Presentation Title:
Carbon nanostructures

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Abstract:
Graphene-based materials are promising because of their electronic and thermal transport, mechanical properties, high specific surface area, that they can act as an atom thick layer, barrier, or membrane, among other reasons. (Our micromechanical exfoliation approaches [1,2] conceived of in 1998 yielded multilayer graphene and one paper described in detail how monolayer graphene could be obtained [1]). In addition to describing some of our recent work on graphene, I will also discuss other materials including some as yet not made that are important targets for materials synthesis: (i) the negative curvature carbons [3,4] and their likely applications, (ii) ultrathin and large area sp^3 carbon films [4], and carbon nanotubes with a particular focus on CNT ribbons.
Support of our work on graphene by the W. M. Keck Foundation, NSF, DARPA 'iMINT', DARPA 'CERA', ONR, SWAN NRI, ARO, AEC, and the SRC, is greatly appreciated.

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