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TEXAS INSTRUMENTS

Low Power Design Innovations for Medical Electronics: An Evolving Challenge

Thursday, March 6, 2014
TI Auditorium, ECSS 2.102  2:00 p.m. – 4:00 p.m.

Abstract: Medical electronics has a very important role to play in improving the quality of health care in the form of prevention, diagnosis and therapy of illness. The success of such devices depends on the ability to measure and interpret the wide variety of signals linked to the underlying condition. This talk will cover the range of process and design techniques to meet these requirements with the relevant power constraints.

There is a tradeoff between power, noise, linearity, reliability and cost in medical applications. Examples of ultrasound, CT and implantable systems will be discussed to illustrate the design challenges faced with the limited power budgets available. Future trends of medical devices could include direct measurements of biological signals and self powered devices. The illustrations will show the evolution of low power design and integration techniques.

Short Bio: Karthik Vasanth, General Manager of the Medical and High-Reliability businesses at Texas Instruments (TI), along with his team, focus on Health, Fitness and Medical Imaging, developing game-changing semiconductor technologies. His efforts are spent making healthcare more affordable, accessible and flexible by giving TI customers the ability to meet complex business challenges using TI’s innovative technologies.

Karthik joined TI’s Silicon Technology Development group in 1995. Elected as a Distinguished Member of the Technical Staff at Texas Instruments in 2005, he managed the high performance RF circuit design team.

Karthik received the Bachelor of Technology degree in Electronics and Communication Engineering from the Indian Institute of Technology Madras and his Ph.D degree in Electrical Engineering from Princeton University. He has published over 30 papers and authored/co-authored several patents.

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