DEPARTMENT OF PHYSICS UNIVERSITY OF MARYLAND Special **CNAM** Condensed Matter Colloquium

2pm, **October 29th,** Room 1201

Carbon Nanoelectronics: Towards Energy-Efficient Computing

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Power consumption is a significant challenge, often limiting the performance of integrated circuits from mobile devices to massive data centers. Carbon nanoelectronics have emerged as potentially energy-efficient future devices and interconnects, with both large mobility and thermal conductivity. This talk will focus on power dissipation in carbon nanotubes and graphene, with applications to low-energy devices, interconnects and memory elements. Experiments have been used to gain new insight into the fundamental behavior of such devices, and to better inform practical device models. The results suggest much room for energy optimization in nanoelectronics through the design of geometry, interfaces, and materials.

Host: Michael Fuhrer