

PRINT ONLY: MARS

Barata T. Pina P. Saraiva J. Alves E. I. Machado A. Vaz D. A. Bandeira L. Ori G. G.
[*The Camel Project — Characterization and Classification of Dune Fields on Mars Based on Earth*](#) [#1141]

Two Portuguese research groups together with one Italian group will develop a methodology to automatically delineate and extract dimensional and morphological features of dune fields in images of the martian surface.

Centeno J. D. de Pablo M. A.

[*Preliminary Analysis of Surface Temperature in the Depression at the Lower NW Flank of Hecates Tholus Volcano, Mars*](#) [#1097]

In search for evidence of glacial ice in Hecates Tholus slopes, we have tested the use of THEMIS-derived brightness temperature record (BTR) data in order to analyze surface temperature.

Coleman N. M.

[*Megaflow Erosion on Mars — How a Lava-Filled Crater Became a Mesa*](#) [#1117]

A round mesa exists on the floor of the Elaver Vallis outflow channel. How was the mesa formed in this zone of intense erosion? I theorize the mesa began as a crater that filled with basaltic lava, then later was exhumed and eroded by a megaflood.

Guallini L. Lauro S. Marinangeli L. Pettinelli E. Seu R.

[*SHARAD Analysis of Promethei Lingula \(Mars\): Evidences of Angular Unconformities and Possible “Crevasse-Like” Structures Within South Polar Layered Deposits*](#) [#1412]

We observed angular unconformities and crevasse-like structures within SPLD in Promethei Lingula through SHARAD. Unconformities are consistent with two stratigraphic units, divided by one regional hiatus. Possible crevasses suggest past ice flow .

Hobbs S. W. Paull D. Clark J. D. A.

[*What Lake George Can Tell Us About Martian Gullies*](#) [#1101]

We analysed the morphology of gullies and debris flows within a fresh martian crater located in Noachis Terra and compared them to four gullies in Lake George, Australia. Evidence of liquid water erosion was observed at both sites.

Jiang Y. Hsu W.

[*In Situ U-Pb Geochronology of Baddeleyite in the Enriched Lherzolitic Shergottite Grove Mountains \(GRV\) 020090*](#) [#1741]

GRV 020090 is a new geochemically enriched lherzolitic shergottite after RBT 04261/04262. In situ U-Pb dating of baddeleyite demonstrates that shergottites have young crystallization age.

Leppänen L. I. Kostama V. -P. Raitala J.

[*Oval Structures on the Floor of Hellas Basin, Mars*](#) [#1784]

Observing locations, structures, and positions of the Hellas floor ovals, depth of the ovals can be estimated. This information may be used to determine the formation mechanisms of the oval structures.

Martin-Torres F. J. Moyano-Camero C. E. Trigo-Rodriguez J. M.

[*Evolution of Mars Atmospheric Pressure and Temperature Modeling and Constraints from Meteorites*](#) [#2840]

We have developed a 1D model of the evolution of martian mass, near surface temperature and pressure considering the main production and loss processes of Mars atmosphere and the radiative conditions on Mars.

Morley J. G. Lin N. Muller J-P. Shin D. Paar G.

[*PRoGIS: A Web Tool to Understand and pProcess Mars Rover Imagery in a Planetary Context*](#) [#2896]

The PRoGIS system described below is an output from an EU FP7 project, PRoVisG (Planetary Robotics Vision Ground processing). ProGIS provides access to MER rover data, photogrammetric processing, and viewing of data in a planetary context.

Moyano-Camero C. E. Trigo-Rodriguez J. M. Martin-Torres F. J. Llorca J.

[*Martian Meteorites: Reflectance Properties, Atmosphere-Implantation Ages, and the Climatic Evolution of Mars*](#) [#1132]

SNC meteorites are the only martian samples available to be studied in terrestrial laboratories. We will use them to corroborate an evolutionary climatic model for Mars. UV to visible reflectance spectra of Nakhla and Zagami are also presented.

Nussbaumer J. W.

[*Elongated Deposits in Southern Elysium Planitia, Mars*](#) [#1208]

In the Elysium Planitia region, deposits have elongated elevations that resemble terrestrial drumlins or yardangs. Drumlins and drumlin clusters are glacial landforms that have been extensively studied. In contrast, Yardangs are formed by wind.

Papike J. J. Burger P. V. Shearer C. K. Jr. McCubbin F. M. Elardo S. M.

[*Experimental Martian Eclogite with a QUE 94201 Composition*](#) [#1010]

High-pressure techniques were used to synthesize a martian eclogite based on the composition of martian meteorite QUE 94201. The resultant eclogite may be representative of martian melts whose ascent has been arrested in the upper mantle.

Pedersen G. B. M. Head J. W. III

[*Evidence of Complex Ice-Volcano Interactions in the Transition Zone Between Elysium Rise and Utopia Basin*](#) [#1169]

We report on morphologic evidence of a complex succession of ice-volcano interactions in the Galaxias region, Mars, and reconsider the emplacement properties of volcanoclastic outflow deposit under martian conditions.

Roush T. L. Maturilli A. Helbert J. Mannstein H.

[*Optical Constants of Eyjafjallajökull Volcanic Ash: Analogs for Mars*](#) [#1464]

We estimate optical constants of Eyjafjallajökull volcanic ash as analogs for Mars ash deposits.

Soare R. J. Conway S. J. Pearce G. D. Costard F.

[*Ice-Enriched Loess and the Formation of Periglacial Terrain in Mid-Utopia Planitia, Mars*](#) [#1311]

Landforms suggestive of periglacial processes are commonplace in mid-Utopia Planitia, Mars. They form syngenetically in ground-ice comprised of loess transported by katabatic wind from the NPLDs and enriched by ice through the thaw-freeze cycling of obliquity-driven precipitation.

Valenciano A. de Pablo M. A.

[*Geological Cartography of Inner Materials of an Impact Crater on Nepenthes Mensae, Mars*](#) [#1038]

We present the geological map and a brief description of the materials, its geological history and an approach to their astrobiological and exopaleontological implications from sedimentary materials located into impact crater, in Nepenthes Mensae, Mars.

Zent A. P. Hecht M. H. Hudson T. L. Wood S. E. Chevrier V. F.

[*A Revised Calibration Function for the TECP Humidity Sensor of the Phoenix Mission*](#) [#2846]

A revised calibration function for the RH sensor on the Phoenix mission TECP is presented.

de Pablo M. A. Centeno J. D.

[*Geomorphological Map of the Lower NW Flank of Hecates Tholus Volcano, Mars*](#) [#1098]

We present our 1:100,000-scale geomorphological map of the NW flank of Hecates Tholus volcano, Mars, by the use of CTX images and HRSC-derived DTM. This map will allow us to study in detail the geology and glacial history of this volcano.