



Department of Engineering
Seminar Program
Wednesday, February 25, 2015
Shanahan Teaching and Learning Center
Lecture Hall 1430, 4:15pm

“Silicon after CMOS and CMOS after Silicon”

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Summary:

The silicon age began in the late 50s with the first silicon transistor and integrated circuit. Since that time, silicon technology has become an integral part of nearly every person's life on the planet. The end of scaling of the MOS transistor is now within sight due to fundamental physical limitations. However, this is not the end electronic device improvements or silicon technology. I will discuss my research efforts to utilize silicon technology for new ends. Specifically, I will detail my efforts to combine mechanical, electrical and optical elements into highly integrated precision measurement systems. I will also discuss my past research efforts at IBM to create an entirely new type of transistor to enable low power/high performance electronics. Finally, I will detail opportunities for undergraduate research at Harvey Mudd in the areas of devices, open instrumentation, and the dissemination of scientific information.

Bio:

Brian Bryce is a National Research Council Postdoctoral Fellow at the National Institute of Standards and Technology. Previously, he was a postdoctoral researcher at IBM Research, Yorktown Heights and a PhD student in Professor Sandip Tiwari's group at Cornell University. He holds a PhD/MS in Applied Physics from Cornell and degrees in Physics and Electrical Engineering from University of Maryland. Brian is interested in innovation with the potential to solve core societal problems. He has conducted research in renewable energy, quantum computing, integrated measurement systems, MEMS, and beyond CMOS electronic devices.