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Abstract for an Invited Paper
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Carbon Nanotubes: Recent Results and Directions

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This talk will present our latest research on single walled carbon nanotubes. We have been using carbon nanotube as a model system to study interesting nanoscale problems concerning materials synthesis, solid-state physics and devices, surface science and nanobiotechnology. This presentation will cover our latest results in, (1) Controlled synthesis of nanotube structures on surfaces. (2) Coherent quantum electron transport and diffusive electron-phonon scattering phenomena in suspended nanotubes. (3) Pushing the performance limit of nanotube transistors, and (4) interfacing carbon nanotubes with biological systems including living cells.