

San José State University
The Department of Computer Science and
The Department of Computer Engineering jointly present
THE HISTORY OF COMPUTING SPEAKER SERIES

Randall Neff

Yes, the HP-35 Fits into Your Pocket

Wednesday, September 28

6:00 – 7:00 PM

Auditorium ENGR 189

Engineering Building

Nicknamed the electronic sliderule, the HP-35 was the first scientific computer that engineers could carry in their shirt pocket. The calculator was an amazing transformational product for Hewlett Packard with innovations in instruction set architecture, chip design, packaging, display technology, and user interaction. As HP's first consumer product, it also required innovation in marketing and sales.

The earlier HP 9100 was a large, heavy desktop programmable calculator, innovative for its day. Bill Hewlett challenged the engineers in HP Labs to put that functionality in his shirt pocket. After much experimenting and engineering, they succeeded with the HP-35 and later the programmable HP-65.

This talk will cover the invention of the HP-35 and HP-65, the creation of the second generation HP-21, HP-22, and HP-25, the internal architecture (56 bit, decimal, bit serial), the algorithms, "ENTER ↑", and the later calculators.

Randall Neff joined the Advanced Products Division of Hewlett Packard in May, 1973. He was the sole programmer of the second generation HP-21 and HP-25 scientific pocket calculators. After seven years at HP, he worked at NASA Ames (supercomputers) and GE Calma (IC design tools). He went to Stanford and earned a Ph.D. in Electrical Engineering in the area of Formal Software Specifications. Later, he worked at IBM (RISC workstation), Metaphor (office system), Teknowledge (DARPA software), E*Trade (dot com stockbroker), and a dot com crash-and-burn.

Randall volunteers at the Computer History Museum as a Senior Docent and a member of several committees and the Babbage Difference Engine maintenance team. He is interested in computer history, science fiction, animation, and Android.

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| Next: Allan Alcorn Wednesday, October 5 |
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