

## **UC Merced Environmental Systems Seminar (ES 291)**

**Wednesday 30<sup>th</sup> November 2016**

**12.30-2.00 PM COB 105**

*Into the Great Wide Open: The Promise, and Potential Perils, of Climate Geoengineering*



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**Forum for Climate Engineering Assessment**

According to recent analyses, the pledges made by the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) put the world on course for temperature increases of 2.7-3.7C above pre-industrial levels by 2100, with temperatures to increase for centuries thereafter. This could have disastrous consequences for human institutions and natural ecosystems. As a consequence, increasing attention has been devoted to a series of potential responses that were once considered taboo, denominated “climate geoengineering.” These methods include ocean iron fertilization, marine cloud albedo enhancement, stratospheric sulfate injection, air capture, and the use of planetary sunshades, all of which have the potential to substantially ameliorate, or reverse, current warming trends. At the same time, all of these schemes could have serious negative ramifications, including adverse regional impacts with momentous equitable implications, e.g. disruption of monsoonal cycles or increases in regional temperature trends, or potential global impacts, e.g. depletion of the ozone layer. This presentation looks at the potential benefits and risks of the brave new world of climate geoengineering, and potential governance mechanisms for research and/or deployment.