

ZERNIKE INSTITUTE COLLOQUIUM

Thursday, December 3rd, 2009

16:00h, Lecture Hall: 5111.0080

Coffee and cakes from 15:30h

Progress in Carbon Nanotube Electronics and Photonics

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In electronics and photonics, the intrinsic properties of the semiconducting materials play a dominant role in achieving high performance devices and circuits. In this respect, carbon nanotubes are prime candidates because of their exceptionally high carrier mobility, low capacitance, and strong optical responses (direct band-gap).

Although these properties compare very favorably with those of crystalline silicon, many issues related to their synthesis, processing, and assembly have challenged efforts for making electronic and photonic devices.

Additional hurdles related to the control of their interfaces were also found. Tremendous progress has nevertheless been achieved over the years and much has been learned from novel photonic devices and electronic circuits. In the present talk we review some of the developments and examine the issues and opportunities that still exist.

