

# Direct Field Acoustic Noise (DFAN) Testing Master Class

Siemens DISW

Dayton T. Brown Bohemia, NY  
October 29<sup>th</sup> – 31<sup>st</sup> 2024



## Agenda:

- Spacecraft acoustic testing using traditional and new methods
- DFAN process overview
- Loudspeaker considerations for spacecraft acoustic testing
- DFAN test setup and instrumentation of a satellite, system overview, verification
- MIMO random control strategy
- Real DFAN test on a satellite model
- Hands-on learning using scaled DFAN setups
- Pre-test analysis: design control strategy
- Virtual pre-test analysis and demonstration
- Digital twin, as part of the DFAN process
- DFAN operational modal analysis
- Simcenter DFAN customer testimonials

## Join the 3-day live training Simcenter Direct Field Acoustic Noise (DFAN) Master Class Americas

This Master Class is a deep dive into the world of acoustically excited vibration testing. Theoretical presentations will be supported by live demonstrations of DFAN tests on a real structural model surrounded by an impressive tower of powerful loudspeakers. The DFAN master class is designed for the space, aviation, and defense testing community eager to expand their knowledge of acoustic testing and simulation.

## Perform a direct field acoustic noise test under expert supervision

Experts from MSI-DFAT, pioneers of direct field acoustic testing, together with the specialist in control and structural dynamics analysis software and hardware from Siemens will be there to coach and guide. Course participants will directly apply knowledge acquired throughout the course during hands-on learning experiences by performing tests on a scaled spacecraft model. Working in instructor-led small groups, participants in this workshop will be guided through physical tests and be advised on methods and best practices.

## Broaden professional networks in Aerospace and Defense

The DFAN Master Class also aims to expand participants' professional network and create an inspiring space where innovation happens. Meet professionals who share your interests and exchange testing experiences, insights and best practices.

## Meet our guest speakers

Leading experts on Direct Field Acoustic Noise testing will present an integrated approach to handling test preparation, test risk mitigation using digital twins, setup validation, test execution, test validation and result extraction to ensure safe and efficient acoustic testing environments.

**MSI-DFAT Services** is the leading provider of acoustic test services and products. Since it pioneered this technology 25 years ago, it has qualified over 200 spacecraft amongst which NASA's Artemis mission.

**REGISTER NOW**

**SIEMENS**

[siemens.com/simcenter](https://www.siemens.com/simcenter)

## Our Host

Dayton T. Brown, Inc  
1175 Church Street  
Bohemia, NY 11716  
(800) 837-8456



## Venue

DTB's Engineering & Test Division conducts tests on aerospace and defense systems, life support and survival equipment, and automobile, rail, transit, and other systems. Standalone engineering services include component and system evaluation, design and fabrication of specialized test equipment, field data acquisition, instrument calibration, design and failure analysis, preparation of test procedures, product improvement services, and reverse engineering services.

## Registration and Participation Fee

The registration participation fee for the 3-day Siemens master class is \$2,450 plus applicable taxes. Fee includes daily refreshments, lunch, networking social and all class material.

The number of participants is limited. Pre-approval is required for non-US citizens.

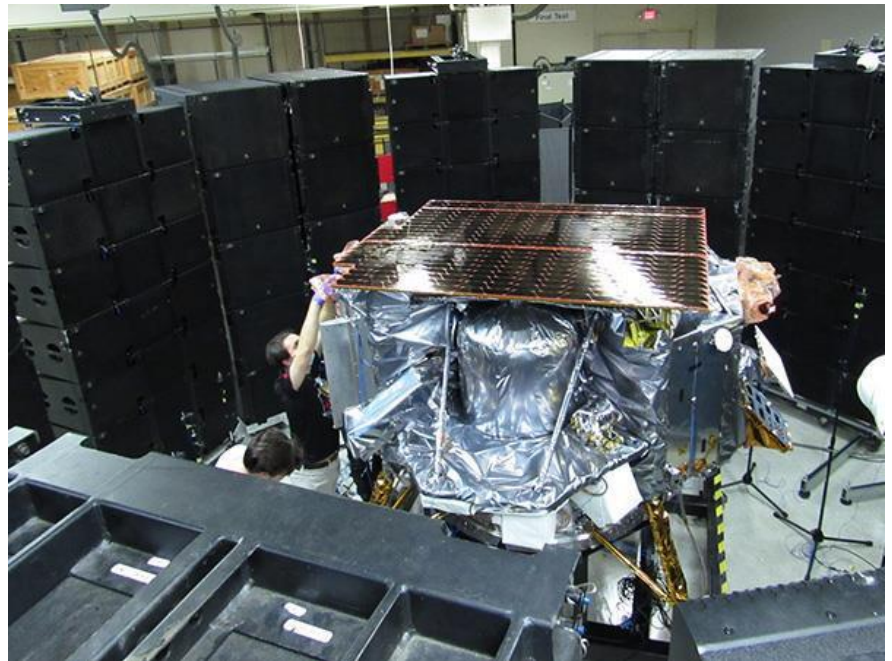
## Contact

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**[BOOK YOUR SEAT HERE](#)**

Hands-on learning opportunities will be available during the class, allowing participants to plan, set-up, and run tests by applying the methodologies discussed. Real-life application examples will be shared and demonstrated, providing practical insights into the implementation of advanced techniques for Space, Aviation and Defense industries.

Siemens Master Classes emphasize a hybrid approach to building on lectures with hands-on, practical exercises. Acoustic noise control testing is a crucial step in the product validation process, assuring that the component or assembly can withstand the in-situ operating conditions of its intended environment. Engineers must comply with all vibration qualification standards and environments to certify a wide range of devices of different scales and sizes, requiring safe, highly efficient, and flexible processes in place. Siemens Master Classes aim to help improve these processes by addressing these requirements in a learning environment designed to instill expert-level knowledge in each participant.



*Astrobotic Peregrine readies for direct field acoustic noise testing. Photo credit: Jimmy Kelly, Fight On Entertainment.*

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