

# UNIVERSITY OF MINNESOTA

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Dr. Thomas E. Schwartzentruber joined the Department of Aerospace Engineering and Mechanics faculty at the University of Minnesota in December of 2007 as an Assistant Professor. He received his Ph.D. from the University of Michigan in 2007, and his Bachelors and Masters degrees in 2001 and 2003, respectively, from the University of Toronto.

Professor Schwartzentruber utilizes particle simulation methods to model non-equilibrium gas flows. Non-equilibrium flow occurs when the mean-free-path between molecular collisions in a gas is no longer negligible compared to length-scales of interest. Applications include high-altitude hypersonic aerothermodynamics, rocket-plume flows, gas-surface interactions, and at the other end of the scale, micro-fluidics. His research focuses on continued algorithm and physical model development of the direct simulation Monte Carlo (DSMC) particle method. Special focus is given to the development of multi-scale methods that combine both particle and continuum approaches to accurately and efficiently simulate non-equilibrium gas flows.

Professor Schwartzentruber has presented his research at various conferences and has several articles published in refereed journals. He is also the recipient of several honors, including the AIAA Orville and Wilbur Wright Graduate Award and the Elvie L Smith Award.

Please visit <http://www.aem.umn.edu> for more information on the Department of Aerospace Engineering and Mechanics at the University of Minnesota.