

# Mapping and Ocean Color Imager - MOCI

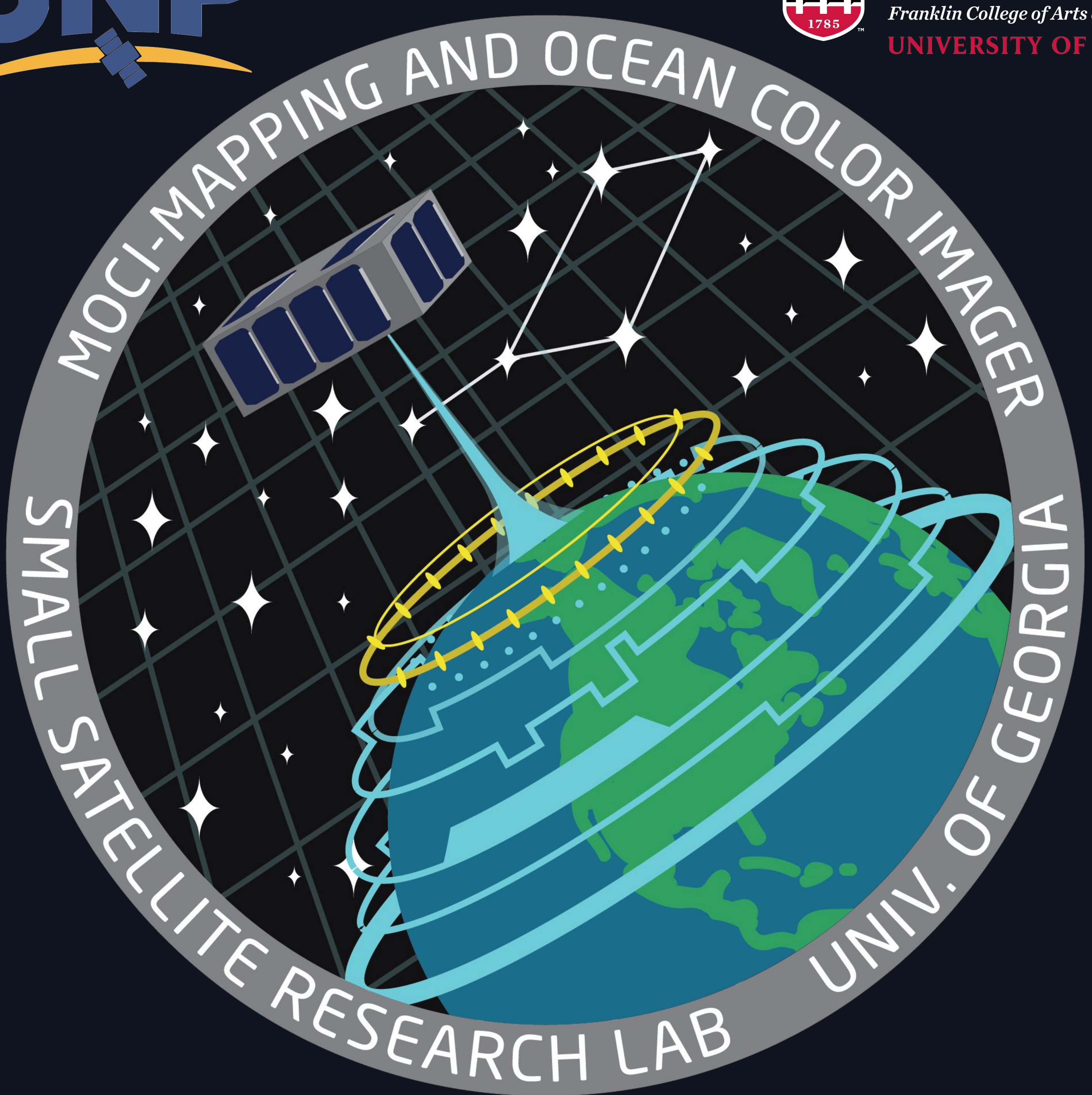


The **University of Georgia** Small Satellite Research Laboratory - **UGA SSRL**

## Mission Overview

The Mapping and Ocean Color Imager (MOCI) mission will acquire imagery of the Earth's surface from LEO and perform real time Structure from Motion (SfM) at a landscape scale. Efficient data compression, transmission, and SfM processing techniques of space based imagery will be performed on board the spacecraft.

3D models produced by the MOCI satellite will take the form of a Digital Surface Model (DSM) which will provide near real time terrain mapping capabilities for the AFRL and DoD. The MOCI mission will also identify and map coastal phenomena such as sediment plumes and algal blooms while training students in STEM related fields.



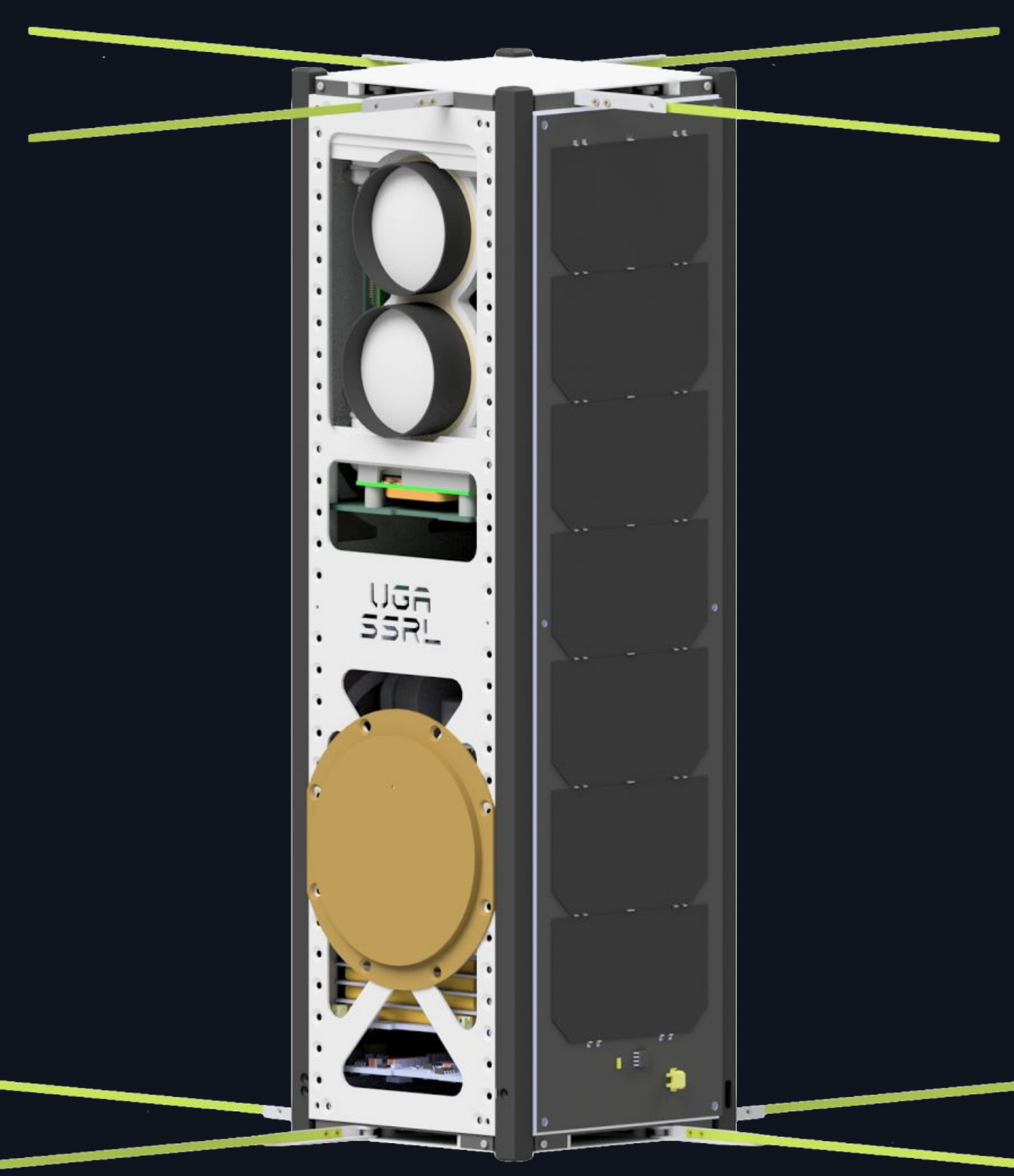
## Full Mission Success Criteria

1. MOCI shall generate a Digital Surface Model (DSM) within 1.281 sigma (80% accuracy) of existing DSM's;
2. Produce transmission/compression algorithm more efficient (demonstrated on orbit) than CCSD-LDC;
3. Identify the location and size of an algal bloom or sediment plume (located within one image) while tracking these parameters over the lifetime of the bloom/plume, approximately 1 month;
4. Acquire ten images per month of Sapelo Island test area over the lifetime of the mission.

## Programmatic Overview

The Mapping and Ocean Color Imager (MOCI) has competed PMR, PDR, and PMR2. The MOCI satellite is funded by the University Nanosat Program (UNP) and the Air Force Research Laboratory (AFRL).

MOCI will have a Flight Selection Review with the UNP in January to determine if the mission will fly.



## Concept of Operations

