

Colloquium

50 Years of Moore's Law: Looking back, Looking forward

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Fifty years ago Gordon Moore extrapolated a few data points to make a bold prediction that set the pace for the modern digital revolution. His observation -- that the number of transistors in an integrated circuit doubled approximately every year -- was summarized into a simple principle: Moore's Law. Following Moore's law, the exponential progress in the microelectronics world has been an amazing driver for modern technology, transforming computing from a rare and expensive curiosity into a pervasive and affordable necessity. Empowered by cheap and powerful computing, new technologies are fundamentally changing the way we work, play and communicate. Moore's law, though not a law of physics, has amazingly sustained itself over the past 50 years (and seven orders of magnitude!) thanks to key innovations in novel materials, device physics and design, and fabrication technologies. However, as the aggressive scaling of transistors approaches fundamental limits, many interesting questions emerge. As the focus changes from increased computational power to energy-efficient computing it is time to reflect on what lies ahead.

Friday, Mar 11th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS