"BNC Seminar"

February 11th, 2016 @ 9:00am
BRK, ROOM 2001

T. Venky Venkatesan

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National University of Singapore

Title: Adventures with Oxide Interfaces- electronics, magnetism, memory, energy and biology

Bio: Prof. T. Venkatesan is currently the Director of the Nano Institute at the National University of Singapore (NUSNNI) where he is a Professor of ECE, Physics, MSE and NGS. He wore various hats at Bell Labs and Bellcore for about 17 years before becoming a Professor at University of Maryland for another 17 years. As the inventor of the pulsed laser deposition (PLD) process, he has over 650 papers and 30 patents in the area of Oxide thin films and is globally among the top one hundred physicists (ranked at 66 in 2000) in terms of his citations (Over 33,500 with a Hirsch Index of 93-Google Scholar). He has graduated over 36 PhDs and over 50 undergraduates. He is also the founder and Chairman of Neocera, a company specializing in the area of PLD and magnetic field imaging systems. Close to 10 of the researchers (PhD students and Post Docs) under him have become entrepreneurs starting over 17 different commercial enterprises. He is a Fellow of the APS, winner of the Bellcore Award of excellence, Guest Professor at Tsinghua University, Winner of the George E. Pake Prize awarded by APS (2012), President's gold medal of the Institute of Physics Singapore, Academician of the Asia Pacific Academy of Materials, Fellow of the World Innovation Forum, was a member of the Physics Policy Committee, the Board of Visitors at UMD and the Chairman, Forum of Industry and Applications of Physics at APS.

Abstract: I would like to share in this talk a personal close up view of the evolution of this field and where I see it going. The invention of pulsed laser deposition (PLD) process catapulted oxide research to an extraordinary level and we have had three decades of relentless advances in this field of oxide interfaces encompassing a wide range of materials and functionalities. I will cover polar/non-polar oxide interface conductivity, defect induced magnetism, FE tunnel junctions and some recent work on bio-oxide interfaces.