

Monday, April 26, 2010
50 YEARS OF EXOBIOLOGY AND ASTROBIOLOGY: GREATEST HITS
8:00 a.m. Crystal Salon A

This session is intended to start off the meeting with an overview of scientific contributions from the first 50 years of exobiology and astrobiology research, highlighting significant discoveries and addressing current directions.

Chairs: Linda Billings

- 8:00 a.m. Rummel J. D. *
[*Exobiology: The Program's First 50 Years of Productivity*](#) [#5407]
 The abstract addresses examples of past successes, current efforts, and areas of future promise within NASA's Exobiology Program.
- 8:15 a.m. Ehrenfreund P. *
[*Astrochemistry: Contributions to the Study of Life in the Universe*](#) [#5678]
 This presentation will review the contributions of astrochemistry to the study of the origin, evolution and distribution of life in the universe and report on current and proposed research directions.
- 8:30 a.m. Deamer D. *
[*Systems Biology, Synthetic Biology and the Origin of Life*](#) [#5454]
 The definition and applications of systems biology and synthetic biology can be broadened to encompass research on two fundamental problems facing biologists today: How did life begin? Can we fabricate a laboratory version of cellular life?
- 8:45 a.m. Pizzarello S. *
[*Chiral Homogeneity as Indicator of Life Processes: The Need for Multiple Proofs*](#) [#5138]
 Single or limited detection of molecular handedness may fail as conclusive evidence of life.
- 9:00 a.m. Anbar A. D. *
[*Early Oxygen*](#) [#5623]
 An overview of emerging evidence on the early rise of O₂.
- 9:15 a.m. Thomas-Keprta K. L. * Clemett S. J. Wentworth S. J. McKay D. S. Gibson E. K. Jr.
[*New Insights into the Origin of Magnetite Crystals in ALH84001 Carbonate Disks*](#) [#5102]
 Comparison of new TEM results with decomposition studies of sideritic carbonates conducted under a range of heating scenarios suggests that the magnetite nanocrystals in ALH 84001 carbonate disks are not the products of thermal decomposition.
- 9:30 a.m. Calvin W. M. * Christensen P. R.
[*Astrobiology and Mars in the NRC Decadal Survey*](#) [#5316]
 We will present a summary of the Mars sub-panel mission priorities related to the NRC Planetary Science Decadal Survey.
- 9:45 a.m. Impey C. D. *
[*Astrobiology: The Next 50 Years*](#) [#5140]
 A set of predictions of the next 50 years in astrobiology is ventured, in three realms: Earth, Solar System, and Deep Space. Some are extrapolations of current research directions, others are attempts to anticipate the unexpected.
- 10:00 a.m. BREAK