace Engineering Duty Officer, U.S. Naval Reserve (86-00), retired.

Army Science Board (94-01, 06- : reports to Secretary of the Army).

Hobbies: recreational landscaping, nerd humor, public speaking; engine rebuilding; auto, military vehicle, & tractor mechanics.