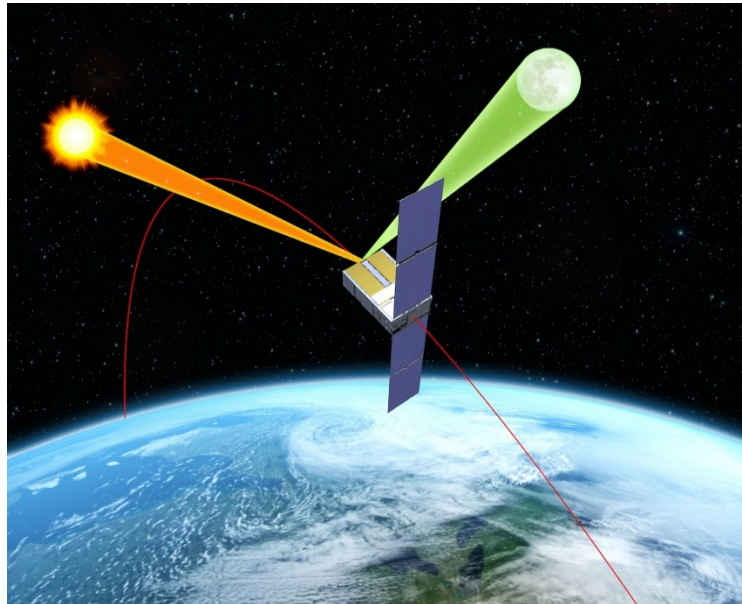


## Press Release: Resonon to partner with NASA to create a new lunar calibration standard.

July 30, 2021  
Bozeman, Montana, USA



(image courtesy of NASA LaRC, spacecraft image courtesy of Blue Canyon Technologies, LLC)

The ARCSTONE hyperspectral instrument was selected by NASA's Earth Science and Technology Office (ESTO) for their In-Space Validation of Earth Science Technologies (InVEST) program (Principal Investigator: Dr. Constantine Lukashin, NASA LaRC). Beginning in August of 2021, Resonon will collaborate on the design, build, calibration, and validation of the spaceflight instrument. That instrument will be integrated into a CubeSat, a small satellite (from Blue Canyon Technologies), and launched into Low Earth Orbit in Q4 of 2023. The ARCSTONE hyperspectral instrument will ultimately provide a new lunar calibration standard to be used by Earth-viewing satellite instruments.

By precisely measuring the lunar reflectance from Low Earth Orbit, ARCSTONE will enable the Moon to become an accurate calibration source for Earth-viewing satellite instruments. The ARCSTONE instrument will improve the spectral calibration of the Moon by a factor greater than 10. This will lead to improved understanding of complex terrestrial systems, such as weather and climate change, while also reducing the cost and complexity of future Earth-viewing satellite instruments by simplifying calibration of those instruments.

Resonon has already collaborated on two ground test prototypes of the ARCSTONE instrument which were funded by the NASA SBIR Program (Phases I, II, and II-E) and by the NASA ESTO IIP (Instrument Incubator Program).

According to Dr. Rand Swanson, Resonon CEO and co-founder, “The design of the ARCSTONE instrument combines several novel concepts to achieve this level of spectral calibration accuracy, including Resonon’s proprietary anamorphic hyperspectral technology.” He adds, “The Moon represents an incredibly-stable calibration source that is easily accessible to satellite instruments. Instead of bringing calibration sources along in the satellite, future Earth-viewing satellites will be able to take images of the Moon and use the data from ARCSTONE to calibrate their instruments. This will reduce cost AND improve accuracy in future imaging satellite programs.”

Resonon is collaborating on the project with NASA Langley Research Center, Quartus Inc., the Laboratory for Atmospheric and Space Physics (LASP), Blue Canyon Technologies, LLC., and NASA Goddard Space Flight Center.

## **RESONON**

Resonon develops complete hyperspectral imaging systems as well as custom vision solutions. Their hyperspectral imaging systems are used world-wide in many different research and industry applications, such as precision agriculture, environmental sciences, biotechnology, and remote sensing. Resonon also provides custom hyperspectral machine vision systems for automated sorting and quality control.

Resonon's office is in beautiful Bozeman, Montana. They can be reached by phone: 406-586-3356, email: [inquiry@resonon.com](mailto:inquiry@resonon.com), or by visiting their website: [www.resonon.com](http://www.resonon.com).