

Friday, March 27, 2009
MARS: VOLCANISM
8:30 a.m. Waterway Ballroom 4

Chairs: Tracy Gregg
 Karen Stockstill-Cahill

- 8:30 a.m. Williams D. A. * Greeley R. Manfredi L. Ferguson R. L. Combe J.-Ph. Poulet F. Pinet P. Rosemberg C. Clenet H. McCord T. B. Raitala J. Neukum G.
[The Circum-Hellas Volcanic Province, Mars: Detailed Area-Age Estimates and Physical-Compositional Properties of the Surface](#) [#1401]
 We discuss new analyses for terrain in and around the Circum-Hellas Volcanic Province on Mars, providing new estimates of size and age of the province, and information on its physical-compositional properties.
- 8:45 a.m. Gregg T. K. P. * de Silva S.
[Tyrrhena Patera and Hesperia Planum, Mars: New Insights \(and Old Interpretations\) from High-Resolution Imagery](#) [#1700]
 We present our efforts to constrain the lithologies of Tyrrhena Patera flank materials and the ridged plains of Hesperia Planum using MOC and HiRISE images.
- 9:00 a.m. Kortenienmi J. * Raitala J. Aittola M. Ivanov M. Öhman T. Kostama V.-P. Hiesinger H.
[Evidence for Dike Swarms on the Eastern Hellas Rim, Mars](#) [#2126]
 We present evidence for extensive dike systems on the Hadriaca Patera volcano on the east Hellas rim and in the volcanic plains south of it, near the outflow channels, and hypothesize on what controls their distribution and orientation.
- 9:15 a.m. Carter L. M. * Campbell B. A. Holt J. W. Phillips R. J. Putzig N. E. Okubo C. H. Seu R. Biccari D.
[SHARAD Observations of Lava Flow Fields West of Ascraeus Mons](#) [#1954]
 SHARAD detects subsurface interfaces associated with the distal parts of smooth flows northwest of Ascraeus Mons. The dielectric properties of these flows are consistent with basaltic lavas.
- 9:30 a.m. Baptista A. R. * Mangold N. Zimbelman J.
[Origin and Evolution of Long Lobate Lava Flows on Syria Planum, Mars](#) [#2090]
 We identified and described a shield volcano, Volcano A, in Syria Planum, Mars, which is the origin of long lobate lava flows placed in a complex plains-style volcanic region.
- 9:45 a.m. Richardson P. W. * Bleacher J. E. Glaze L. S. Baloga S. M.
[The Relationship Between Lava Fans and Tubes on Olympus Mons in the Tharsis Region, Mars](#) [#1527]
 Lava fans and tubes were mapped on the flank of Olympus Mons. 82% of the fans were associated with lava tubes. The fan locations are not consistent with a random Poisson distribution, suggesting the possibility of more than one formation mechanism.
- 10:00 a.m. Kerber L. * Head J. W. III
[The Age of the Medusae Fossae Formation: Reassessment Using Lava Flow Cast and Mold Contacts](#) [#2235]
 We reassess the age of the Medusae Fossae Formation using evidence from ancient contacts between the formation and adjacent lava flows. These relationships add stratigraphic information and suggest a Hesperian age for some parts of the formation.

- 10:15 a.m. Platz T. * McGuire P. C. Münn S. Cailleau B. Dumke A. Neukum G. Procter J. N.
[*Growth and Destruction Cycles and Eruption Styles at Tharsis Tholus, Mars*](#) [#1522]
In the >3.6 Gyrs of volcanic activity at Tharsis Tholus, the edifice experienced multiple volcano-tectonic events. The present-day edifice is characterised by destruction and re-growth cycles also causing the locus of activity to be shifted across the volcano.
- 10:30 a.m. Stockstill-Cahill K. R. * Lucey P. G. Taylor G. J. Blake D.
[*Thermal Emission Measurements of Foidite Rocks: Possible Martian Lithologies*](#) [#2061]
We collected thermal infrared spectra of the Honolulu volcanic rock suite to assess the significance and effect of unmixing spectra of silica-undersaturated rocks without feldspathoid spectra.
- 10:45 a.m. Poulet F. * Langevin Y. Le Roux M. Mangold N. Bibring J.-P. Gondet B.
[*Mars: Identification, Mapping and Modal Mineralogy of Low-Calcium Pyroxene-rich Deposits*](#) [#1555]
We present a systematic analysis of low calcium pyroxene-rich deposits on Mars as seen by OMEGA/MEx.
- 11:00 a.m. Farrand W. H. * Lane M. D. Edwards B. R.
[*Evidence of Mafic Volcanic Compositions Associated with Domes in Arcadia and Utopia Planitiae, Mars*](#) [#1268]
Domes occurring in Arcadia and Utopia Planitiae are examined with CRISM data and are found to be associated with high Ca pyroxene and are thus interpreted as basaltic volcanic domes.
- 11:15 a.m. Salvatore M. R. * Mustard J. F. Wyatt M. B. Murchie S. L. Barnouin-Jha O. S.
[*Assessing the Mineralogy of Acidalia Planitia, Mars, Using Near-Infrared Orbital Spectroscopy*](#) [#2050]
CRISM targeted observations of impact craters in Acidalia Planitia are examined. The identification of near-surface olivine and pyroxene supports theories that this region is primarily basaltic with limited surface alteration.
- 11:30 a.m. Stanley B. D. * Hirschmann M. M. Withers A. C.
[*CO₂ Solubility in Martian Basalts and Applications to Atmospheric Evolution*](#) [#1952]
We investigate the solubility of carbon dioxide in martian analogue basaltic melts at 2.0 GPa to constrain the magmatic outgassing fluxes of carbon dioxide during martian atmospheric evolution.