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High School Students and the Teachers in Space Program Partner with Innovative Test Solutions to Test Educational Satellite

The Unique Partnership Brings STEM Education and Business Together to Prepare a Satellite That Will Conduct Experiments in Outer Space

Schenectady, NY (October 28, 2021) –Gloversville High-Altitude Achievement Club students joined Innovative Test Solutions (ITS) and the [Teachers in Space Program](#) to test an educational satellite at the ITS Test Lab in Schenectady on Thursday, October 28.

The testing was done to ensure that the Serenity 3u CubeSat satellite (Serenity) that will be launched into orbit as part of the Teachers in Space program can handle the rigors of space. The satellite will allow experiments designed by Gloversville High School students to be conducted in outer space.

In addition to the satellite testing, ITS conducted a half-day educational program with students from the club, allowing them witness various materials tests as ITS works to foster an interest in engineering and STEM education with local high school and college students.

Lou Fiorini, Director of Operations, Innovative Test Solutions (ITS) said, “There is nothing more exciting for our staff than to see the minds of future innovators open and expand through real world exposure to science and technology. When Teachers in Space approached us to assist with this program, we jumped at the opportunity to bring our expertise in durability and integrity testing to the project. We were equally as excited to host some of the students at our facility to learn more about the engineering and materials testing we do, witness this specific testing first-hand and see how their work will translate into the ability to conduct real life space experiments.”

Elizabeth Kennick, President of Teachers in Space said, “The Teachers in Space program is very pleased to once again partner with ITS on a testing project that will help students grow and learn. At a time when many businesses are still struggling to recover from the pandemic and deal with staffing issues, ITS came through. Having their expertise is vital as the list of testing and certification requirements from Firefly Aerospace, the organization conducting the satellite launch, is extensive and the testing services they are graciously providing are critical. Having a partner with this aerospace expertise is key to making this project a reality.”

Chris Murphy, Director of High-Altitude Balloons for Teachers in Space and Science Department Head for Gloversville Middle School said, “The radiation experiment to be conducted by Serenity is the culmination of years of research by our students. The goal of our experiment is to develop radiation resistant materials to protect flight crews and passengers aboard airplanes who are exposed to high levels of atmospheric radiation. ITS’s reputation is well known throughout the aerospace world, and Capital District educational institutions are extremely fortunate to have such an amazing resource available locally.”

ITS performed shock and vibration testing on the Serenity 3u CubeSat satellite to determine how the satellite will withstand real-life situations and atmospheres. Students from Gloversville were on hand to observe the testing.

Serenity is part of the Teachers in Space program, whose purpose is to stimulate student interest in science, technology, engineering, and mathematics (STEM) by providing teachers with extraordinary space science teaching experiences as well as industry connections.

While in orbit, Serenity will gather data for radiation experiments devised by students in Gloversville High School's High Altitude Achievement program. Serenity will allow students and Ham radio operators to "ping" the satellite to receive packets of data including satellite health, battery charge, solar panel voltage, latitude and longitude information, and radiation levels.

About ITS: Innovative Test Solutions, Inc., is a full-service mechanical engineering and testing laboratory in Schenectady, N.Y. specializing in the mechanical behavior of structures and structural material with a particular emphasis in the areas of thermal barrier coatings (TBCs), vibration, fatigue, fracture mechanics, creep/rupture, and friction and wear.

About Teachers in Space: Teachers in Space, Inc., is a not-for-profit educational organization which stimulates student interest in science, technology, engineering, and mathematics (STEM) by providing teachers with extraordinary space science experiences and industry connections.

About the Gloversville High-Altitude Achievement Club: The Gloversville High-Altitude Achievement Club is a student run, project based, Sub Orbital balloon launching group from Gloversville High School. The club's objective is to study various aspects of the Earth's troposphere and stratosphere and to create experiments from real life questions and problems. The club is currently collaborating with Teachers in Space on several projects including a "cube Sat" flight into suborbital space on the Perlan Glider.

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