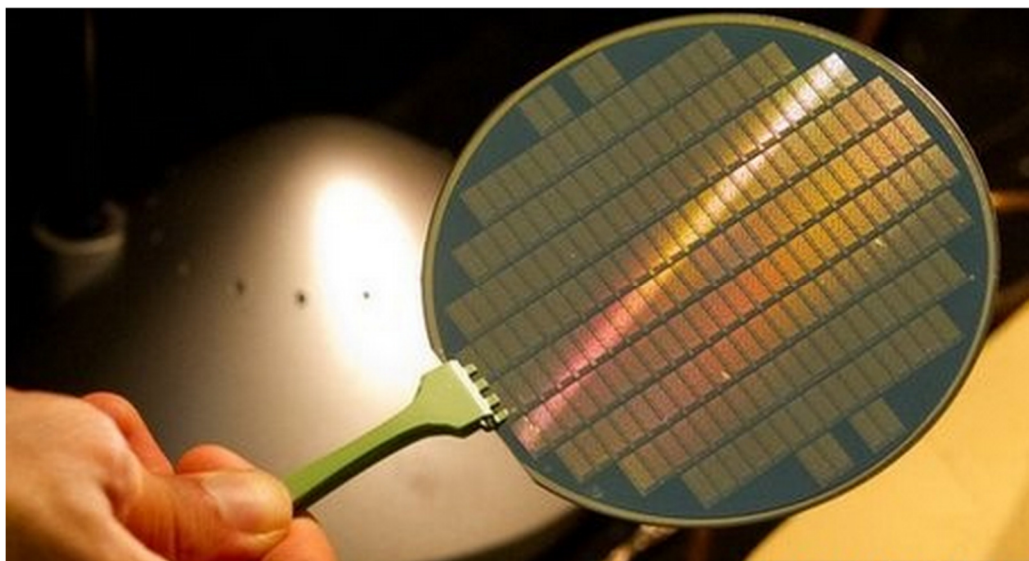


McElvain Materials Seminar

*“How Chemistry Enables High-Performance
Carbon Nanotube Logic”*



James Hannon, IBM Watson

It is now widely appreciated that electronic devices based on carbon nanotubes (CNTs) have the potential to outperform conventional silicon devices. As the challenges associated with scaling silicon technology mount, CNTs are being seriously considered as an alternative, or successor, to silicon in high-performance logic applications. However, in order to create a viable high-performance CNT technology, daunting and unique integration challenges must be overcome. These include isolation of semiconducting CNTs, selective placement of CNTs from solution, and passivation. This talk will discuss recent progress, made at IBM and elsewhere, on solving these challenges. Dr. Hannon will highlight the device performance requirements for a competitive CNT technology, which guides their integration strategy. He will also discuss the areas where fundamental research – especially in chemistry -- is needed in order to make CNTs viable.

Monday, November 2nd, 2015
3:30pm in 1315 Chemistry