Friday, March 19, 2004
ASTROBIOLOGY STEW: PINCH OF MICROBES, SMIDGEN OF UV, TOUCH OF ORGANICS, AND DASH OF METEORITES
1:30 p.m. Salon A

Chairs: P. G. Conrad
D. P. Glavin

1:30 p.m. Cabrol N. A. * Grin E. A. Hock A. Kiss A. Borics G. Kiss K. Acs E. Kovacs G. Chong G. Demergasso C. Sivila R. Ortega Casamayor E. Zambrana J. Liberman M. Sunagua Coro M. Escudero L. Tambley C. Gaete V. Morris R. L. Grigsby B. Fitzpatrick R. Hovde G.
Investigating the Impact of UV Radiation on High-Altitude Shallow Lake Habitats, Life Diversity, and Life Survival Strategies: Clues for Mars' Past Habitability Potential? **[#1049]**
We explore the effects of high UV radiation on life habitats and diversity in shallow lakes located ~6,000 m high in the Andes which present strong environmental analogies with martian paleolakes. Survival strategies may give clues to assess the habitability potential of early Mars.

1:45 p.m. Sakon J. J. * Burnap R. L.
An Analysis of Potential Photosynthetic Life on Mars **[#1943]**
This project researched the possibility of photosynthetic organisms existing on Mars. Cyanobacteria were used as potential analogs and were subjected to various Martian-simulated conditions — including soil, atmosphere, pressure and UV radiation.

2:00 p.m. Kminek G. * Bada J. L.
Radiation Inactivation of Bacterial Spores on Mars **[#1109]**
Our results show that even in the absence of other chemical or physical degradation, bacterial spores are inactivated by ionising radiation within 100 million years in the Martian subsurface and within 600.000 years in the first meter.

2:15 p.m. Schuerger A. C. * Kern R. G.
Hydrophobic Surfaces of Spacecraft Components Enhance the Aggregation of Microorganisms and May Lead to Higher Survival Rates of Bacteria on Mars Landers **[#1139]**
Terrestrial microorganisms are more likely to form multi-layered aggregates on hydrophobic materials potentially enhancing their survival on sun-exposed spacecraft surfaces on Mars.

2:30 p.m. Conrad P. G. * Lane A. L. Bhartia R. Hug W. H.
Optical Detection of Organic Chemical Biosignatures at Hydrothermal Vents **[#2055]**
We've developed a non-contact optical instrument for the rapid detection of organic chemical biosignatures. This tool is suitable for use on dry land, shallow aqueous, deep marine or ice environments. Here we report results from its deployment at hydrothermal vent sites in the Pacific Ocean.

2:45 p.m. Allen C. C. * Probst L. W. Flood B. E. Longazo T. G. Schelble R. T. Westall F.
Signs of Life in Meridiani Planum — What Might Opportunity See (Or Miss)? **[#1165]**
The Meridiani Planum hematite site may be significant in the search for evidence of extraterrestrial life. Since hematite can form as an aqueous precipitate, the potential exists for preserving microfossils in ecosystems that deposit iron oxides.

3:00 p.m. Glavin D. P. * Bada J. L.
Isolation of Purines and Pyrimidines from the Murchison Meteorite Using Sublimation **[#1022]**
A new sublimation based extraction technique was developed in order to isolate nucleobases from the Murchison meteorite. The purines adenine, hypoxanthine and xanthine, as well as the pyrimidine uracil were identified.

3:15 p.m. Martins Z. * Botta O. Ehrenfreund P.
Relative Amino Acid Composition of CM1 Carbonaceous Chondrites **[#1486]**
Samples of two different Antarctic CM1 meteorites were analyzed using standard analytical procedure for amino acids.