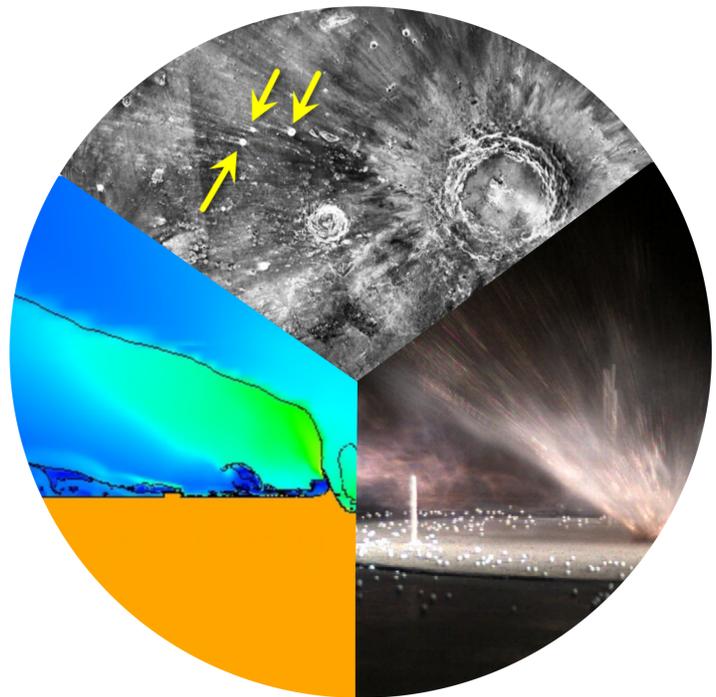

EAPS Planetary Lunch Colloquium Series (PICS)

Stephanie Bouchey
Graduate Student
Brown University

Tuesday, April 25th
12:30pm
54-517

Exploring the Formation of Martian Impact-Winds

Wind streaks are not uncommon features on Mars, yet some craters boast a subset of enigmatic, thermally bright streaks that extend radially from the crater. These particular streaks are indicative of an intensity of wind that has not been experienced on Mars since the time of their emplacement. We propose that the winds are driven by impact-vapor expansion and atmospheric coupling. When the winds interact with obstacles on the surface, they form vortices that mobilize surface material and cause surface scouring. The extent and morphology of Martian impact-wind streaks can help constrain Martian surface and impactor properties at the time of formation. Through the use of both laboratory experiments at the NASA Ames Vertical Gun Range and computational models with the CTH shock physics code, we explore the conditions necessary to generate impact vapor-driven winds on Mars.



For more information, contact John Biersteker (jo22395@mit.edu)