

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Nanoscale fluid transportation through individual carbon nanotubes**<sup>1</sup> JIN HE, DI CAO, PEI PANG, TAO LUO, STUART LINDSAY, the Biodesign Institute, Arizona State University, PREDRAG KRISTIC, Oak Ridge National Laboratory, COLIN NUCKOLLS, Chemistry Department, Columbia University — There are great interest in both simulation and experiment of fluid flow on the nanoscale. Carbon nanotubes, with their extremely small inner diameter (usually below 2 nm) and atomic smooth inner surface, are ideal materials for studying nanoconfinement and ion and molecule nanoscale translocation. The excellent electrical properties of CNTs can also be integrated to achieve nanoelectrofluidic device. This presentation describes our recent progress in studying fluid transport through individual carbon nanotubes, including simultaneously ionic and electronic measurements during water, ion and molecule translocation.

<sup>1</sup>This work was supported by the DNA Sequencing Technology Program of the National Human Genome Research Institute (1RC2HG005625-01, 1R21HG004770-01)

Jin He  
the Biodesign Institute

Date submitted: 03 Jan 2011

Electronic form version 1.4