Thursday, March 23, 2017 **[R639]**
POSTER SESSION II: INSTRUMENT CONCEPTS II: SPECTROSCOPY
6:00 p.m. Town Center Exhibit Area

Angel S. M. Lamsal N. Barnett P. Allen A. Sharma S. K. et al. ***POSTER LOCATION #630***
A Miniature Spatial Heterodyne UV Raman Spectrometer for Planetary Exploration: Proof of Principle for SmallSat Standoff Operations Using a Cell-Phone Detector **[#1595]**
A miniature SHRS Raman spectrometer is demonstrated using a standard cell-phone as the detector and imaging optics, compatible with a 1U SmallSat architecture.

Abedin M. N. Bradley A. T. Misra A. K. Osmundsen J. Bai Y. et al. ***POSTER LOCATION #631***
Standoff Ultra-Compact Micro-Raman Sensor **[#1150]**
We develop an innovative Standoff Ultra-Compact Raman (SUCR) instrument that would solve some of the limitations of traditional micro-Raman systems.

Egan M. J. Sharma S. K. Angel S. M. ***POSTER LOCATION #632***
Remote Sensing with a Spatial Heterodyne Raman Spectrometer for Mineralogical Analysis at 5 Meters **[#1840]**
A new telescopic spatial heterodyne Raman spectrometer has been used to measure Raman spectra of carbonate, sulfate, and silicate minerals at 5 m distance.

Wiens R. C. Newell R. Clegg S. M. Sharma S. K. Misra A. et al. ***POSTER LOCATION #633***
The SuperCam Remote Raman Spectrometer for Mars 2020 **[#2600]**
The SuperCam remote Raman spectrometer for the NASA Mars 2020 rover has an advanced design that improves spectral resolution while increasing light throughput.

Beyssac O. Gauthier M. Fau A. Bernard S. Benzerara K. et al. ***POSTER LOCATION #634***
Nanosecond Time-Resolved Raman and Fluorescence Spectroscopy: Insights for Mineral and Organics Characterization **[#1545]**
A new time-resolved Raman and fluorescence spectroscopy is used to characterize mineral and organic phases relevant to in situ exploration of Mars.

Heffern L. E. Burks M. T. Lawrence D. J. Goldsten J. O. Peplowski P. N. ***POSTER LOCATION #635***
Initial Characterization of the GeMini Plus, a High-Resolution Gamma-Ray Spectrometer for Planetary Composition Measurements **[#2215]**
The APL/LLNL GeMini Plus, a high-heritage gamma-ray spectrometer, has been assembled in the laboratory and is currently undergoing initial characterization.

Lawrence D. J. Burks M. T. Do D. H. Fix S. Goldsten J. O. et al. ***POSTER LOCATION #636***
The GeMini Plus High-Purity Ge Gamma-Ray Spectrometer: Instrument Overview and Science Applications **[#2234]**
GeMini Plus can make measurements of planetary surface compositions. Applications include measurements of 16 Psyche, Titan, as well as Phobos and Deimos.

Trainer M. G. Brinckerhoff W. B. Castillo M. E. Danell R.
Grubisic A. et al. ***POSTER LOCATION #637***
Laser Desorption Mass Spectrometry on Titan **[#2317]**
Surface organics / Abound on Titan. But which? / Zap with a laser!

Schaible M. J. Dukes C. A. Hutcherson A. C. Lee P. Johnson R. E. ***POSTER LOCATION #638***
Solar Wind Sputtering Rates of Small Bodies and Ion Mass Spectrometry Detection of Secondary Ions **[#2973]**
Solar wind sputtering fluxes are calculated and it is shown that ion detection can be used to determine the composition and geologic history of small bodies.

Maurice S. Jacob X. Couvert L. Mimoun D. Wiens R. et al. ***POSTER LOCATION #639***
Acoustic Recording of LIBS Analyses in Preparation for Mars 2020 **[#2647]**
The SuperCam instrument on Mars 2020 includes a microphone to support the LIBS investigation of Mars.

Cho Y. Cohen B. A. ***POSTER LOCATION #640***
The Potassium–Argon Laser Experiment (KArLE): Design Concepts **[#1118]**
KArLE is intended to yield in situ geochronology data and enhance functionality of existing flight instruments by using LIBS, MS, and microimaging instruments.

Lepore K. H. Breves E. A. Dyar M. D. Bender S. C. Tokar R. L. ***POSTER LOCATION #641***
Laser-Induced Breakdown Spectroscopy of Rock Powders Performed at Variable Angles of Ablation and Collection **[#1122]**
Multiple sampling geometries and a diverse set of rock types are used to quantify variability in LIBS spectra due to changes in ablation and collection angle.

Ytsma C. R. Dyar M. D. Lepore K. H. Wagoner C. M. Hanlon A. E. ***POSTER LOCATION #642***
Normalization and Baseline Removal Effects on Univariate and Multivariate Hydrogen Prediction Accuracy Using Laser-Induced Breakdown Spectroscopy **[#2979]**
Hydrogenis quantified from LIBS data using univariate and multivariate analyses.

Schröder S. Rammelkamp K. Cousin A. Vogt D. Meslin P.-Y. et al. ***POSTER LOCATION #643***
LIBS Analysis of Perchlorates and Chlorides in Soil in Mars-Like Conditions **[#2295]**
Different types of LIBS data (ChemCam-like and high-resolution Echelle) are tested for their suitability to identify perchlorates and chlorides in martian soil.

Rammelkamp K. Vogt D. Schröder S. Hübers H.-W. ***POSTER LOCATION #644***
Investigation of Normalization Methods Using Plasma Parameters for Laser Induced Breakdown Spectroscopy (LIBS) Under Simulated Martian Conditions **[#2096]**
Laser Induced Breakdown Spectroscopy is a powerful tool for planetary explorations. We want to find a normalization method by using plasma parameters.

Lepore K. H. Mackie J. Dyar M. D. Ytsma C. Fassett C. I. ***POSTER LOCATION #645***
Unreported Emission Lines of Ce, La, Pb, Rb, Se, Sr, Y, and Zr Detected Using Laser-Induced Breakdown Spectroscopy **[#1293]**
Emission lines resulting from Ce, La, Pb, Rb, Se, Sr, Y, and Zr reported in laser-induced breakdown spectra of doped samples.

Beegle L. W. Bhartia R. Carrier B. DeFlores L. Abbey W. et al. ***POSTER LOCATION #646***
The SHERLOC Investigation **[#2839]**
SHERLOC is an arm mounted instrument on the Mars 2020 payload that combines imaging with UV resonance Raman and native deep UV fluorescence spectroscopy.

Sehlke A. Mirmalek Z. Cohen B. Kobs Nawotniak S. E.
Hughes S. S. et al. ***POSTER LOCATION #647***
The Ultimate Geologic Tricorder? Handheld Science Instruments and Requirements for Future Human Exploration Missions on Other Worlds **[#2451]**
We deployed a VNIR, FTIR, and XRF spectrometer in the field and assessed the requirements to incorporate these instruments in future human exploration missions.

Blake D. F. Sarrazin P. Bristow T. Downs R. Gailhanou M. et al. ***POSTER LOCATION #648***
Progress in the Development of MapX, a Full-Frame Imaging X-Ray Spectrometer for In Situ Analysis of Planetary Surfaces **[#1370]**
Progress in the development of MapX, a full-frame X-ray imaging spectrometer for landed planetary missions on rocky planets and icy planetesimals is described.

Schofield R. E. Hurowitz J. A. Parise J. B. Zhong H. Allwood A. et al. ***POSTER LOCATION #649***
Using Diffraction Peaks in X-Ray Fluorescence Spectra from the Mars 2020 PIXL Instrument for Mineral Phase Identification **[#2955]**
It may be possible to use diffracted X-rays in PIXL's XRF spectra to distinguish mineral phases that can't be identified from chemical composition alone.

Thieme J. Hurowitz J. A. Dooryhee E. Fogelqvist E. Gregerson J. et al. ***POSTER LOCATION #650***
Elemental Composition of Analogs to Samples Returned from Mars Using X-Ray Fluorescence Imaging at the National Synchrotron Light Source II at Brookhaven National Laboratory **[#2265]**
Results of XRF imaging and XANES spectroscopy at the SRX beamline of NSLS-II applied to analogs to Mars rock samples will be presented.

Hurowitz J. A. Thieme J. Bai J. Dooryhee E. Fogelqvist E. et al. ***POSTER LOCATION #651***
Preparing for Mars Sample Return: In-Situ X-ray Diffraction Measurements Using the National Synchotron Light Source-II at Brookhaven National Laboratory **[#2048]**
We show that X-ray diffraction measurements of rock samples returned from Mars can be made while they are still encapsulated in their Ti-alloy collection tubes.

Doloboff I. J. Paez V. M. Eshelman E. J. Hara E. Wanger G. et al. ***POSTER LOCATION #652***
Multi-Instrument Database (MIND): Cloud-Based Database System for DUV Raman and Fluorescence Research and Flight Instrument Engineering Telemetry **[#2611]**
The Multi-Instrument Database (MIND) project, funded by the NASA Astrobiology Institute (NAI), supports laboratory research and mission development operations.