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Rebecca A Segal* (rasegal@vcu.edu), Department of Mathematics, Virginia Commonwealth University, PO Box 842914, Richmond, VA 23284-2014. *Deposition Patterns of Nanoparticles in Human Nasal Passages*. Preliminary report.

Differences in nasal anatomy among human subjects leads to significant differences in respiratory airflow patterns and the subsequent dosimetry of inhaled gases and particles in the respiratory tract. This study used computational fluid dynamics (CFD) to study inter-individual differences in particle deposition patterns. Steady-state inspiratory laminar airflow at 15 L/min was calculated using commercial CFD software. Deposition of nanoparticles were calculated using a user defined function and deposition patterns were compared between subjects. (Received September 22, 2010)