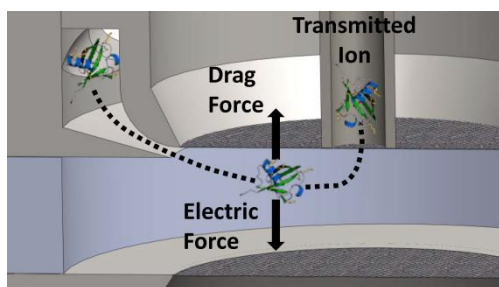


WEDNESDAY, OCTOBER 8, 2014 ♦ 3:30 -4:30PM ♦ KELLER HALL 3-180

MUCH ADO ABOUT ALMOST NOTHING – ATMOSPHERIC NEW PARTICLE FORMATION

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Particles in the low nanometer size regime are found throughout the atmosphere. Some nanoparticles form in the air when products of atmospheric reactions nucleate to form stable clusters and particles. Atmospheric nucleation is thought to form nearly half of the atmospheric particles globally. Nucleation may also occur when vapors are mixed with cooler air upon exhaust to the atmosphere, possibly contributing to the short-lived nanoparticle concentration excursions near roadways, and the health impacts that have been

tenuously linked to them. To understand the health and climate effects of these atmospheric ultrafine particles, we need to measure their abundance and properties, and to understand their dynamics. New measurement methods and ultra-clean reactors now enable direct measurement of new particles soon after their formation under well controlled conditions, though how best to relate these data to the nucleation rate remains a challenging question.

Richard Flagan is the Irma and Ross McCollum/William H. Corcoran Professor in the Divisions of Chemistry and Chemical Engineering and Engineering and Applied Science at the California Institute of Technology. He is a graduate of the University of Michigan where he received a B.S. degree in mechanical engineering, and of the Massachusetts Institute of Technology, where he received a Ph.D. degree in mechanical engineering. Professor Flagan is widely acknowledged for his research on aerosols, both in the atmosphere and in aerosol processing of materials. He has made numerous contributions to aerosol measurements, including the scanning mobility particle sizer, and new mobility analyzers that enable measurements of particle size distributions to 1 nm in diameter. Professor Flagan has received numerous awards and honors. He is a member of the U.S. National Academy of Engineering. Professor Flagan received the Fuchs Award which is given jointly by the American Association for Aerosol Research, the Gesellschaft für Aerosolforschung, and the Japan Association of Aerosol Science and Technology in 2006. This award is given every four years, an award that is given every four years and considered the highest honor bestowed for work in the field of aerosol science. He was President of the American Association for Aerosol Research. He is the author of numerous scientific papers, and one book, *Fundamentals of Air Pollution Engineering*. He also holds a number of patents. He is the recipient of an honorary doctorate from Lund University.



Please join us for a wine and cheese reception, sponsored by TSI Incorporated at the Heritage Gallery in the McNamara Alumni Center, immediately following the lecture.

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