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Integration of CNTs with Silicon

WILLIAM MILNE, Engineering Dept, Univ of Cambridge

In this talk, the growth and characterisation of both single and multi wall CNTs is described and a realistic appraisal of the future of CNTs in the electronics field will be provided. Although they are less likely, in the author's opinion, to take over from silicon for use in the active devices such as transistors and diodes etc. in logic circuits their use in vias and interconnects in next generation integrated circuits is considered as being entirely feasible as is their use in transparent conducting contacts. Another major contribution to future electronics could be in complementary applications to CMOS such as their use in sensors, thermal interface materials and solder joints. A novel Liquid Crystal Over Silicon (LCOS) structure will also be discussed.