Giber K.  
*Cultivation of Iron Bacteria on the Mars [#1377]*

It is not impossible that anaerobic iron-bacteria life community can live on Mars — with a minimal technical support. Through my experiment we could study the life conditions of the Martian surface and create the first terrestrial life forms on Mars.

Mazzini A., Li R., Parnell J.  
*Spectroscopic Methods for Analyzing Organic Compounds in Fluid Inclusions During Planetary Exploration [#1645]*

Raman Spectroscopy and Time of Flight-Secondary Ion Mass Spectrometry both provide data on organic compounds in fluid inclusions, and could help in the search for biosignatures in surface precipitates on Mars.

Parnell J.  
*Requirements to Obtain Biomolecular Signature of Life from Fluid Inclusions on Mars [#1615]*

The water in fluid inclusions in minerals precipitated on Mars contains a record of the ambient environment during mineral precipitation. The fluid chemistry could include a biomolecular signature of any life in the environment.

Pun A., Papke J. J., Shearer C. K.  
*Trace-Element Analyses of Carbonate Minerals in the Gunflint Banded Iron Formation [#1357]*

We report on the petrography, mineralogy and trace-element abundances of individual carbonate grains in the Early Proterozoic Gunflint BIF. Trace-element data may be used as environmental recorders of the fluid evolution from which the various carbonate phases precipitated.

Sharpton V. L.  
*Impact and the Evolution of Martian Permafrost Environments [#1908]*

Impact cratering enhances the capacity of massive volcanic sequences, such as those observed on Mars, to hold water and enhance the potential for the development and evolution of life in six important ways.

Spilde M. N., Boston P. J., Schelble R. T., Papke J. J.  
*Mineral Precipitation by Mn-Oxidizing Microbes: Comparing Natural and Cultured Mn-Minerals [#1090]*

We have cultured Mn-oxidizing microorganisms from New Mexico caves using Mn-enriched media. No crystalline material was observed at 1 month. By 3 months, poorly-crystalline buserite was present, and by 8 months, peaks for buserite, birnessite and vernadite were observed.

Svetsov V. V.  
*Assessment of Organics Delivery by Comets to the Early Earth [#1451]*

An approximate calculation of the amount of organic material delivered to the Earth by comets during the first 700 Myr has been carried out. The numerical model includes deceleration, fragmentation and ablation during comet flight in a primordial atmosphere.