

Title: Assessing and Reducing the Risks of Solar Geoengineering

Abstract: I will discuss new results suggesting it may be possible to implement solar geoengineering using stratospheric aerosols without ozone loss while significantly reducing some other important side effects. Estimates of the risks and efficacy of solar geoengineering are deeply uncertain. Accurate physically-based models along with laboratory and in situ experiments will be needed to improve estimates of the efficacy and risks of proposed solar geoengineering methods. As an example I will discuss our ongoing laboratory experiments and plans for small perturbative outdoor experiments. Governance poses the greatest challenge for solar geoengineering: I will review some recent work on governance of research and deployment of solar geoengineering and argue in favor of an international open-access and interdisciplinary research program.