Feynman
Aerospace

SPHERE: BUILDING THE FUTURE OF SPACE

What is the SPHERE Mission?

The **SPHERE mission** is a **6-month intensive mission** designed to immerse students in the world of advanced satellite engineering. This exclusive program will give students hands-on experience in satellite development, preparing them for real-world challenges and successes in the space industry.

An Exclusive Mission Yet to be Revealed
The SPHERE mission is an exciting, high-impact initiative, with specific mission goals and objectives kept under wraps to ensure a competitive advantage and an authentic mission experience. Accepted students will be part of an elite team that will uncover the mission's purpose, step-by-step, as they progress through the program

Limited to Only 30 Students
We are selecting only **30 highly motivated and talented students** for this program. Each participant will be assigned a critical role within a specialized subsystem team, where they will collaborate with peers and mentors to ensure the success of the mission. This ensures personalized attention, a challenging learning environment, and the chance to work on a sophisticated space mission.

Program Highlights:

- **6-Month Comprehensive Training** in satellite engineering and mission design.
- **Collaborative Work:** Join a team of only 30 handpicked students, working on different satellite subsystems.
- **Mentorship** from industry experts and professionals in aerospace engineering.

How to Apply:

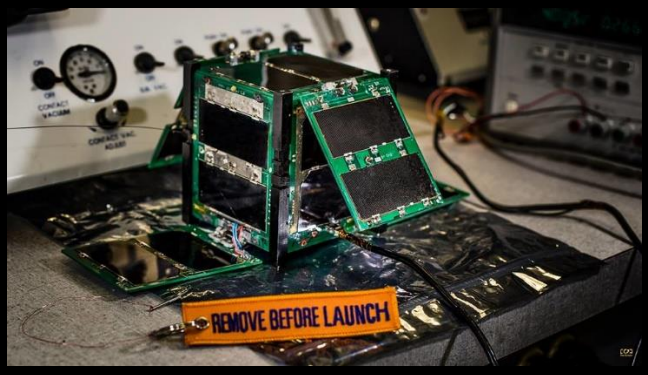
The SPHERE program has a highly selective application process. Only the most committed and capable students will be chosen to join this selective group. If you have a passion for space technology and the determination to succeed, we want to hear from you.

Step-by-Step Application Process:

1. **Submit Your Application**
   Complete the online application form and submit your **Letter of Motivation (LOM)**. The LOM should detail why you are interested in the program, what you hope to contribute, and your aspirations in the aerospace industry.
2. **Application Review**
   Our selection committee will carefully evaluate your application and LOM. We are looking for strong technical skills, a passion for space, and a collaborative mindset.
3. **Approval Notification**
   Successful applicants will receive an acceptance email and program details. You'll then be assigned to a specific satellite subsystem team.
4. **Program Begins**
   The program officially begins with an orientation, followed by 6 months of intensive training, hands-on development, and teamwork.

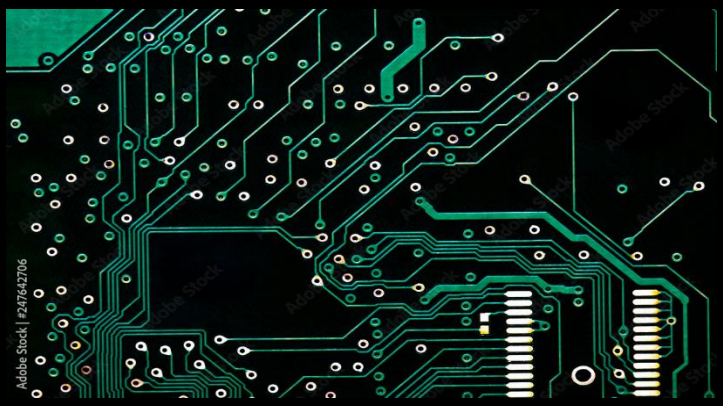
Satellite Subsystems: Choose Your Path in the SPHERE Mission

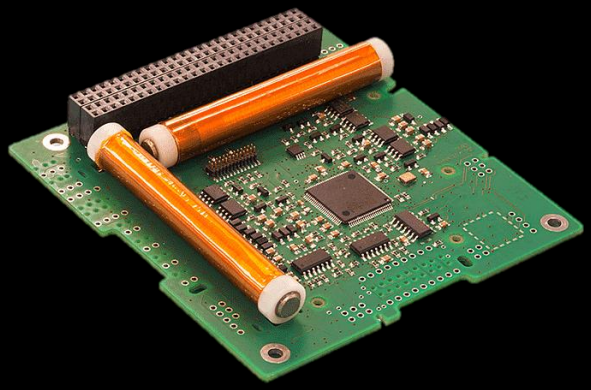
In the SPHERE program, each participant will have the chance to specialize in one of the essential subsystems that make up a functioning satellite. These subsystems are the backbone of satellite engineering, and as a SPHERE team member, you'll focus on a critical area, collaborating with peers and experts to prepare for a real-world mission. Here's an overview of the subsystems you can choose from:



1. **Payload-Systems**
   The payload is the heart of any mission, carrying the scientific instruments and sensors that will collect valuable data in orbit. Students in this team will work on integrating sensors and experiment components, ensuring they are securely mounted, calibrated, and functionally tested to withstand space conditions.

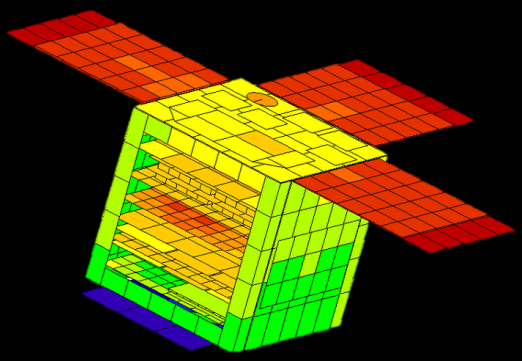
2. Power Management and Distribution
The power subsystem is responsible for generating, storing, and distributing energy throughout the satellite. As part of the power team, you'll work on solar panel configuration, battery integration, and power routing to ensure the satellite can operate smoothly and conserve energy in Low Earth Orbit (LEO).





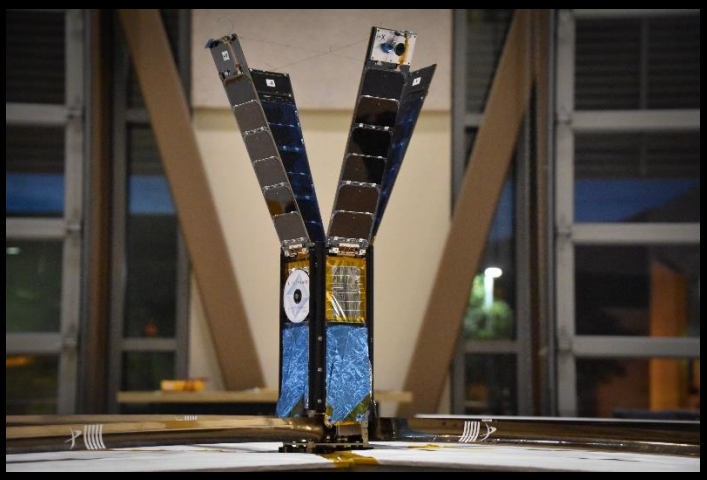
3. Attitude Determination and Control (ADCS)
The ADCS subsystem stabilizes and orients the satellite in space. This team focuses on control mechanisms, such as reaction wheels and magnetorquers, to maintain satellite position and direction. It's an exciting field for students interested in dynamics, control systems, and precision engineering.

4. Communications
The communications subsystem enables data exchange between the satellite and Earth. This team will work on designing and testing antennas, transmitters, and receivers, ensuring that mission data reaches ground control reliably and in real time.



5. Thermal Management
Thermal regulation is vital for satellite health, as extreme temperatures in space can impact operations. Students on this team will design insulation, radiators, and other components to maintain stable operating temperatures for sensitive onboard electronics.

6. Structural Design and Integration
This subsystem involves designing the satellite's physical structure to endure launch forces and maintain its integrity in orbit. Students in structural design will focus on CAD modeling, material selection, and vibration testing, ensuring the satellite's resilience through every stage of its journey.



7. Command and Data Handling (C&DH)
The C&DH subsystem processes commands from Earth and handles the satellite's data. Students in this team will configure the onboard computer, develop software for data processing, and manage memory to ensure reliable system functionality.

As a member of the SPHERE team, you'll apply your skills to one of these crucial subsystems, contributing to a mission that will operate in Low Earth Orbit and pave the way for future satellite advancements. With an anticipated launch in **Q2 2026**, SPHERE offers a rare opportunity to participate in the end-to-end preparation of a satellite, gaining skills and experience that will shape your career in aerospace engineering.

"Together, we're crafting the technology that will reach beyond the stars."