

Call for Papers

The AIAA Thermophysics Technical Committee is sponsoring a special session on **Sample Acquisition and Gas Processing Systems for Space Exploration**

AIAA SciTech 2022

January 3-7, 2022

Manchester Grand Hyatt

San Diego, California

This session is focused on the current diverse collection of instruments and mechanisms undergoing design and development for collection, processing and analysis of surface organic and atmospheric material from celestial bodies throughout the Solar system. Topics may include thermal fluid effects, heat transfer, and systems engineering related to the design and operation of such systems on a variety of celestial bodies including, but not limited to: Mars, Venus, Titan, Europa, Triton, and Enceladus.

Submissions are sought in the following technical areas:

- Sample acquisition techniques
- Gas Processing Systems
- Sample handling, preservation, and distribution of cryogenic surface material
- Systems for sample return to Earth
- Calibration methodologies and equipment
- Mechanism and instrument design for operation in extreme environments
- Simulation of surface conditions on celestial bodies for testing on Earth
- Studies and simulation of surface materials to be collected
- Enrichment of trace atmospheric gases
- Analysis, modeling, and verification testing of hardware

Extended abstracts of no less than 1,000 words are due June 1, 2021

Final manuscript is due December 2, 2021

Detailed abstract preparation instructions and policies can be found at

<https://www.aiaa.org/SciTech/presentations-papers/call-for-papers>

Make sure to select the “Sample Acquisition and Gas Processing Systems for Space Exploration” topic option under “Thermophysics” during submission

Please notify us if you are planning to submit an abstract. For more information contact one of the following organizers:

Dr. Peter Barfknecht

NASA Goddard Space Flight Center

Peter.Barfknecht@nasa.gov

Dr. Charles Malespin

NASA Goddard Space Flight Center

Charles.A.Malespin@nasa.gov