New design techniques for analog-digital interfaces

Nanometer CMOS technologies have proven to be surprisingly effective for analog-digital interface design. New design techniques have allowed designers to achieve analog-to-digital conversion efficiencies of better than 100fJ/level. These new techniques leverage the speed and digital processing capabilities of these processes. At the same time, relatively old techniques such as switched capacitor (SC) successive approximation (SAR) analog-to-digital conversion have found new use. The improved performance and energy efficiency of ADCs has allowed the analog-digital interface to be moved closer to the signal source in communication circuits, sensors and biomedical interfaces.

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Michael P. Flynn was born in Cork, Ireland. He received the B.E. and M.Eng. Sc. degrees from the National University of Ireland at Cork (UCC) in 1988 and 1990, respectively. He received the Ph.D. degree from Carnegie Mellon University in 1995. From 1988 to 1991, he was with the National Microelectronics Research Centre, Cork, Ireland. He was with National Semiconductor in Santa Clara, CA, from 1993 to 1995. From 1995 to 1997 he was a Member of Technical Staff with Texas Instruments, DSP R&D lab, Dallas, TX. During the four year period from 1997 to 2001, he was with Parthus Technologies, Cork, Ireland. Dr. Flynn joined the University of Michigan in 2001. His technical interests are in RF circuits, data conversion, serial transceivers and biomedical systems.