The 2022 Holiday Science Lecture “Engine Earth” was held at Princeton University on December 3, 2022 with over 500 people attending two lectures at McDonnell Hall. Howard Stone and other PCCM researchers explored the science behind the climate of our home, planet Earth, presenting experiments and interactive demonstrations to understand how the sun, atmosphere, oceans, land, and human activity affect the operation of “Engine Earth.” PCCM invited the public to be scientists with for a day and learn how measurements and models can help us understand our climate and how it is changing!