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NanoEngineering

UCSD NANOENGINEERING/CHEMICAL ENGINEERING
SEMINAR SERIES
Wednesday, January 31st, 2024
Seminar Presentation: 11:00am – 12:00pm
SME room 248

"Nano challenges for big data"

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Abstract: The dramatic increases of data storage densities over the last 60 years and the corresponding decrease in cost has helped drive the modern digital world. However as many of the critical dimensions approach the nanometer scale, a variety of physical phenomena are placing limits on the increases of the capacity of future storage and processing devices. I will review the evolution of magnetic information storage, its impact on the use of digital data and the current state of the art. I will then discuss new challenges related to the energy use data and the potential for a new generation of information storage, memory and processing technologies to address these challenges.

Biosketch: Eric Fullerton is a Distinguished Professor at the University of California, San Diego in the Departments of Electrical and Computer Engineering and NanoEngineering and is an Endowed Chair and Director of the Center for Memory and Recording Research. He received his B.Sc. in Physics from Harvey Mudd College in 1984 and his Ph.D. in Physics from UC San Diego in 1991. Previous to joining UC San Diego he held research positions at Argonne National Laboratory, the IBM Almaden Research Center and Hitachi Global Storage Technologies. His current research focuses the synthesis and characterization of magnetic nanostructures, both as a probe of materials in reduced dimensions and for the development of novel information technologies. He has co-authored >400 journal articles, been issued 51 US patents, is a Fellow of the American Physical Society and the IEEE and is a member of the National Academy of Engineering.