

The IEEE North Jersey Section Computer and Signal Processing Chapters
and the
Gildart Haase School of Computer Sciences and Engineering at FDU and FDU
IEEE Student Chapter

sponsor a talk on

“System Design Using DSP Hardware”

By

Jerry Bellott, MSEE

Abstract

Design methodologies for systems, PCB's, firmware, and software enable engineers to successfully achieve their design goals by following an appropriate plan. Products using DSP hardware and firmware algorithms present a variety of unique challenges. The talk covers types of DSP hardware currently used for low, medium, and high power applications (including solutions using multiple MAC's) and design considerations engineers and managers need to take into account when planning product development using DSP's.

The “System Design Using DSP's” seminar covers:

- A review of common DSP Applications
- DSP hardware architectures used for low power, high performance, and multi-core products, including SOC platform solutions.
- ASIC and custom solutions for unique applications including GPU's.
- FPGA solutions using MAC IP and system modeling/VHDL code generation software for > 500 MACs in a single FPGA.
- MicroChip dsPIC DSP/Microcontroller application example and IDE demo.
- Identification of unique development milestone considerations for using general purpose DSP's including software development considerations, PCB analog and digital regions, LVDS controlled impedance, and DDR3 memory interface design considerations.

In addition, the talk describes the importance of positioning yourself for engineering innovation by planning continuing education on current technologies, standards, and practices to fuel creative thinking.

Biography: Mr. Jerry Bellott, MSEE

Jerry Bellott is an electrical engineer with more than 25 years experience designing products for the computer, wireless, and telecommunication industries at AT&T Bell Labs and other companies. At Bell Labs, Mr. Bellott co-designed an X.25 data network access circuit that was deployed nationwide in 5ESS switches. He also co-developed the Definity PBX and AT&T PC product line components. In the wireless and DSP division, he designed IC evaluation PCB's for cell phone and other wireless products. He designed a reference design board for the Sceptre GSM chipset, including the DSP1627F, the world's first processor with on-chip flash memory. The board was used by Motorola while designing the StarTac, the first compact flip-top lid cell phone, and iDEN phones with built-in speakerphone features. He also contributed memory architectures (L1 and L2 cache plus main memory) for 3G multi-core SOC products, and wrote specifications for custom ASIC interfaces for a

2-way digital pager product that helped Lucent win a 2 year design and manufacturing contract. Mr. Bellott provided applications engineering support for the PALM VII wireless organizer using a Lucent mixed signal DSP. The PALM VII was the first wireless PDA internet appliance, with application icons and internet connectivity. Mr. Bellott won awards for outstanding product development, team leadership, and customer support while with Bell Labs.

In 2000, Mr. Bellott served as senior systems engineer at startup ViaGate Technologies in Bridgewater. ViaGate designed the world's first fiber to the basement ATM switch with SONET fiber and VDSL interfaces. The switch provides digital video, internet access, and remote LAN bridging for up to 240 clients. ViaGate was later bought by VDSL innovator Tut Systems in 2001, which is now part of Motorola Inc. More recently, Mr. Bellott co-designed a 1-GHz, 64-MAC DSP circuit board at Valley Technologies using a MathStar IC. The board served as MathStar's primary customer IC demo and evaluation platform for a two years for wireless, satellite, medical imaging, and video processing. Mr. Bellott has since written white papers, project documentation, and test plans for PC, PowerPC, LAN and fibre channel SAN equipment, wireless products, and GUI's for DSP analysis at a central NJ technology company. He has also written documentation for microwave HD video links and streaming video over LAN products at IMT, Inc. where his worked helped them win a major contract in 2009. As a private consultant at GT Digital, Mr. Bellott delivers seminars on design topics among his other duties.

Mr. Bellott earned an MSEE from Georgia Tech (1980) and a BSEE from West Virginia University (1979). Mr. Bellott served as Vice Chair of the Princeton Chapter of the IEEE Signal Processing Society from 2008 to 2011.

All are welcome!

Use this link for status/to register: https://meetings.vtools.ieee.org/meeting_view/list_meeting/10555

You do not have to be a member of the IEEE to attend. Bring your friends and network before the talk.

Time: 6:30-8:30PM, Tuesday, February 21st, 2012; Talk 7-8PM

Place: Muscarelle Center, Auditorium 105 Fairleigh Dickinson University, 1000 River Rd, Teaneck, NJ 07666. http://www.fdu.edu/visitorcenter/directions/teaneck_map.html

For more information contact: Hong Zhao (201)-692-2350, zhao@fdu.edu; Yun Q. Shi, shi@adm.njit.edu; or Howard Leach, h.leach@ieee.org