

**Thursday, March 26, 2009**  
**EXPLORING THE DIVERSITY OF LUNAR LITHOLOGIES WITH**  
**SAMPLE ANALYSES AND REMOTE SENSING**  
**3:00 p.m. Waterway Ballroom 4**

**Chairs:** Paul Lucey  
Allan Treiman

- 3:00 p.m. Lucey P. G. \* Cahill J. T. S.  
[\*The Composition of the Lunar Surface Relative to Lunar Samples\*](#) [#2424]  
Remote sensing measurements of plagioclase abundance and Mg<sup>+</sup> (Mg/Mg + Fe) show a compositionally heterogeneous lunar surface with three major compositional types: ferroan anorthosites, Mg-suite and mare basalt.
- 3:15 p.m. Klima R. L. \* Pieters C. M. Dyar M. D.  
[\*Pyroxene Spectroscopy: Probing Composition and Thermal History of the Lunar Surface\*](#) [#2155]  
We present a quantitative analysis of spectra of eight lunar pyroxenes in the context of an extensive study of compositionally controlled synthetic pyroxenes to determine which spectral properties can be related to elevated amounts of Ti<sup>3+</sup> and/or Al<sup>3+</sup>.
- 3:30 p.m. Zeigler R. A. \* Korotev R. L. Jolliff B. L.  
[\*A Study of Apollo 16 Feldspathic Glasses: Locally Produced or Ballistically Deposited?\*](#) [#2533]  
This study presents the results of a coordinated major-, minor-, and trace-element study of Apollo 16 glasses, concentrating on the feldspathic glasses, in order to ascertain their likely provenances.
- 3:45 p.m. Cook D. L. \* Berger E. Faestermann T. Herzog G. F. Knie K. Korschinek G. Poutivtsev M. Rugel G. Serefiddin F.  
[\*<sup>60</sup>Fe, <sup>10</sup>Be, and <sup>26</sup>Al in Lunar Cores 12025/8 and 60006/7: Search for a Nearby Supernova\*](#) [#1129]  
We measured the short-lived nuclides <sup>60</sup>Fe, <sup>10</sup>Be, and <sup>26</sup>Al in two lunar cores (12025/28 and 60006/7). Live <sup>60</sup>Fe was detected in the topmost sample of 12025/8. Possible sources of the <sup>60</sup>Fe are discussed, including debris from a nearby supernova.
- 4:00 p.m. Shearer C. K. \* Burger P. V. Guan Y.  
[\*Vapor Element Transport in the Lunar Crust and Implications for Lunar Ore Deposits\*](#) [#1299]  
Troilite veins and replacement textures occur in numerous lunar samples. Here we differentiate between the several proposed transport models and thereby gain a clearer understanding of volatile element transport in the relatively dry lunar crust.
- 4:15 p.m. Fuller M. \* Weiss B. P.  
[\*The Paleomagnetic Record of the Apollo Samples\*](#) [#1192]  
Analyses of demagnetization characteristics of the Apollo samples give promise of distinguishing primary NRM carried by mare basalts from impact related shock magnetization and other contamination.