ALLAN H. TREIMAN - LUNAR AND PLANETARY INSTITUTE
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Related Experience Summary

Expert in Martian meteorites and their aqueous alteration, and in constraints on water (and other volatiles in other meteorites and lunar rocks). Experienced in retrieving physico-chemical properties of solution from their mineral deposits (nakhlite and ALH84001 meteorites). Background in physical chemistry, significant experience in field geology, acquaintance with issues of astrobiology from own work and association with other NAI nodes.

Employment History

2007 - Present Associate Director for Science, Lunar and Planetary Institute
1993 - Present Staff Scientist, Lunar and Planetary Institute

Education

Ph.D., Igneous Petrology, University of Michigan, 1982. Dissertation: "The Oka Carbonatite Complex, Quebec: Aspects of Carbonatite Petrogenesis''. Advisor: Dr. E. J. Essene.

Professional Societies

American Geophysical Union, Meteoritical Society, Mineralogical Society of America

Awards and Honors

Fellow of the Meteoritical Society. August, 2002.
"Manually Portable Reflectance Spectrometer, U.S. Patent No. 6,043,893

Selected Relevant Publications

Treiman A.H. (2008) Fault-trace ridges, Valles Marineris, Mars: Evidence for large-scale fault-controlled paleo-groundwater flow. Nature Geosciences 1, doi:10.1038/ngeo131.

Hausrath E.M., Treiman A.H., Bish D.L., Blake D., Sarrazin P., Hoehler T., Vicenzi E., Midtkandl I., Steele A., and Brantley S.L. (accepted) Short and long-term olivine weathering in Svalbard, and implications for Mars, Astrobiology, in revision.

McCanta M.C, Treiman A.H., Dyar M.D., Alexander C.M.O'D., and Essene E.J. (submitted) The La Paz 04840 meteorite: Petrology and origin of an amphibole-rich R chondrite. to Geochim. Cosmochim. Acta, 2008.

Treiman A.H. (2008) Rhönite in Luna 24 pyroxenes: First find from the Moon, and implications for water in planetary magmas. Amer. Mineral. 93, 488-491.

Treiman A.H. (2003) Submicron magnetite grains and carbon compounds in Martian meteorite ALH84001: Inorganic, abiotic formation by shock and thermal metamorphism. Astrobiology 3, 369-392.

Treiman A.H. and Wallendahl A. (1998) Hydrogen chemistry of basalt aquifers. Science 282, 2196.

Shearer C.K., Borg L.E., Treiman A. and King P. (2008) If we already have samples from Mars, why do we need sample return missions? The importance of martian meteorites and the value of Mars Sample Return.
Mars Sample Return Workshop, submitted.

Treiman A.H., Morris R.V., Kring D.A., Mittlefehldt D.W., and Jones J.H. (2008) Petrography and origin of the unique achondrite GRA 06128 & 06129: Preliminary results.Lunar Planet. Sci.XXXIX, Abstract #2215, submitted.

Treiman A.H. (2008) Wind and the origin of Martian gullies: A local and regional test in Cimmeria. Workshop on Martian Gullies: Theories and Tests. Abstract #8020.

Treiman A.H. (1997) Thinking about life on Mars: Dangers and visions.
Lunar Planet. Sci. XXVIII, 1447-1448.