The Mars Plate-Tectonic-Basement Hypothesis
Spatial arrangement of structures, analogous to that of the western U.S., and the recorded Hadean-age-equivalent information of paramount significance.

Late Noachian Icy Highlands: Scenarios for Top-Down Melting and Volumes of Meltwater
We present response of supply-limited Late Noachian icy highland ice sheets to transient climates consistent with results from GCMs of an adiabatic atmosphere.

Late Noachian-Early Hesperian Flood Volcanism in Hesperia Planum: Large-Scale Lava-Ice Interactions and Generation and Release of Meltwater
Accumulating Hesperia Planum lavas could raise geotherms to melt cryospheric ground ice and surface snow and ice, causing subsidence and meltwater drainage.

True Polar Wander Recorded by the Distribution of Martian Valley Networks
Martian valley networks distribution suggest a reorientation of Mars’ rotation axis with respect to the mantle, or true polar wander (TPW).

The Deuteronilus Contact on Mars: Morphology, Age, Topography
The absolute majority of the mapped Deuteronilus contact in the northern plains (~98%) follows two distinct topographic levels: ~–3,900 m and ~–3,600 m.

Origin and Evolution of the Vastitas Borealis Formation in the Vicinity of Chryse and Acidalia Planitiae, Mars
We test the hypothesis that the Vastitas Borealis Formation formed through the burial, compaction, and expulsion of mud derived from the major outflow channels.

Ponding, Draining and Tilting of the Cerberus Plains; a Cryolacustrine Origin for the Sinuous Ridge and Channel Networks in Rahway Vallis, Mars
Observation: branching channel network, terrace-like forms, sinuous ridges. Interpretation: a rapidly filled and drained lake, probably deeply frozen in places.

The Aeolis Dorsa region, ~800 km east of Gale Crater, preserves a rich stratigraphy of inverted fluvial deposits, including meander deposits and alluvial fans.
3:30 p.m. Goudge T. A. * Aureli K. L. Head J. W. Mustard J. F. Fassett C. I.  
*Candidate Closed-Basin Lakes on Mars: Insights into Timing and Intensity of Fluvial Activity [1190]*  
Detailed analyses of candidate closed-basin lakes on Mars indicate young, transient, and low-intensity fluvial activity for the majority of studied basins.

3:45 p.m. Keszthelyi L. * Jaeger W. Dundas C. Bray V. Sutton S.  
Enigmatic Features in Southern Elysium: Evidence for Subsurface Lava-Ice Interactions [2547]  
Strange features in southern Elysium Planitia are a puzzlement. We suggest they form by mixing lava, ice, and dirt. You might not agree, but you want to see!

4:00 p.m. Soare R. J. * Conway S. J. Gallagher C. Balme M. R. Dohm J. M.  
Pre- and Post-Mantle Periglaciation in Argyre Planitia, Mars [1218]  
New evidence of periglacialism in Argyre Planitia including gelifluction lobes and non-sorted/sorted polygons separated stratigraphically by an “ice-rich” mantle.

4:15 p.m. Scanlon K. E. * Head J. W.  
The Recession of the Dorsa Argentea Formation Ice Sheet: Geologic Evidence and Climate Simulations [2247]  
We use fluvial fluxes and ice paleotopography calculated from glacial features in the DAF with GCM simulations to examine the climate in which the DAF formed.

4:30 p.m. Kerber L. * Forget F. Wordsworth R.  
The Marginal Case for Sulfur-Driven Warming in the Early Martian Atmosphere [2666]  
Can sulfur warm much? It depends on the details/But not so likely.

4:45 p.m. Wordsworth R. D. * Kerber L. Pierrehumbert R. T. Forget F. Head J. III  
Comparison of Warm, Wet and Cold, Icy Scenarios for Late Noachian Mars in a 3D General Circulation Model [1486]  
We present a global 3-D modeling comparison between warm, wet and cold, icy scenarios for early Mars. We discuss implications for H₂O transport to Gale Crater.