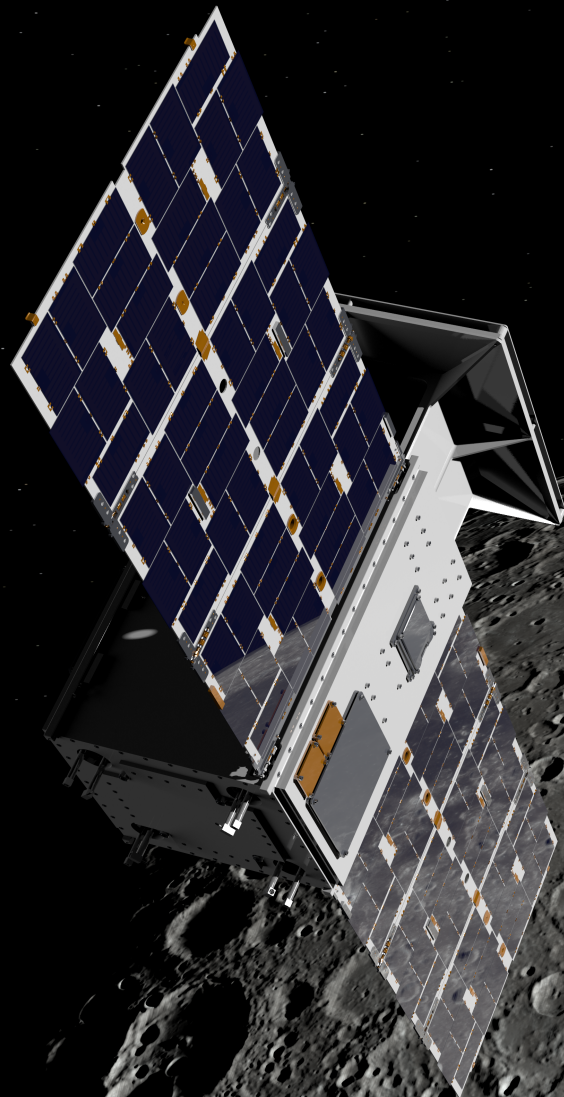


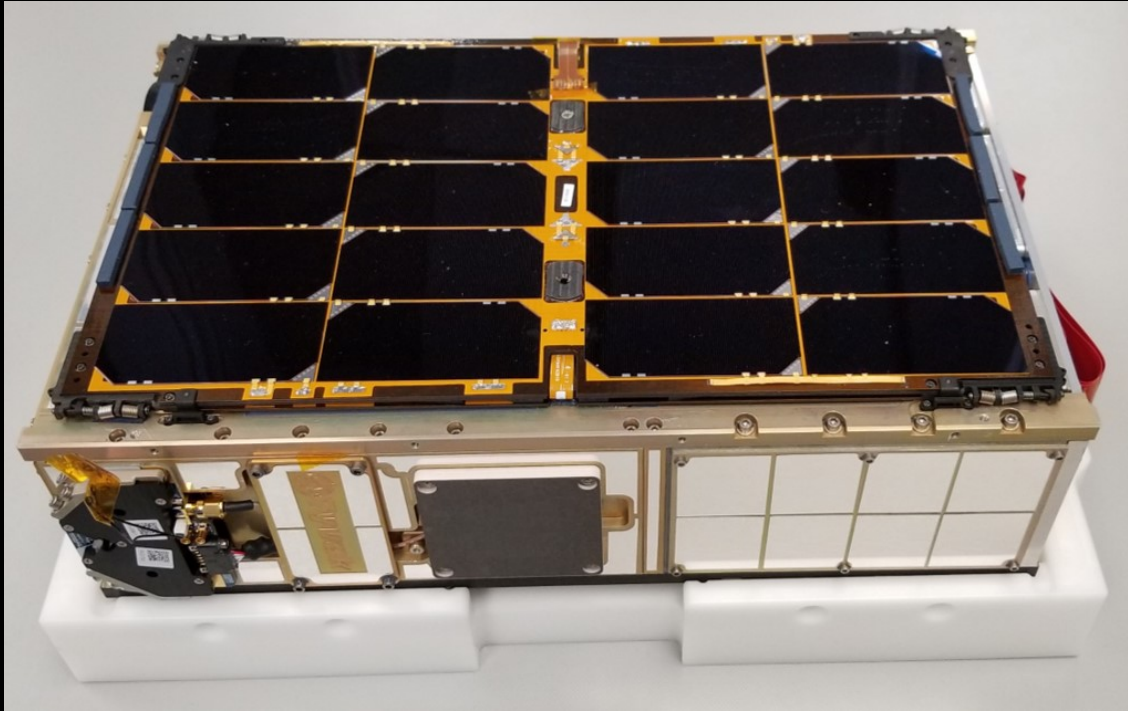


# SMALL SPACECRAFT TECHNOLOGY PROGRAM

ROGER HUNTER  
PROGRAM MANAGER



# Upcoming U-Class Technology Demonstration Missions



Pathfinder Technology Demonstrator (PTD)

Demonstrate new small spacecraft subsystems\*.  
Leverages public-private partnerships, commercial  
spacecraft and services.



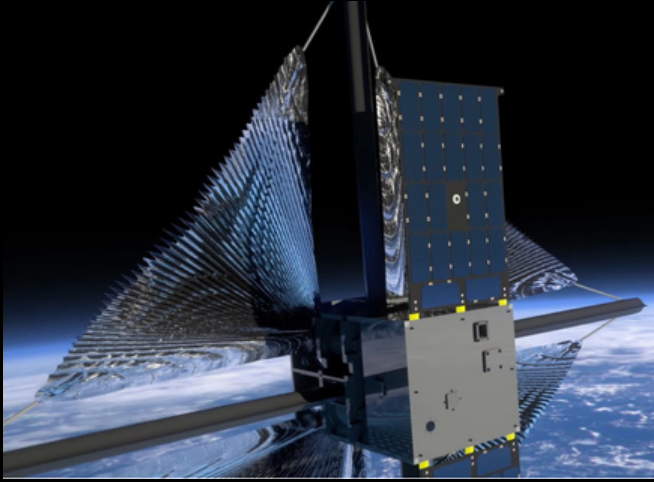
CubeSat Proximity Operations Demonstration (CPOD)

Demonstration of rendezvous, proximity operations  
and docking using two 3U CubeSats.

\* PTD payloads include: (1) HYDROS water-based thruster (2) HyperXACT attitude determination and control (3) High bandwidth laser communications (4) LISA-T high-power low-volume solar array.

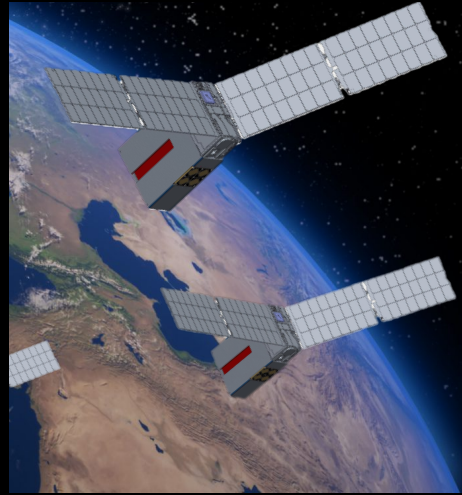


# Upcoming U-Class Technology Demonstration Missions



Advanced Composites  
Based Solar Sail  
(ACS3)

Demonstrate new composite booms to enable mission capable solar sails.



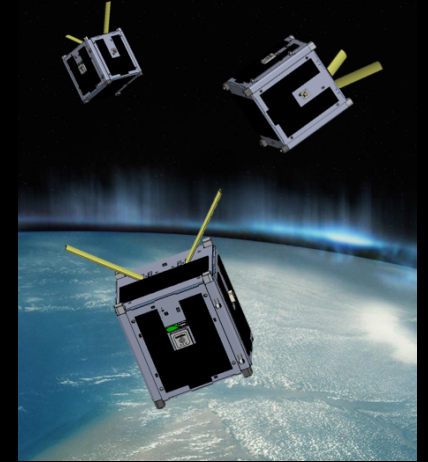
Starling Distributed  
Spacecraft Mission

Raises technical capability in inter-spacecraft networking, autonomous operations, and formation flight.



CubeSat Laser  
Intersatellite Crosslink  
(CLICK)

Demonstrate optical crosslink and timing exchange between two small spacecraft at a data rate of 20 Mbps and range of 580 km.



V-R3x

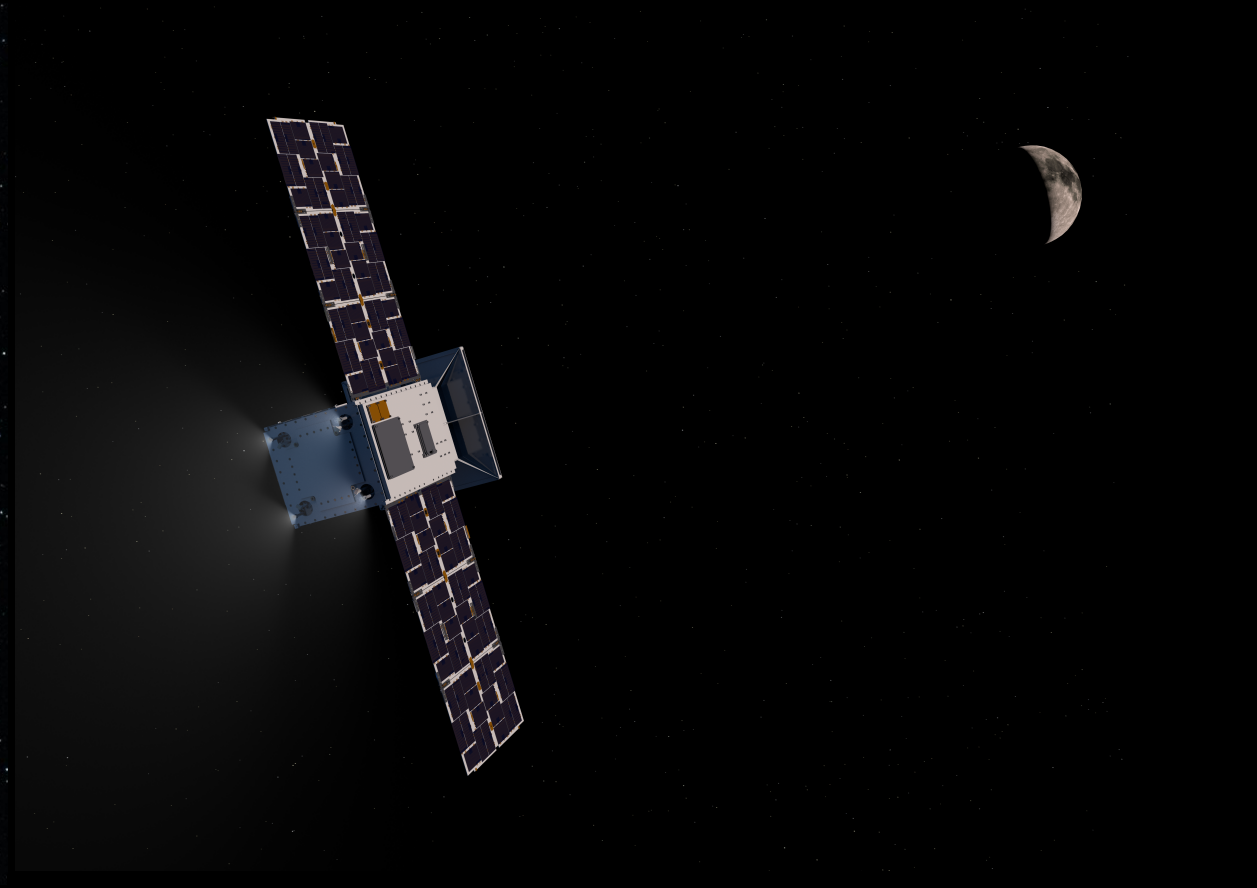
Low-power, low-cost spacecraft ranging, topology recovery, and coordinated measurement technology demonstration utilizing three 1U spacecraft for future spacecraft swarm systems

# Upcoming U-Class Exploration Precursor Missions



Lunar Flashlight

Characterize lunar *in-situ* resource utilization potential. Measure quantity and distribution of surface ice deposits in lunar South Pole cold traps with a compact laser spectrometer.



CAPSTONE

Demonstrate how to enter into and function in a near rectilinear halo orbit around the Moon and demonstrate spacecraft-to-spacecraft navigation.