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## **Challenges, Innovation and Entrepreneurship Opportunities in Microelectronics**

by

**Dr. Rakesh Kumar**

**President, IEEE Solid-State Circuits Society**

*President & CEO, TCX Technology Connexions*



**DATE:** Wednesday, Aug. 14, 2013.

Seminar: 11am – 12noon

Refreshments and Networking: 12 noon – 12:30 pm

**PLACE:** MC 2014, Minto Center, Carleton University, 1125 Colonel by Drive, Ottawa ([Campus Map](#))

**ADMISSION:** Free. To ensure a seat, please RSVP at the earliest to “Prof. Ram Achar – [achar@doe.carleton.ca](mailto:achar@doe.carleton.ca) “

### **Abstract**

Phenomenal growth in the use of mobile wireless products is fueling a resurgence of excitement in the semiconductor industry. In spite of increasing investment costs and predictions of doom and gloom a few years back, these are exciting times in the semiconductor innovation pipeline.

After providing a brief background and status of the semiconductor industry and its recent drivers, this seminar will offer a discussion of the important challenges and opportunities. The industry's use of collaborative research and development, and the fabless Integrated Circuits models will be discussed. While there are over 1300 fabless Integrated Circuit companies worldwide, and over 20% of the worldwide semiconductor revenue now comes from fabless companies the success rate of new startups remains relatively low. Using the fabless IC startup learnings as a base, this presentation will offer hope for entrepreneurs, researchers, and designers in fulfilling their dreams.

The author's recently published book, "Fabless Semiconductor Implementation", McGraw Hill, will serve as a reference text.

### **Biography**

Dr. Rakesh Kumar is President and CEO of Technology Connexions (TCX Inc.), a services company which provides management, business and technical 'bridging the gaps' consulting in advanced semiconductor technology, and virtual operations areas. The TCX client list includes many emerging companies as well as top 10 semiconductor companies, Intel and Qualcomm, and two leading Research organizations, IMEC and Sematech.

During 39 years in the semiconductor industry Dr. Kumar has held various technical and executive positions. He was VP & GM of the worldwide Silicon Technology Services business unit at Cadence Design Systems and Tality. At Unisys and Motorola he made technical and management contributions.

Dr. Kumar is currently a Business and Technology advisor at the UC San Diego Entrepreneurship Center. He is also an Adjunct Professor at Yonsei University in South Korea.

Dr. Kumar has authored the book "Fabless Semiconductor Implementation", published by McGraw Hill. He has also authored numerous publications and patents. Dr. Kumar is a Life Fellow of the IEEE, and the President of IEEE's Solid-State Circuits Society. Dr. Kumar is a Distinguished Lecturer of the IEEE Electron Devices and Solid-State Circuits Societies. He has chaired and served on the Steering and Program committees of the IEEE CICC (Custom IC Conference) for fourteen years.

He received his Ph.D. and M.S. degrees in Electrical Engineering from the University of Rochester in 1974 and 1971 respectively. He received his B.Tech. degree in Electrical Engineering from the Indian Institute of Technology, New Delhi in 1969. Dr. Kumar received an Executive MBA from the University of California, San Diego in 1989. [rakesh@tcxinc.com](mailto:rakesh@tcxinc.com), +1.858.945.3758