Atkinson Center for a Sustainable Future Topical Lunch

Title*:* *"What research is needed to assess solar geoengineering?"*
Hosts: Dr. Douglas MacMartin, Mechanical and Aerospace Engineering
Dr. Natalie Mahowald, Earth and Atmospheric Sciences
Date: Wednesday December 6, 2017 12:00 – 1:00pm 300 Rice Hall

ABSTRACT:

Mitigation is essential for managing future climate change risks, but it may not be sufficient; it is unlikely that global temperature rise will be limited to less than 2C above pre-industrial through decarbonization of energy alone. Solar geoengineering, or solar radiation management, is a controversial set of ideas for limiting climate change damages by reflecting some sunlight back to space, for example by putting aerosols into the stratosphere or "brightening" marine boundary layer clouds. While this cannot be a substitute for cutting emissions, it is plausible that, if it were used in addition to emissions cuts, it could reduce some climate damages. However, not enough is known to support future informed decisions. Research would need to address uncertainties in the physical climate system, the climate impacts (e.g., on health, agriculture, ecosystems), public engagement, and governance, for example; this touches on what it means to be human, and raises potential questions across practically every discipline. Our goals in this topical lunch are to bring together interested researchers across campus, identify broad research needs, and inspire interdisciplinary collaborations.