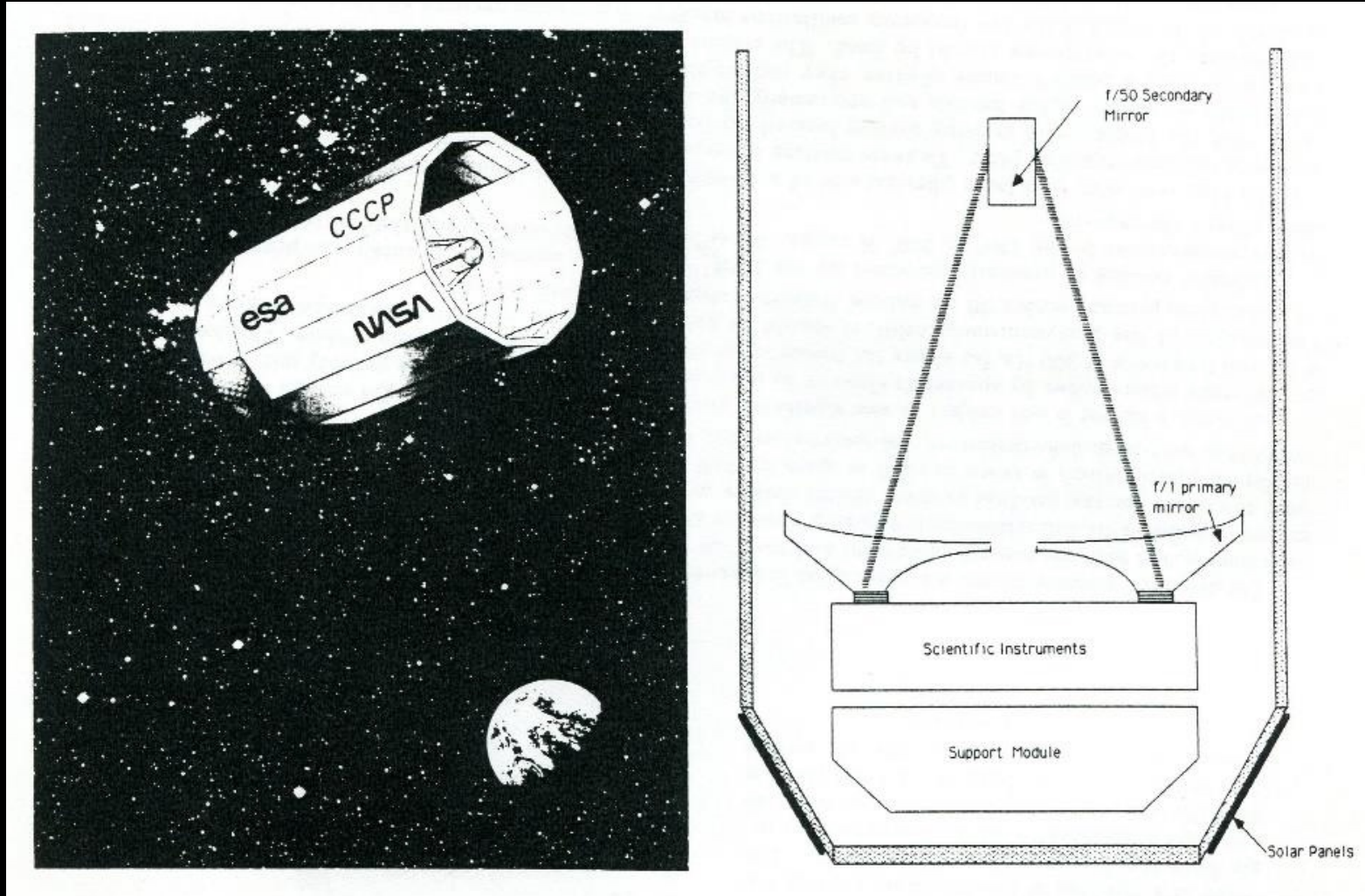


# *The Next Generation Space Telescope – NGST* *1985-1992*      *The Birth of JWST*

Conceptualizing what comes beyond Hubble, before Hubble!

1985



Credit: Pierre Bely 1985



## *The key NGST people at STScI in 1987*

Riccardo Giacconi  
Director and Future  
Nobel Prize Winner

Garth Illingworth  
Deputy Director

Peter Stockman  
Division Head



Credit: STScI



Pierre Bely  
Chief  
Engineer

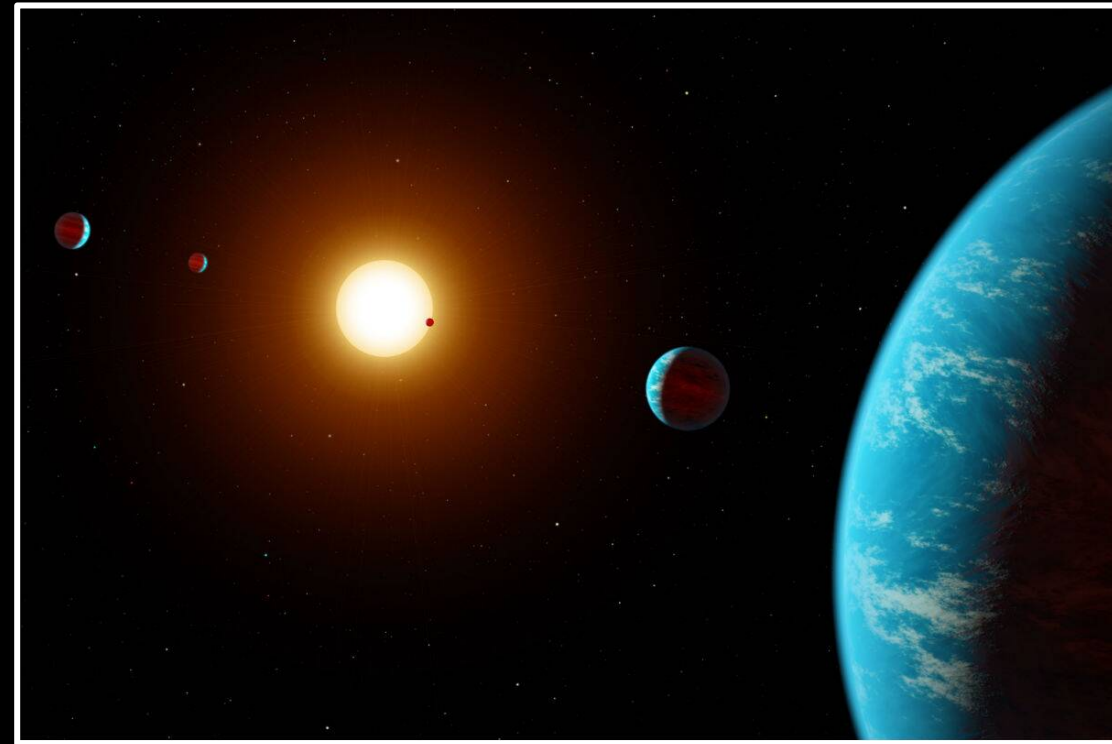
Credit: Pierre Bely



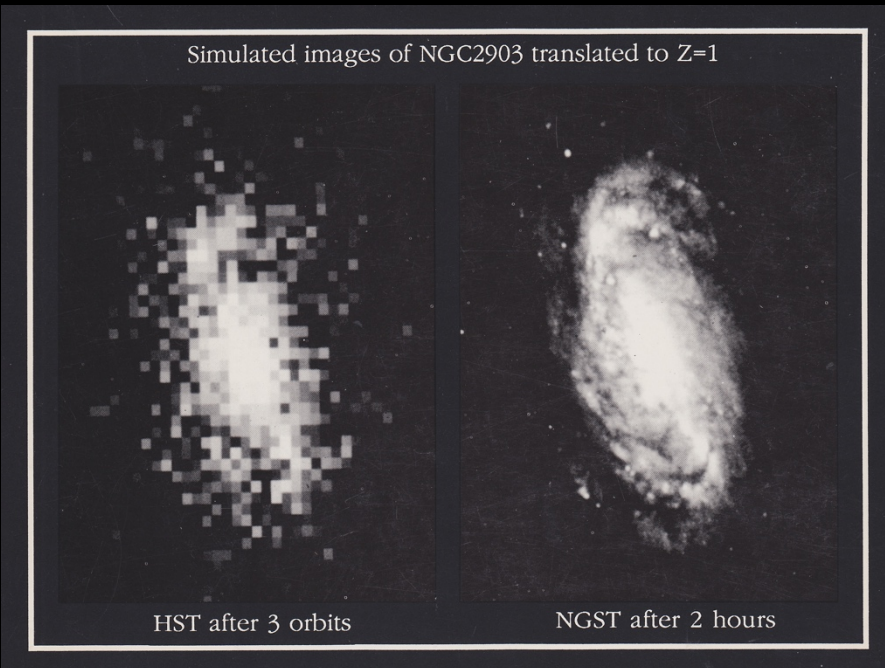
# ***1985-1989: NGST Science beyond Hubble before Hubble was launched!***

**Seeing distant galaxies way better than Hubble or Keck**

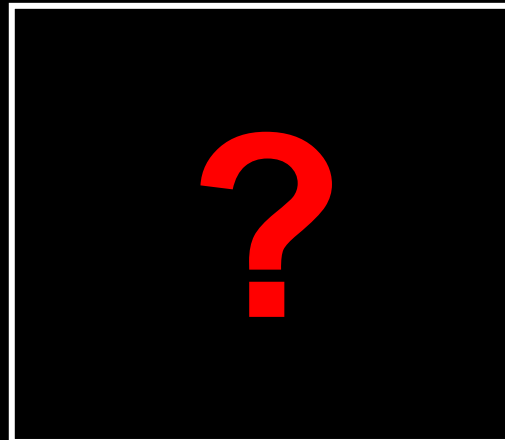
**Searching for exo-planets like earth**



Credit: NASA



Credit: Jim Gunn

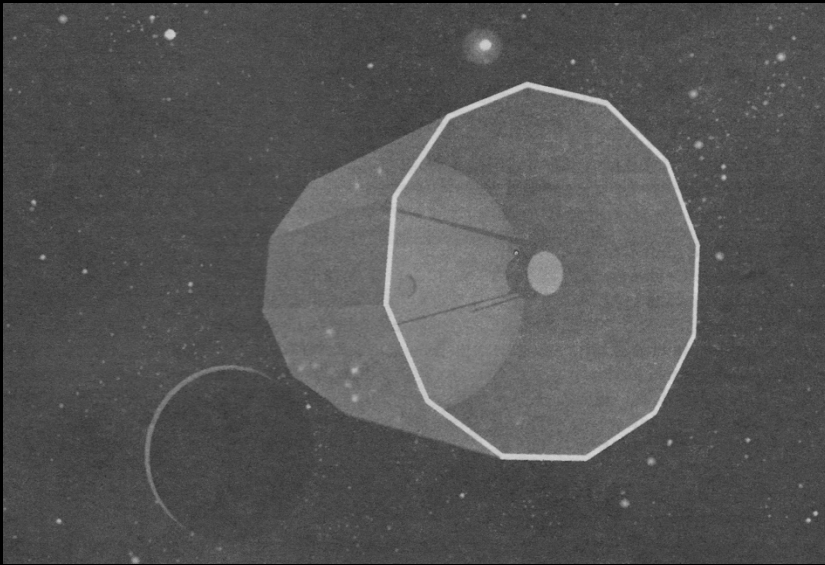


**Exploring into the unknown**

**Revealing the hidden mysteries of our universe**

# ***1989: First NASA & STScI conference about NGST***

***Developing the NGST concept and science***



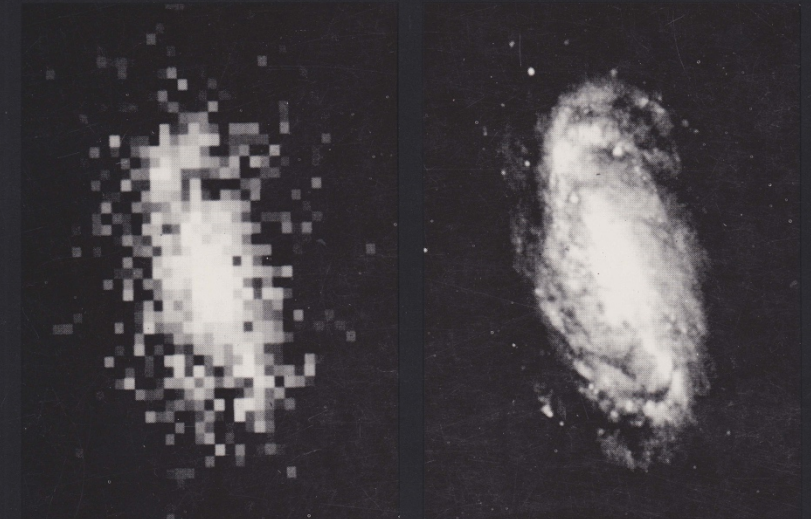
**An 8-10 m NGST: 4X the size of Hubble**

**Or an even bigger NGST on the moon??**

Credit: NASA, STScI, Garth Illingworth, Pierre Bely, Peter Stockman, Chris Burrows

## **THE NEXT GENERATION SPACE TELESCOPE**

Simulated images of NGC2903 translated to  $Z=1$



HST after 3 orbits

NGST after 2 hours

**Proceedings of a Workshop held at the  
Space Telescope Science Institute  
Baltimore, Maryland,  
13-15 September 1989**





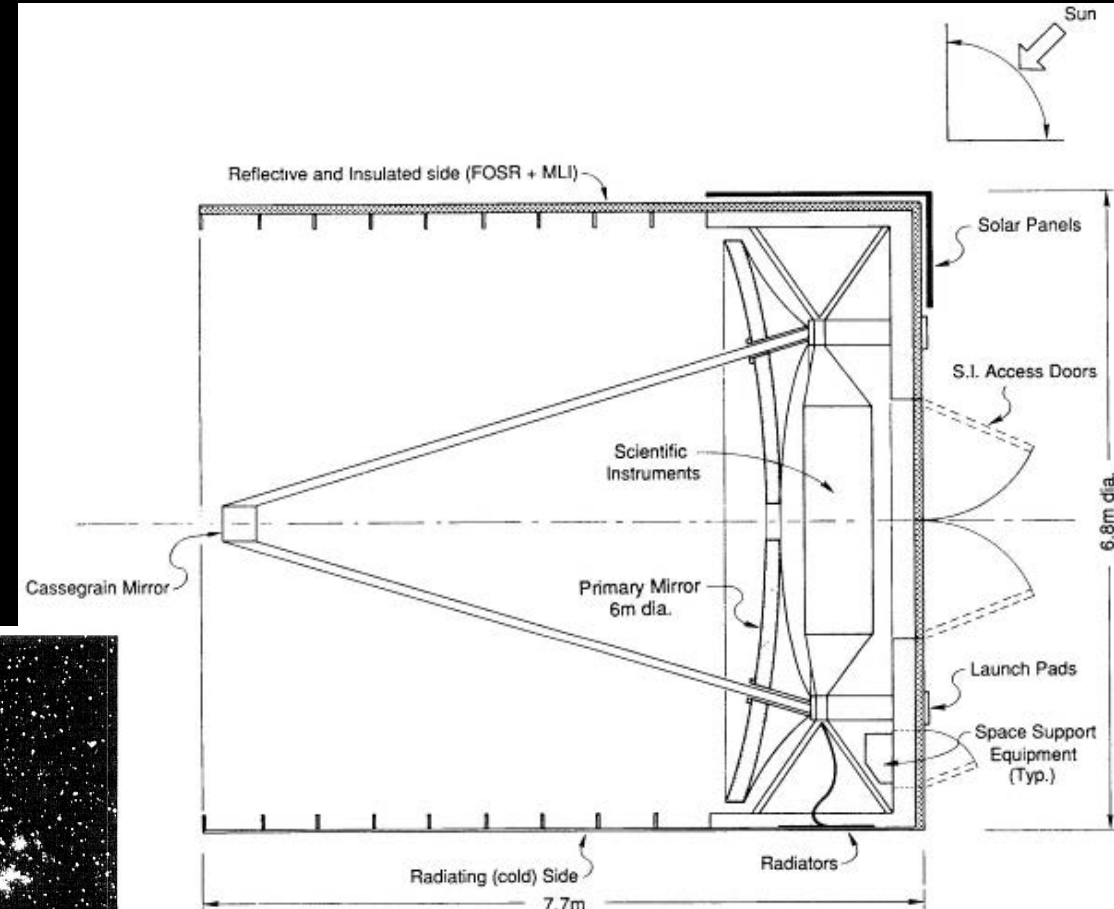
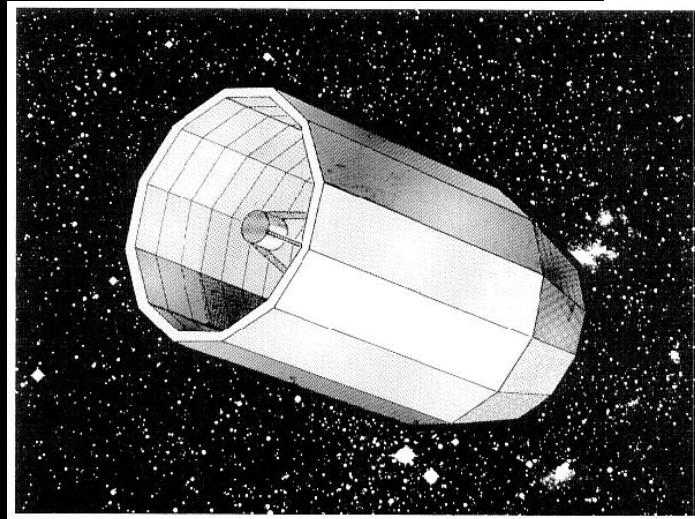
# 1990 Astronomy Decadal Survey Panel vision of a cold infrared telescope with a large 6 m (20 ft) mirror

A 6 m infrared space telescope was recommended by the UV-Optical Panel of the 1990 Decadal Survey for launch in 2009 for \$2B (1990 \$)

## WORKING PAPERS

Astronomy  
and Astrophysics  
Panel Reports

NATIONAL RESEARCH COUNCIL



Credit: NRC, 1990 Decadal Survey, UV-Optical from Space Panel, Garth Illingworth



# *The Next Generation Space Telescope*

## *1991 – Setting the stage for the future*

- Huge infrared space telescope
- Cooled to near absolute zero by the extreme cold of the universe
- 8-meter (26 foot) mirror
- Located far away from Earth

1991 workshop on needed technologies  
through Astrotech 21 (NASA HQ/JPL)

[https://www.ucolick.org/~gdi/early\\_jwst/](https://www.ucolick.org/~gdi/early_jwst/)

Credit: NASA, JPL, Garth Illingworth, James Cutts, Dayton Jones

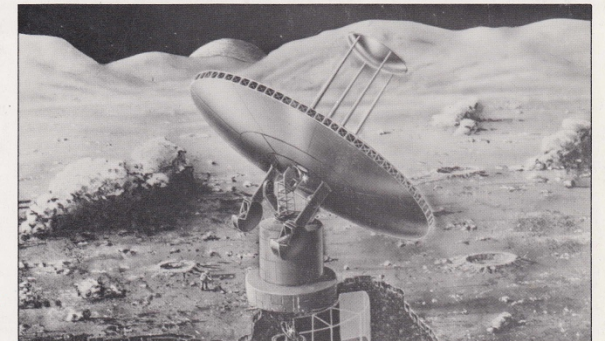
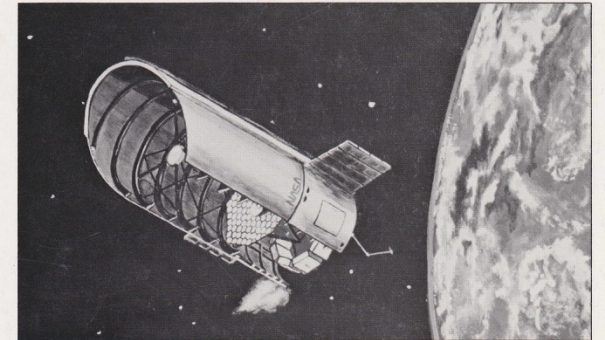
ASTROTECH 21  
WORKSHOPS  
SERIES II

VOLUME

4

SERIES II MISSION CONCEPTS AND  
TECHNOLOGY REQUIREMENTS

### **Workshop Proceedings: Technologies for Large Filled-Aperture Telescopes in Space**



September 15, 1991

JPL D-8541, Vol. 4