

Tuesday, June 13, 2017
MARS DUST: HUMAN HEALTH
Berkners A-C

All participants, regardless of their assigned method of presentation, are encouraged to contribute during the breakout sessions, as all community input is essential to a positive outcome.

Moderator: Russ Kerschmann

Recorder: Pamela Sparks

Kerschmann R. L. *

[*What Questions Should We ask About the Health Effect of Mars Dust? Lessons from the Lunar Dust Experience*](#) [#6034]

The toxicology of lunar dust has been studied over the last decade and standards set by NASA for exposure. This summary reviews that data and proposes to reapply the strategy employed there to future research on the health effects of Mars dust.

Darquenne C. * Prisk G. K.

[*Reduced Gravity and Aerosol Deposition in the Human Lung*](#) [#6008]

Studies during parabolic flights showed a significant effect of gravity on the amount and site of aerosol deposition in the lung, which may affect subsequent clearance and greatly increase the toxicological impact of inhaled lunar or martian dust.

Ashley J. W. * Banfield D. Beaty D. W. Bleacher J. E. Carrier B. L. Hamilton V. E.

Whitley R. J. Zurek R. W.

[*The Current MEPAG Representation of Potential Dust-related Hazards as They May Relate to the Human Exploration of Mars*](#) [#6022]

The MEPAG Goals Document presents Investigations that may correlate with dust risk to humans and human operations in potential future Mars missions. We list these here, together with their respective priority rankings, and invite community input.

Sim P. A. *

[*Martian Dust and Its Interaction with Human Physiology: An Emergency Physician's Perspective*](#) [#6009]

Martian dust has known physical and chemical characteristics which portend adverse effects when humans are exposed. An emergency physician briefly summarizes the potentially harmful components and offers some mitigating and treatment measures.

Kamakolanu U. G. *

[*The Impact of Mars Atmospheric Dust on Human Health*](#) [#6033]

The martian dust impact can be considered as an exposure to ultra fine particles of martian dust. Direct nose to brain pathway of particulate matter can affect the fine motor skills and gross motor skills, cognition may be affected.

Harrington A. D. * McCubbin F. M. Kaur J. Smirnov A. Galdanes K. Schoonen M. A. A. Chen L. C.

Tsirka S. E. Gordon T.

[*Acute Meteorite Dust Exposure and Pulmonary Inflammation — Implications for Human Space Exploration*](#) [#6024]

Geochemical and toxicological evaluations performed on six meteorite samples of mixed origin allow for toxicological risk assessments of celestial materials and clarification of important correlations between geochemistry and health.