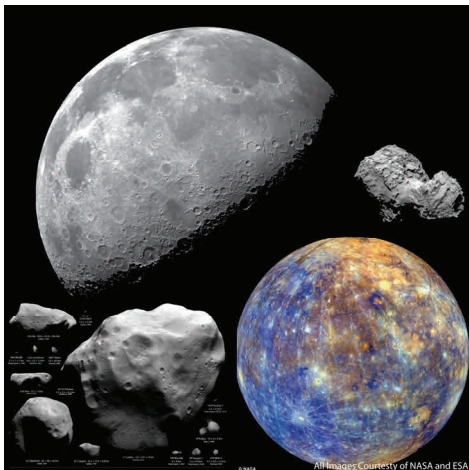


The Thermal Revolution: Understanding the Formation and Evolution of Airless Bodies using Thermal Infrared Spectroscopy

Airless planetary bodies like Mercury, the Moon and asteroids provide a unique opportunity for studying the formation and evolution of planetary surfaces, as there is no weather or liquid water altering their surfaces. Using the strengths of thermal infrared spectroscopy, the composition of a planet's surface can be determined through the identification of spectrally dominant minerals exposed at the surface. Our current knowledge of surface compositions of the Moon, Mercury, and asteroids come from the analyses of 1) remotely sensed data from spacecraft and telescopes and 2) laboratory measurements of returned sample material or analogues. Specifically in this talk, I will address how to best simulate the near-surface environment of the Moon using Apollo soil samples, how to use those same techniques on lunar analogues to address fundamental questions about the formation and evolution of the Moon's anorthositic crust and how these same techniques are being applied to other airless bodies like asteroids and Phobos.



Dr. Donaldson Hanna
University of Oxford

Tuesday, March 17, 2015

Meet and Greet

3:15—3:45PM

OPS Room 144

Colloquium

4:00—5:00PM

OPS Room 140