

Evolution of Bio-assisted Molecular Electronics In Dupont

In recent years, researchers in Dupont have been exploring the potential of using biotechnology to enable molecular electronic devices. An overview of this effort will be presented. While highlights of our work with biomodified nanoparticles, self assembled molecular structures, DNA templating and bio-molecular interconnects will be given, this presentation will concentrate on our efforts to develop single wall carbon nanotube (SWCNT) devices using biomolecular recognition as an enabling technology. Results on phage display peptides, DNA/CNT hybrids, sorting of CNT by electronic properties and recent results on the redox chemistry of CNT's will be presented. Brief comments on device applications will also be shared.