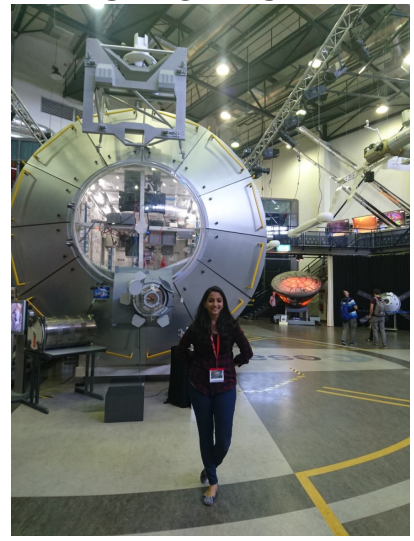


Westerbrok Telescope (E-VLBI)



Dwingeloo Telescope (Spiral arms)



Effelsberg - 100m Dish! (408MHz survey)

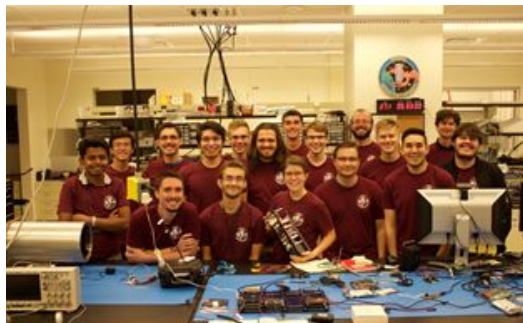


LOFAR - Core -Exloo



PHOENIX

Student cubesat Thermal imager targeting the urban heat island effect



Over 40 students in the ASU student team contributed over four years from proposal to delivery



The structure was fabricated students at the Brackett Aircraft Co of Kingman Arizona.



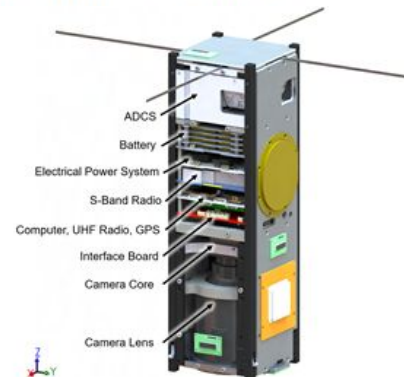
Students testing components in the LoCo lab at ASU with advice from faculty mentors.



Software engineer Vivek Chacko and Project Manager Sarah Rogers deliver Phoenix for launch in August 2019



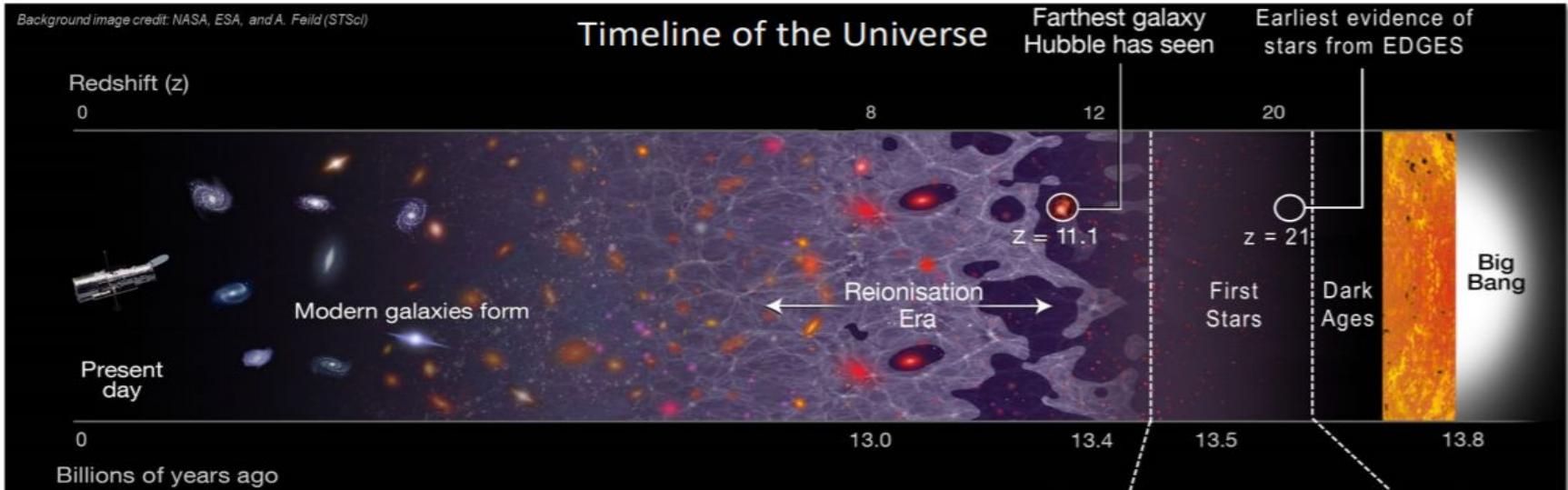
Launch to the International Space Station aboard the Cygnus NG12 resupply mission 2 Nov 2019



Phoenix is an earth observing thermal camera with a ground resolution of 60m. The goal is to make high cadence observations of urban centers.

Experiment to Detect the Global EoR Signature (EDGES)

Background image credit: NASA, ESA, and A. Feild (STScI)



Pioneering a new way to study the early universe with a single tabletop-sized radio antenna

Astrophysics

- Earliest evidence of stars by 180 million years
- Earliest evidence of black holes by 250 million years

Fundamental physics

- Possible new glimpse into the nature of dark matter that makes up 85% of the universe

