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

Dan Greiner

Legacy of the IBM System/360 Architecture

Wednesday, November 30
6:00 – 7:00 PM
Auditorium ENGR 189
Engineering Building

Can a computer architecture really survive nearly 50 years and still remain relevant and successful? This presentation will discuss the legacy of the IBM System/360 architecture and review the marketing and technology pressures that drove IBM to "bet the company" on the original S/360.

What were the key features of the S/360 architecture? How did the system and its architecture grow from a 32-bit CPU running at 500 KHz and supporting 24-bit real addressing to the current 64-bit CPU running at over 5 GHz and supporting an architectural maximum of 2^{75} bytes of virtual memory? What marketing pressures drove these advances? Storage-key protection, multiprocessing, virtual memory, simultaneous access to multiple address spaces, time synchronization, and integrated instructions for compression, string manipulation, and cryptography are just a few of the many features we will analyze.

Dan F. Greiner is a Senior Scientist in the Systems Architecture Department at the IBM Silicon Valley Laboratory, where he has worked for the past eleven years developing instruction-set architecture for System Z. He is currently the editor of the z/Architecture *Principles of Operation*. He has received the IBM Master-Inventor award and a Thirteenth-Plateau IBM Invention-Achievement award, and he is the author or co-author of 54 granted or pending patents. Prior to IBM, Mr. Greiner worked for 22 years at Amdahl Corporation in a variety of customer support, marketing, firmware engineering, and management positions. He received a B.A. degree in Psychology from the University of Illinois – Chicago in 1972.

Next: **Robert Garner**
Wednesday, December 7