



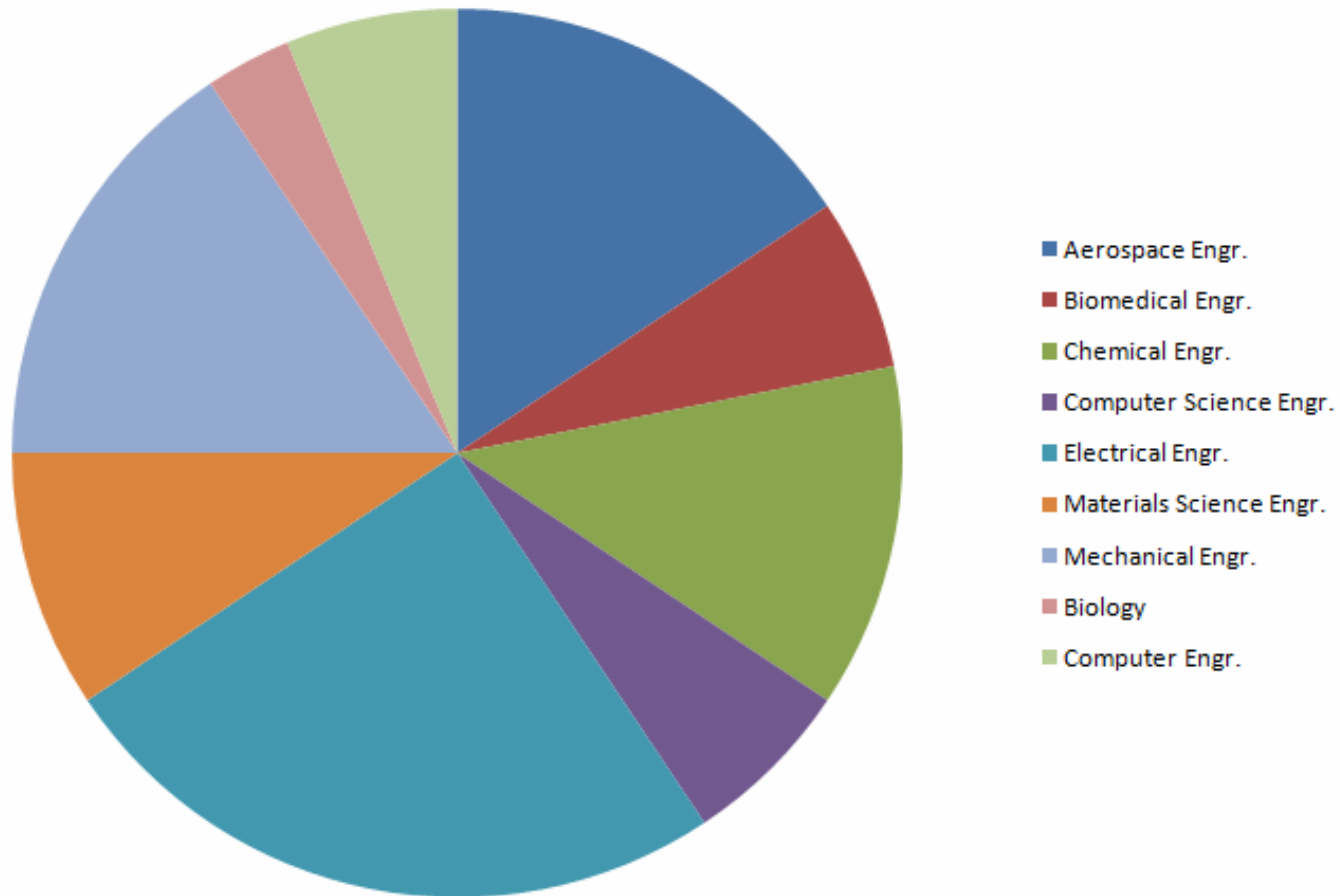
UCI Satellite

University of California Irvine CubeSat Team

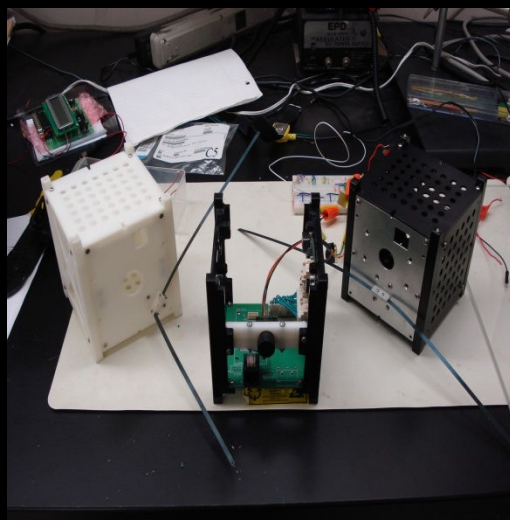
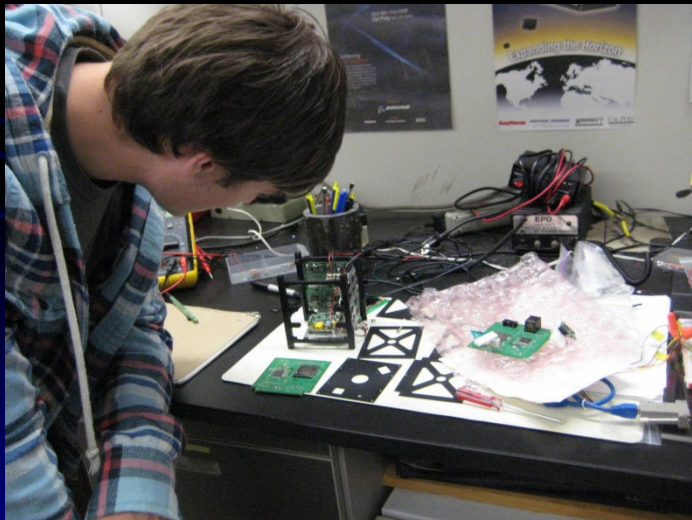
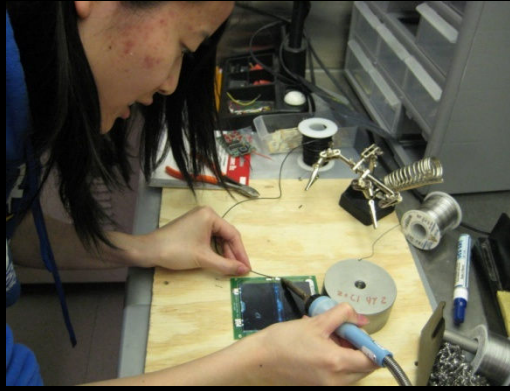
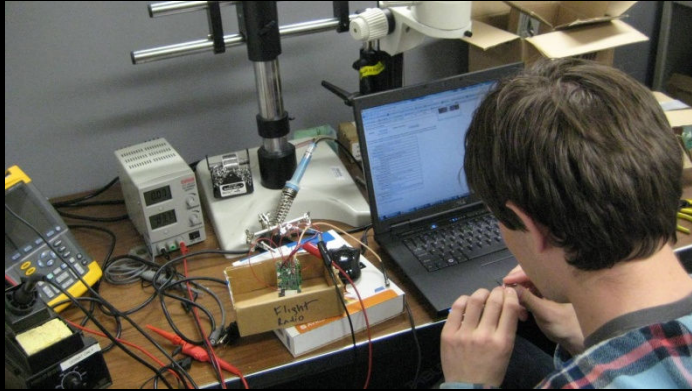
2010 CubeSat Workshop

The UCI Satellite Program

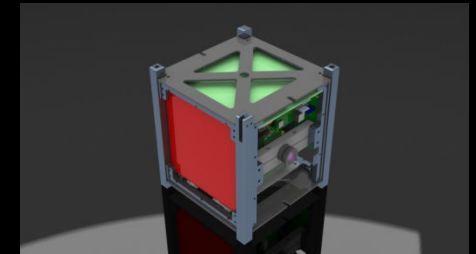
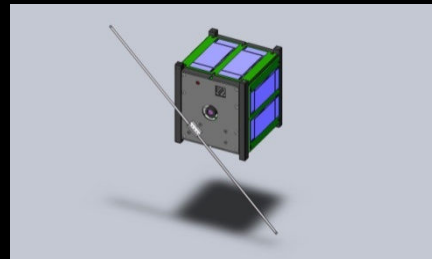
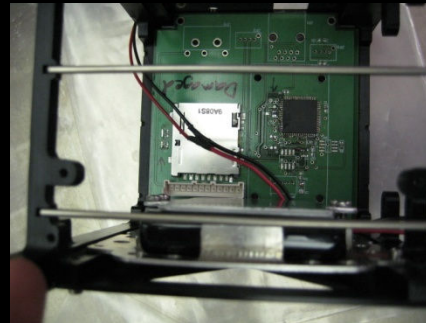
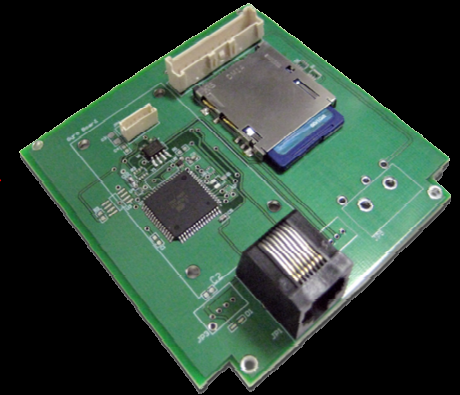
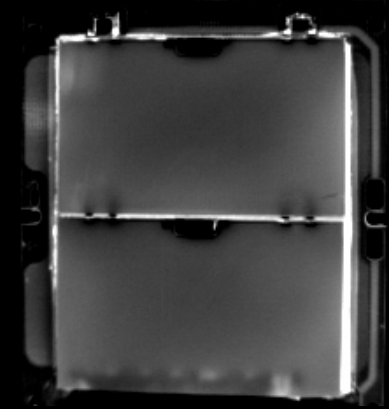
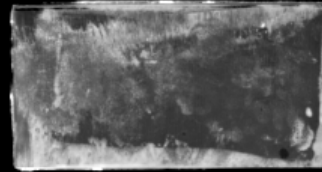
UCI Satellite Major Breakdown



Spirit & Innovation



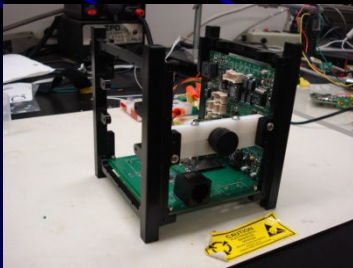
Learning Curve



UCI Satellite Projects

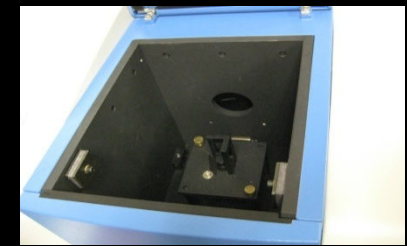
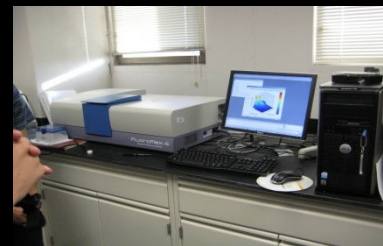
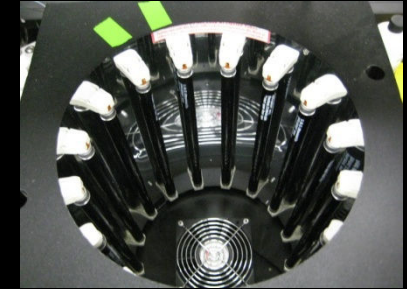
UCISAT-1

- Main mission objective: Capture images of the Earth from LEO and transmit them back to the K6UCI ground station on campus.
- To be completed:
 - ITAR/Export Control licensing
 - Subsystem level testing
 - Thermal Vacuum Test
 - Vibration Test
 - Final integration



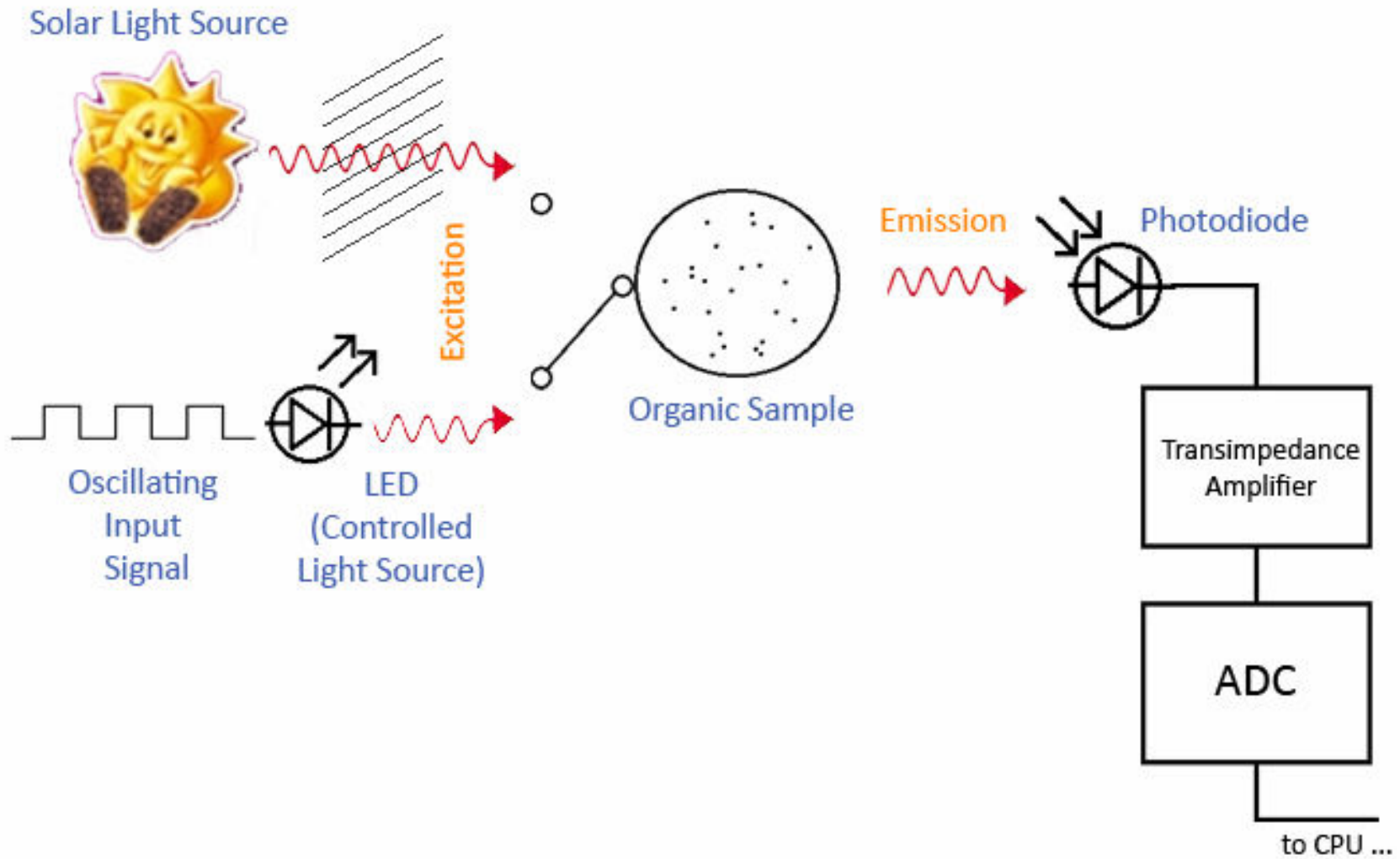
UCISAT-2

- Main mission objective: To determine whether natural sunlight and high energy irradiation can break down pollutant compounds in water to recycle water for extended space exploration.



UCISAT-2 In-flight Fluorometer

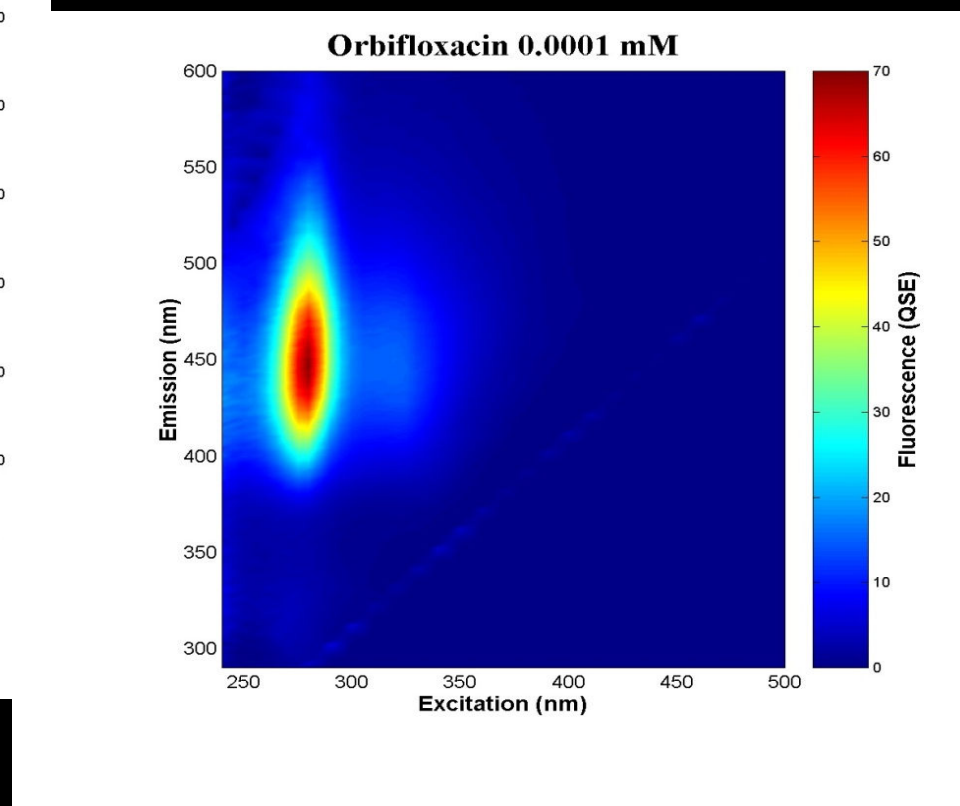
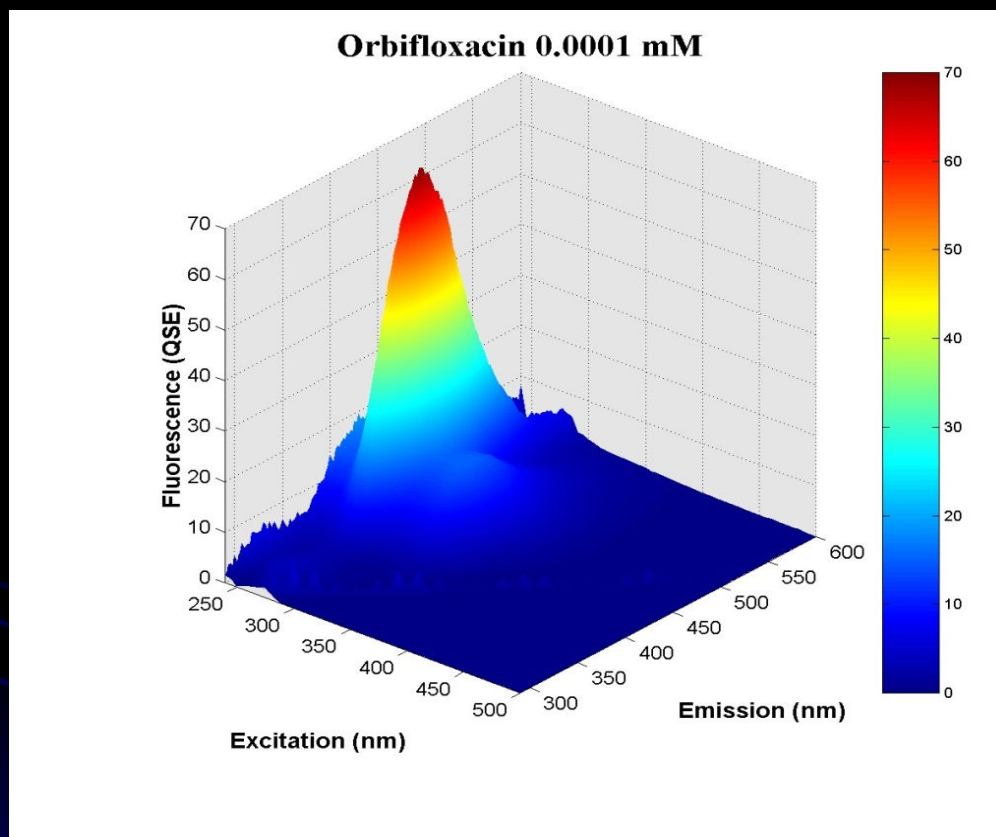
Theoretical Process



UCISAT-2 Payload

- Background:
 - Partnering with Dr. Bill Cooper of Civil and Environmental Engineering at UCI
 - Use solar radiation to “fluoresce” model pollutant compounds in water
 - Measurement of fluorescence intensity will be used to determine the breakdown of the organic compounds over time
- Implications:
 - Purifying contaminated water with sunlight and radiation take advantage of the existing space environment
 - Alleviates the need to bring expensive equipment to space for the same purpose
 - Offers a significantly cheaper alternative to water purification for extended space missions (back to the Moon, Mars)
- Next Steps:
 - Fluorescence/radiation testing with sample compounds
 - Design circuitry for on board fluorometer

Sample Compound: Orbifloxacin Fluorescence vs. Excitation wavelengths



Thank You

