Thursday, March 23, 2017 **[R641]**
POSTER SESSION II: INSTRUMENT CONCEPTS IV: IN SITU AND DRILLING TOOLS
6:00 p.m. Town Center Exhibit Area

Whitaker T. J. Anderson F. S. Levine J. ***POSTER LOCATION #662***
CDEX/CODEX Instrumentation for In-Situ Dating on the Moon and Mars **[#2328]**
We describe the primary and support instrumentation required to provide accurate in-situ dating on the Moon and other extraterrestrial bodies.

Anderson F. S. Levine J. Smyth N. J. Tebolt M. A. Whitaker T. J. ***POSTER LOCATION #663***
Multianalytical Science with the CODEX In-Situ Dating Spectrometer **[#1246]**
Lead-lead isochrons / Alongside Rb-Sr / Dating in situ.

Anderson F. S. Whitaker T. J. Levine J. ***POSTER LOCATION #664***
How to Acquire a Successful In-Situ Date: CODEX Mission Design **[#2957]**
In this abstract, we describe our approach for optimizing CODEX dating results for the Moon.

Beck S. M. Mu X. Chavez-Pirson A. Anderson F. S. ***POSTER LOCATION #665***
Development and Maturation of the Fiber-LASER Subsystem for CODEX **[#3001]**
We describe work to develop the novel laser subsystem of the CODEX Chemistry, Organics, and Dating Experiment envisioned for landed lunar and Mars missions.

Carpenter J. Fisackerly R. ***POSTER LOCATION #666***
PROSPECT: ESA's Package for Resource Observation and In-Situ Prospecting for Exploration, Commercial Exploitation, and Transportation **[#2514]**
PROSPECT will perform chemical and isotopic analysis of lunar polar volatiles. First flight for the system will be on the Luna-27 mission planned for 2021.

Barber S. J. Smith P. H. Wright I. P. Abernethy F. Anand M. et al. ***POSTER LOCATION #667***
ProSPA: The Science Laboratory for the Processing and Analysis of Lunar Polar Volatiles Within PROSPECT **[#2171]**
ProSPA will identify, quantify, and isotopically characterize samples drilled by ProSEED as part of PROSPECT, an ESA contribution to the Luna-27 mission.

Schmitz N. Donaldson Hanna K. L. ***POSTER LOCATION #668***
Wavelengths Selection for LED-Illuminated Multispectral Imaging on PROSPECT for Luna-27 **[#1904]**
Fly me to the Moon / Dark surfaces I shall find / But colours I seek.

Curran N. M. Joy K. H. Füri E. Carpenter J. PROSPECT User Group ***POSTER LOCATION #669***
Understanding Lunar Regolith Noble Gas Budgets: Enabling Science from ESA PROSPECT Package **[#2243]**
We discuss the science enabled by ProsPA measurements of noble gases and outline our database of reported noble gas measurements from lunar regolith samples.

Mortimer J. I. Anand M. Verchovsky A. B. Nicoara S.
Greenwood R. C. et al. ***POSTER LOCATION #670***
Preparing and Characterizing Carbonaceous Chondrite Standards for Verification of ESA's 'PROSPECT' Package **[#2113]**
Preparation and characterization of standard materials using large stones of Murchison and Allende to verify the performance of ProSPA (ESA's PROSPECT package).

Donaldson Hanna K. L. Martin D. J. P. Joy K. H. Carpenter J. D.
Bowles N. E. et al. ***POSTER LOCATION #671***
Characterization of Lunar Highlands Regolith Simulants in Preparation for Drilling and Sampling into the Polar Regolith by ESA's PROSPECT Package **[#1717]**
Here we present the characterization of two lunar highlands regolith simulants NU-LHT-2M produced by the USGS and NU-LHT-2M produced by Zybek Advanced Products.

Formisano M. De Sanctis M. C. De Angelis S. Carpenter J. D. ***POSTER LOCATION #672***
PROSPECTing the Moon: Numerical Simulations of Temperature and Sublimation Rate on a Regolith Cylindric Sample **[#1948]**
We performed numerical simulations for the mission PROSPECT in order to predict ice sublimation rates of a cylndrical regolith sample of the lunar south pole.

McClean J. B. Merrison J. P. Iversen J. J. Madsen M. B.
Araghi K. et al. ***POSTER LOCATION #673***
Testing the Mars 2020 Oxygen In-Situ Resource Utilization Experiment (MOXIE) HEPA Filter and Scroll Pump in Simulated Mars Conditions **[#2410]**
Dust is a risk to in-situ resource utilization of CO_2 on Mars. The results of filter and pump testing are presented.

Pinet P. C. Daydou Y. D. Rospabé M. Ceuleneer G.
Ehlmann B. L. et al. ***POSTER LOCATION #674***
Long Distance Hyperspectral Imaging Panorama Over the Dunitic Transition Zone/Moho Contact of the Oman Ophiolite: In Situ Testing and Scientific Assessment of a New Advanced Sensor **[#1868]**
Use of hyperspectral imaging for landscape lithology mapping/mineralogical reconnaissance for terrestrial/planetary in situ exploration is demonstrated.

Cattani F. Gillot P.-Y. Devismes D. Courtade F. Hildenbrand A. et al. ***POSTER LOCATION #675***
Checking, With a Set of Terrestrial Analogue Rock Minerals, a System for Possible In-Situ K-Ar Dating at the Surface of Mars **[#1864]**
In order to develop a technique for in-situ K-Ar dating on Mars, we have selected and qualified a set of new mineral standards.

Edmunson J. Gaskin J. A. Doloboff I. J. ***POSTER LOCATION #676***
Unveiling the Mysteries of Mars with a Miniaturized Variable Pressure Scanning Electron Microscope (MVP-SEM) **[#2811]**
Scanning the surface / Answering questions at Mars / With a SEM.

Paulsen G. Zacny K. Kim D. Mank Z. Wang A. et al. ***POSTER LOCATION #677***
TRL6 Lunar Resource Prospector Drill **[#1362]**
We present details of the TRL6 Lunar Resource Prospecting drill designed to capture volatile rich samples from approximately 1 m depth.

Zacny K. Indyk S. Spring J. Chu P. Thomas T. et al. ***POSTER LOCATION #678***
Air Dust Removal Tool **[#1365]**
Air Dust Removal Tool is a new approach for cleaning dust off rocks on planets with atmosphere. The tool was successfully tested in Mars chamber.

Zacny K. Indyk S. Lorenz R. ***POSTER LOCATION #679***
Integrated Sampling System (ISS) for Ocean Worlds **[#1366]**
We describe a 30 cm sample acquisition drill and pneumatic sample delivery for future missions to Ocean Worlds such as Europa and Titan.

Rehnmark F. Zacny K. Hall J. Cloninger E. Hyman C. et al. ***POSTER LOCATION #680***
Sample Acquisition Drill for Venus In Situ Explorer (VISE) **[#1367]**
We present development and testing of Venus drill for New Frontiers Venus In Situ Explorer (VISE).

Goordial J. Zacny K. Whyte L. Spring J. ***POSTER LOCATION #681***
Evaluating Core Contamination During Drilling Under Mars-Like Conditions **[#1781]**
We present results from investigation of contamination transfer from coring bit to rock core under Mars conditions.

Eshelman E. Bhartia R. Wanger G. Willis M. Carrier B. et al. ***POSTER LOCATION #682***
Wireline Analysis Tool for Subsurface Observation of Northern Ice Sheets (WATSON) **[#2326]**
WATSON is a deep UV Raman and fluorescence instrument under development at JPL that is being integrated into an autonomous drill for organic detection.