Thursday, April 29, 2010
WHERE SHOULD WE GO ON MARS TO SEEK SIGNS OF LIFE?
2:00 p.m. Crystal Salon A

This session will focus on the geology and mineralogy most likely to preserve signs of martian life (if any), the evidence for such geology and mineralogy on Mars, and possible targets for future landed missions.

Chairs: **Carlton Allen**
Abigail Allwood

2:00 p.m. Allwood A. C. *
Where to Search for Life on Mars: Guidance from Early Earth **[#5611]**
The early terrestrial rock record provides a means of narrowing the search for life on Mars. I will discuss and compare types of landing sites and considerations from the terrestrial record that may help prioritize among such sites.

2:15 p.m. Summons R. E. * Amend J. P. Buick R. Dromart G. Eigenbrode J. L. Knoll A. H.
Identification of Biosignature Preservation Windows to Guide MSL Landing Site Selection **[#5256]**
Using a multidisciplinary approach we have developed specific criteria that can help identify likely habitable environments and conditions for biosignature preservation that will inform Mars Science Laboratory landing site selection.

2:30 p.m. Rice J. W. Jr. *
The Silica-rich Hydrothermal Deposits of the Columbia Hills: A Key Candidate Max-C Landing Site **[#5618]**
It is proposed that the MAX-C Mission return to the Columbia Hills region to collect, document, and package the silica-rich hydrothermal deposits discovered by Spirit. Samples of Hesperian basalt flows and Noachian highland materials can also be acquired here.

2:45 p.m. Noffke N. *
The Search for Life in the Aquatic Sandy Deposits of Mars: The Criteria for Biogeneicity of Microbially Induced Sedimentary Structures **[#5039]**
This contribution is a recommendation to the Mars Rover research teams, how to search for modern and ancient microbenthos in the on Mars so common clastic sediments and se-dimentary rocks.

3:00 p.m. Allen C. C. * Oehler D. Z.
Mud Volcanoes as Exploration Targets on Mars **[#5172]**
Mud volcanoes transport sediments from depth, which could contain chemical biomarkers, mineral biosignatures, or structural remains from past life. We propose that the mud volcanoes in Acidalia may offer a new class of exploration target for Mars.

3:15 p.m. BREAK

3:30 p.m. Levy J. S. * Head J. W. Marchant D. R.
Martian Debris-cvovered Glaciers: Seeking "Signs of Life" in a ~100 My Old Deep-Freeze **[#5059]**
Martian debris-covered glaciers should be considered as landing sites in the search for biosignatures, as they represent large volumes of non-polar ice, with a wide regional distribution, unique bio-preservation potential, and intermediate age.

3:45 p.m. Schwenzer S. P. Abramov O. * Allen C. C. Clifford S. Filiberto J. Kring D. A. Lasue J. McGovern P. J. Newsom H. E. Treiman A. H. Vaniman D. T. Wiens R. C. Wittmann A.
Exploring Martian Impact Craters: Why They are Important for the Search for Life **[#5527]**
We make a case for exploring impact craters as potential windows into habitable environments. This includes studying lake deposits, hydrothermal alteration, and excavated material from a potentially habitable region beneath the martian cryosphere.

4:00 p.m. McGovern P. J. *
Olympus Mons: A Primary Target for Martian Biology **[#5633]**
Olympus Mons and its clay-rich, water-saturated basal decollement constitute a favored location for long-term sustenance of life on Mars. Faults and paleolakes at its base make appealing targets for retrieving evidence of life.

4:15 p.m. Smith P. H.
Water at the Phoenix Landing Site **[#5381]**
The Phoenix mission found many of the ingredients of a habitable zone. While liquid water was not observed during the mission, there are indicators in the soil that lead to a conclusion that water is periodically available during warmer epochs.