A silhouette of a person is shown on the left side of the image, looking through a large telescope mounted on a tripod. The background is a dark night sky filled with numerous stars and the faint, glowing band of the Milky Way galaxy stretching across the frame. The overall scene is a classic astronomical observation setup.

GRUPO LOCAL:  
A VIA LÁCTEA E  
SUA  
VIZINHANÇA

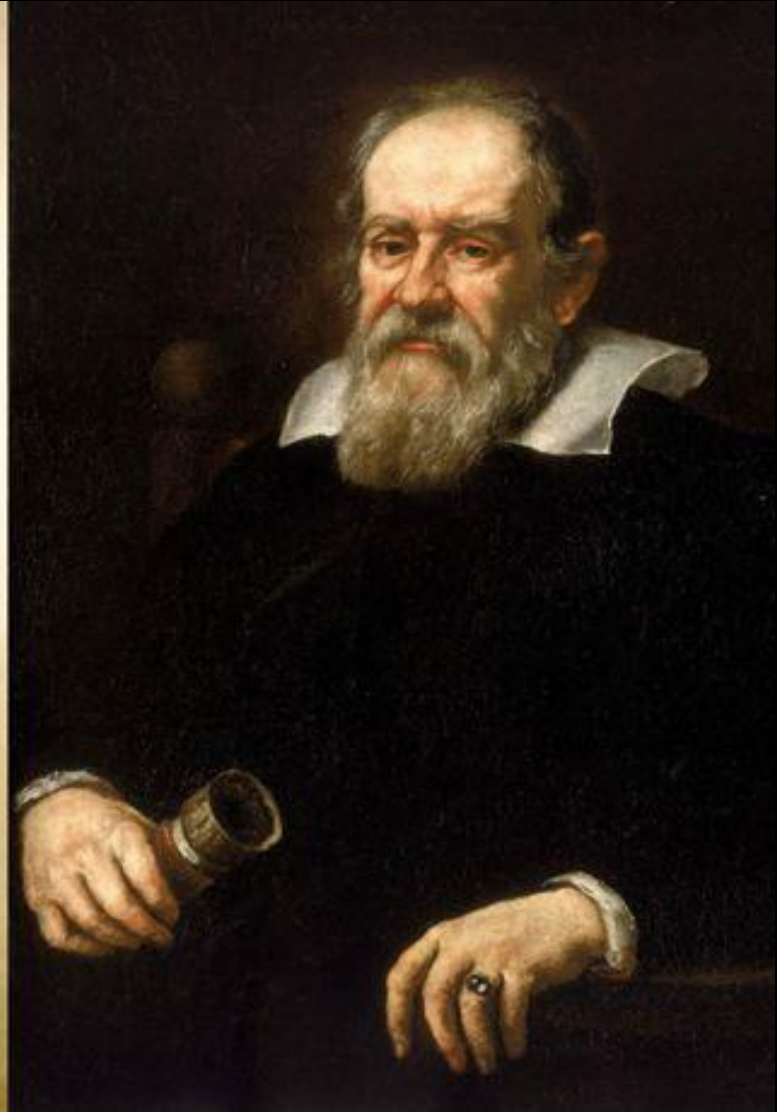




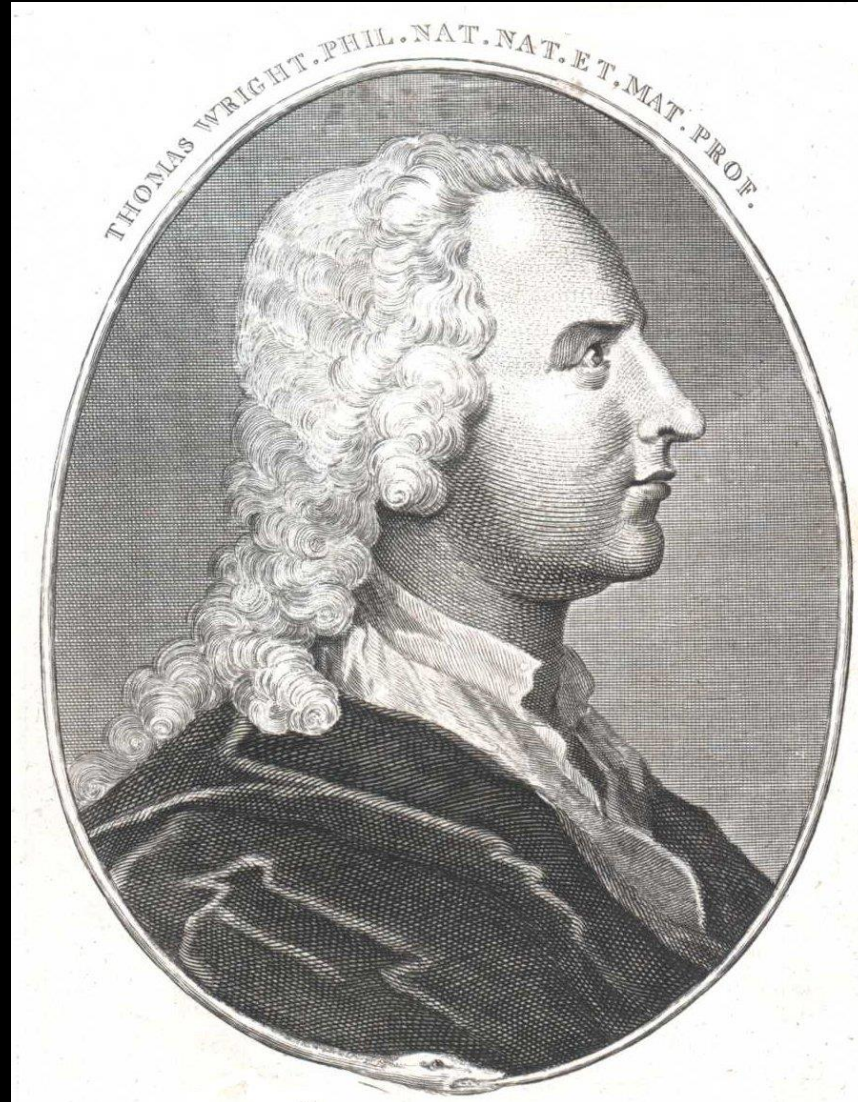
GREGOS: GALAXIES KUKLOS, "CÍRCULO DE LEITE"  
ROMANOS: VIA LACTIA, "VIA LÁCTEA"



# GALILEO - 1610



# THOMAS WRIGHT (1711–1786)





HERSCHEL, JOHN FREDERICK WILLIAM (1738–1822)  
CAROLINE HERSCHEL (1750–1848)



Fig. 1.

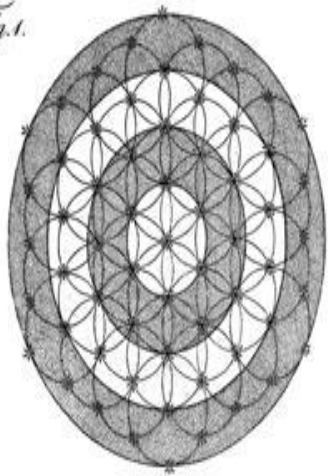


Fig. 2.

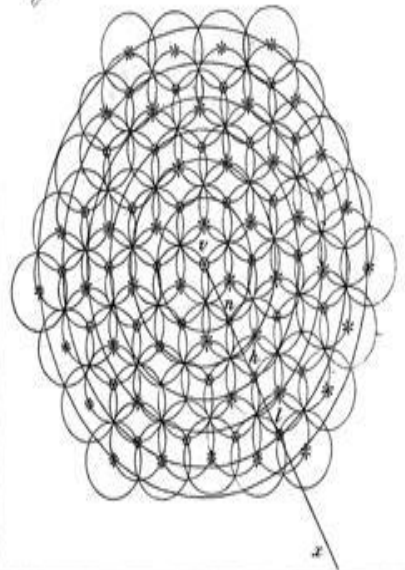


Fig. 4.

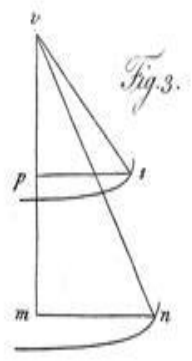
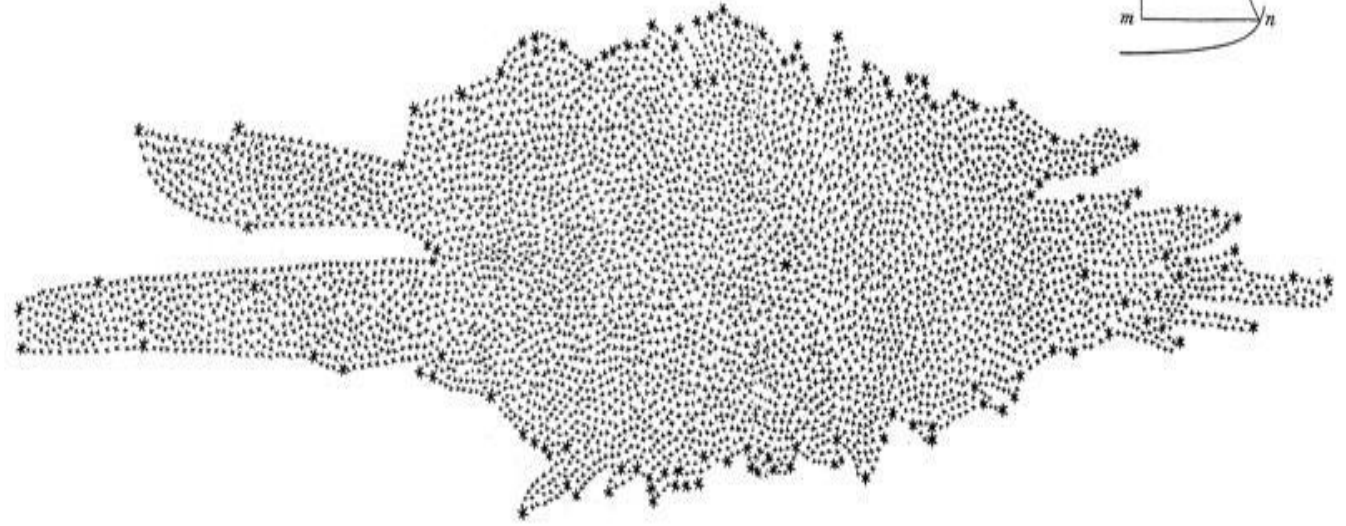


Fig. 5.

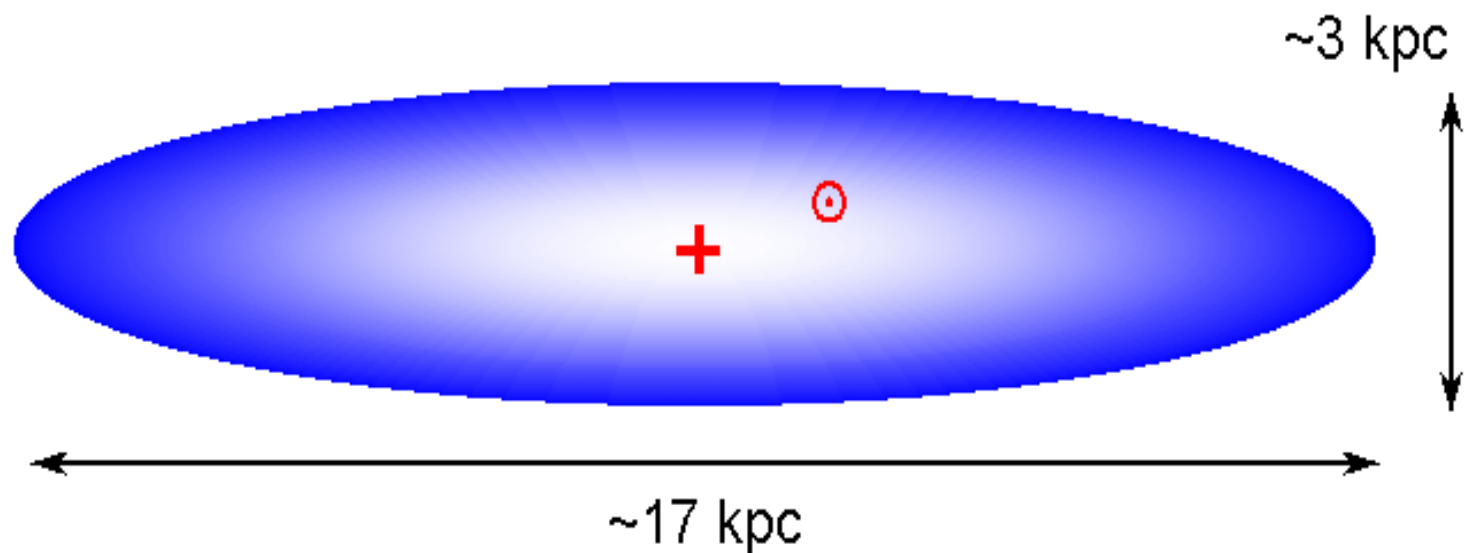




**Jacobus Cornelius Kapteyn**  
**1851-1922**



# Kapteyn Model (1922)



kpc = kiloparsec = 1000 pc

# HARLOW SHAPLEY (1885–1972)





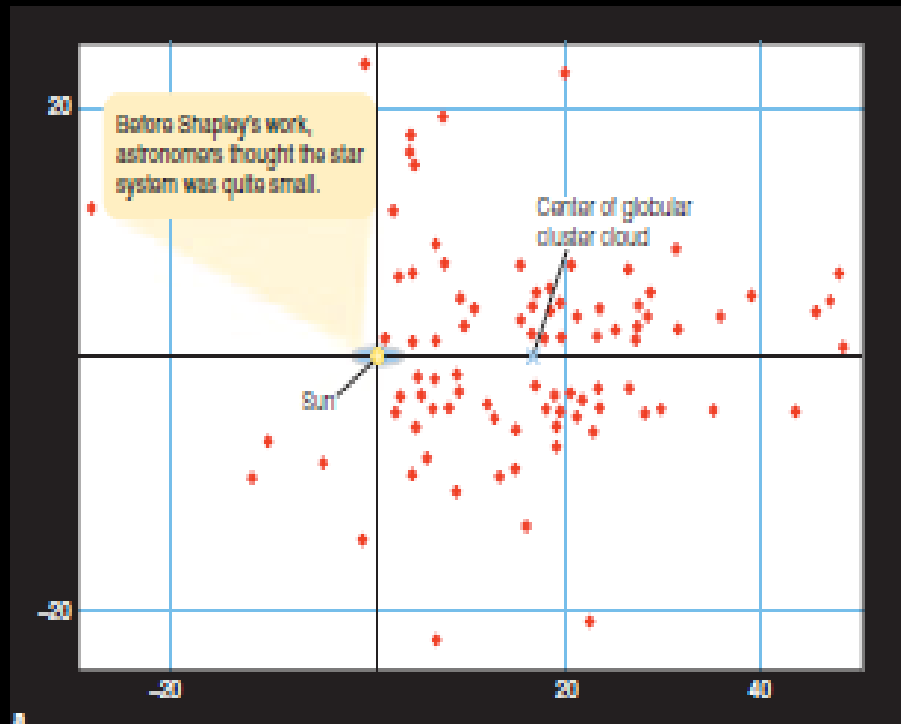
# AGLOMERADO GLOBULAR M19





HENRIETTA LEAVITT (1868–1921)



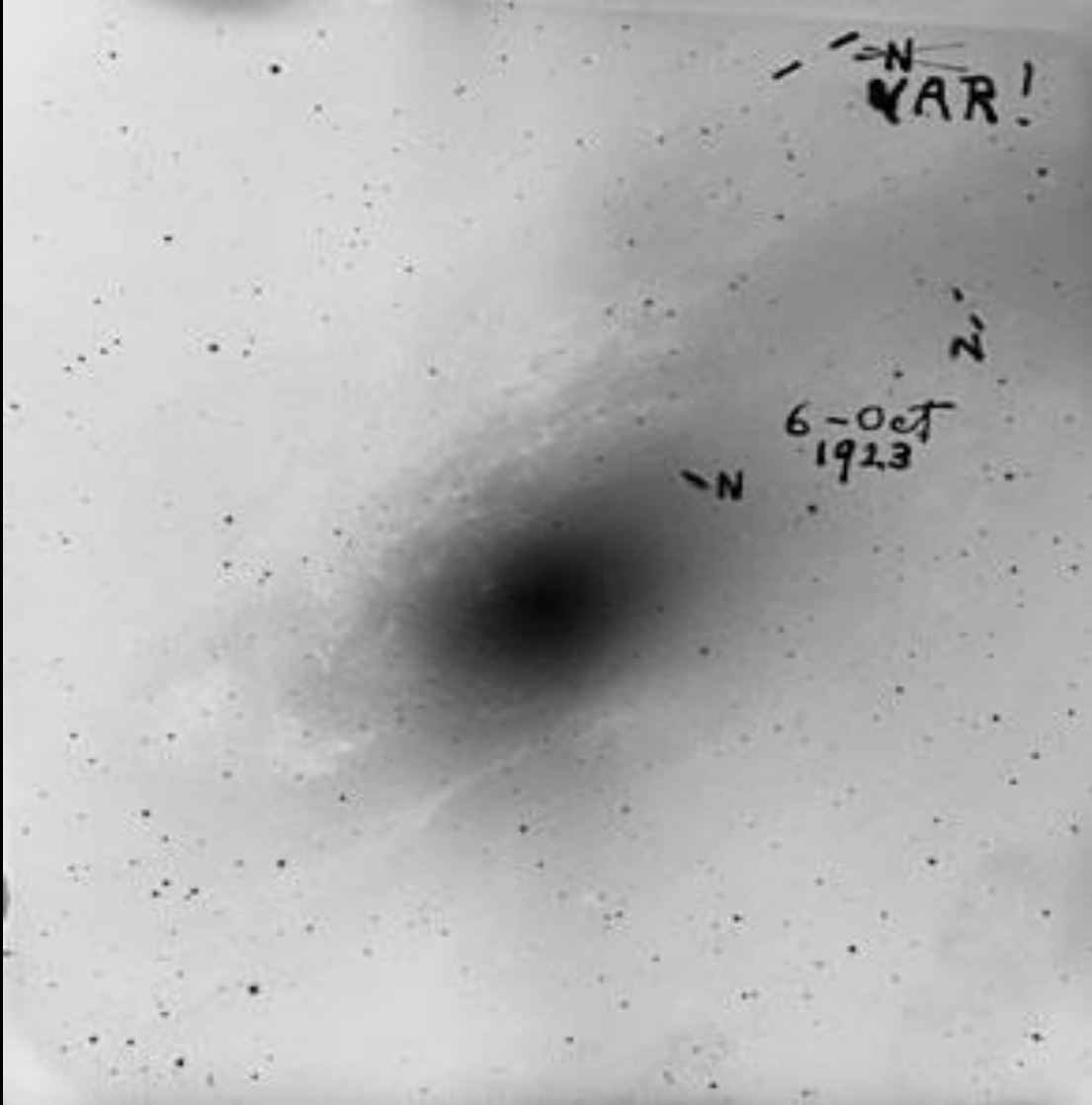


~~N~~  
VAR!

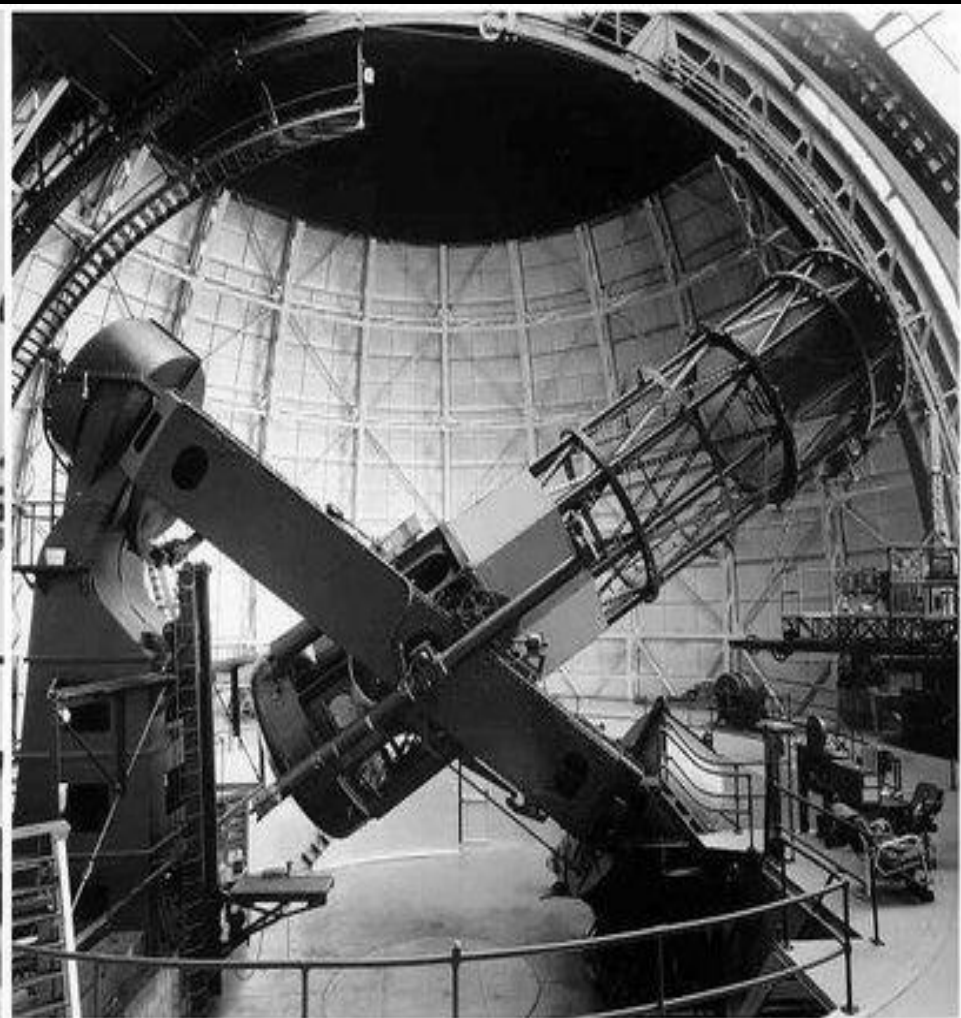
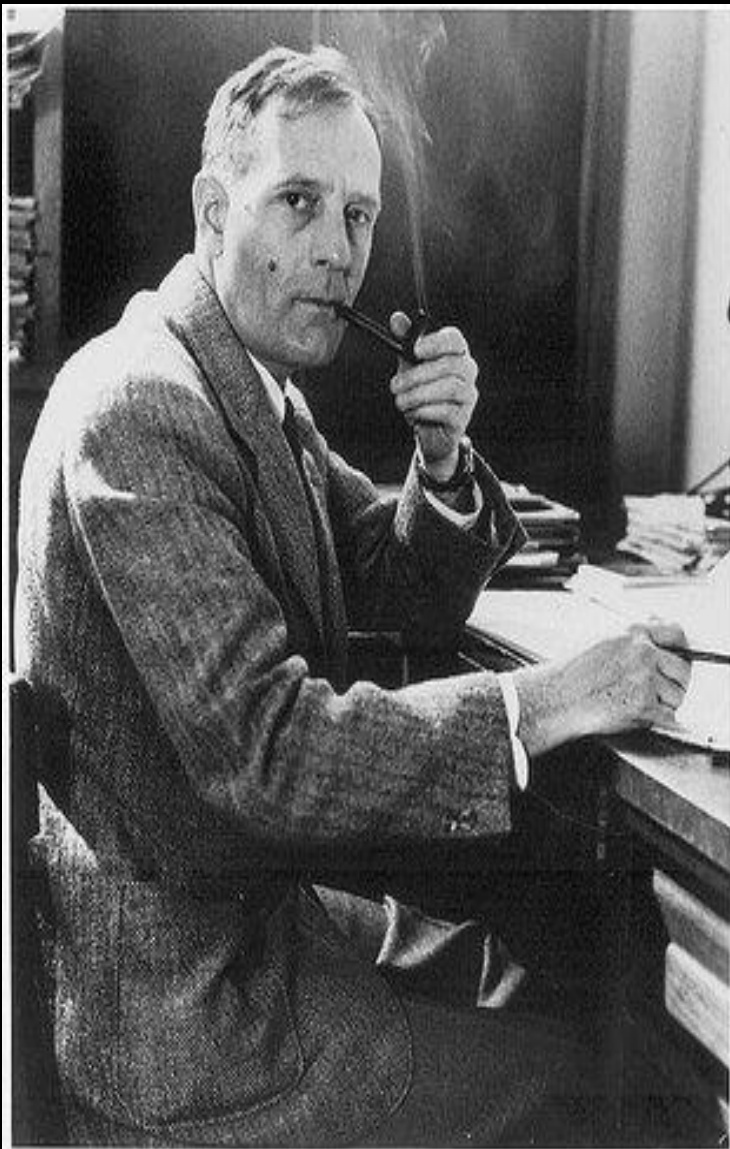
N

6-Oct  
1923

N

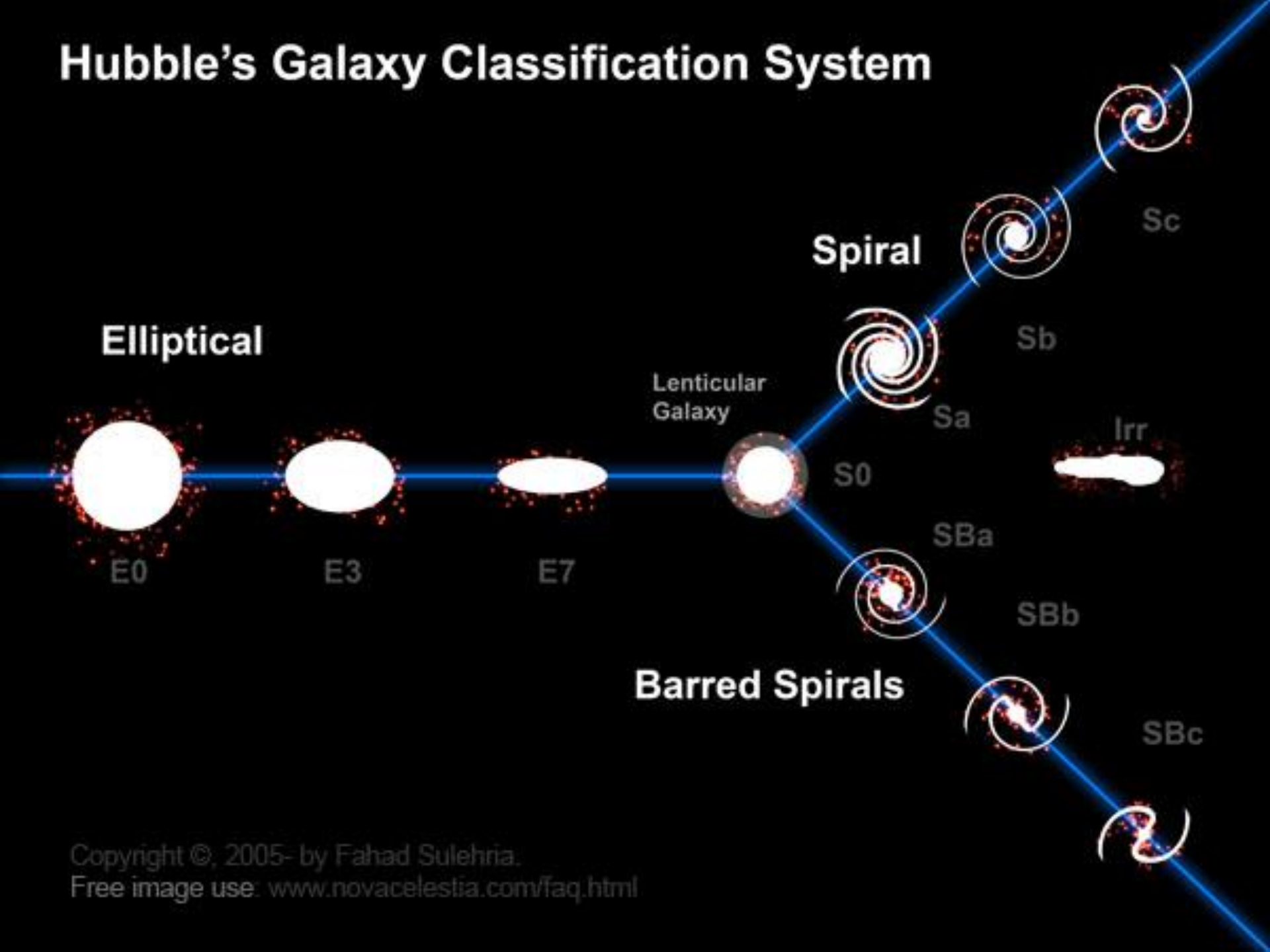






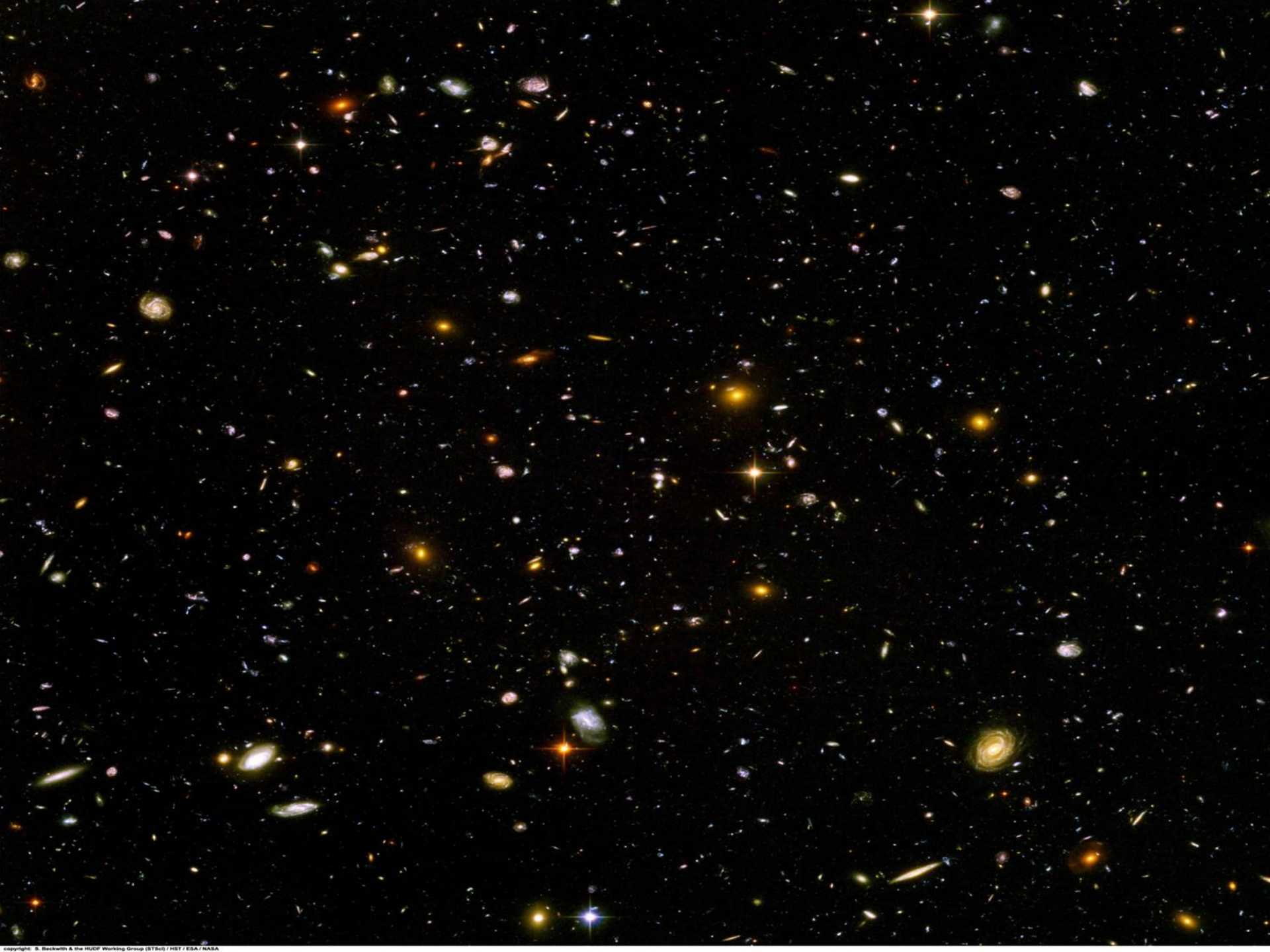
**Edwin Hubble (1889-1953) and Hooker Telescope (2,5m), Mt. Wilson Observatory**  
Sources: Wikipedia, <http://www.astro.caltech.edu/>

# Hubble's Galaxy Classification System

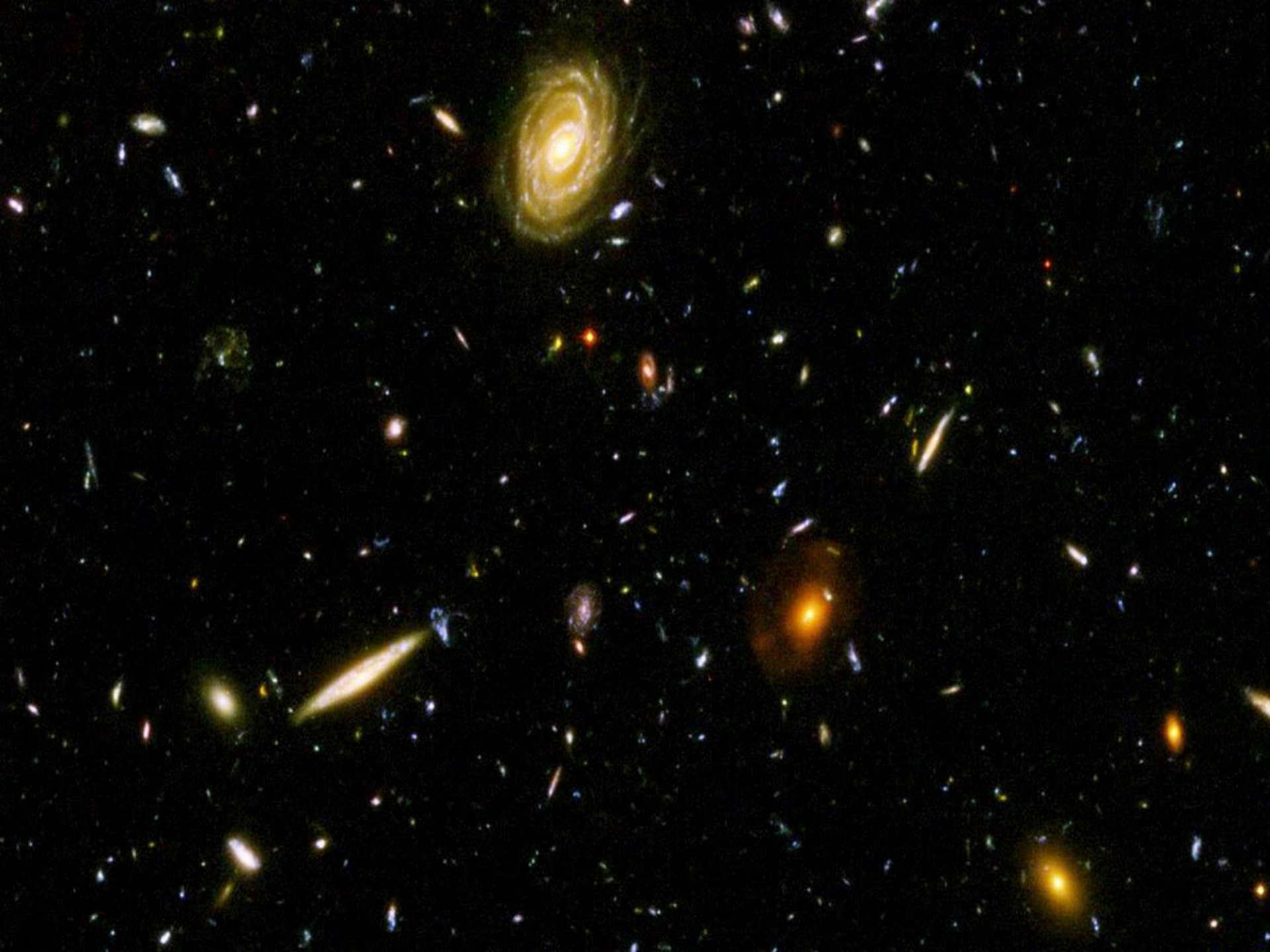


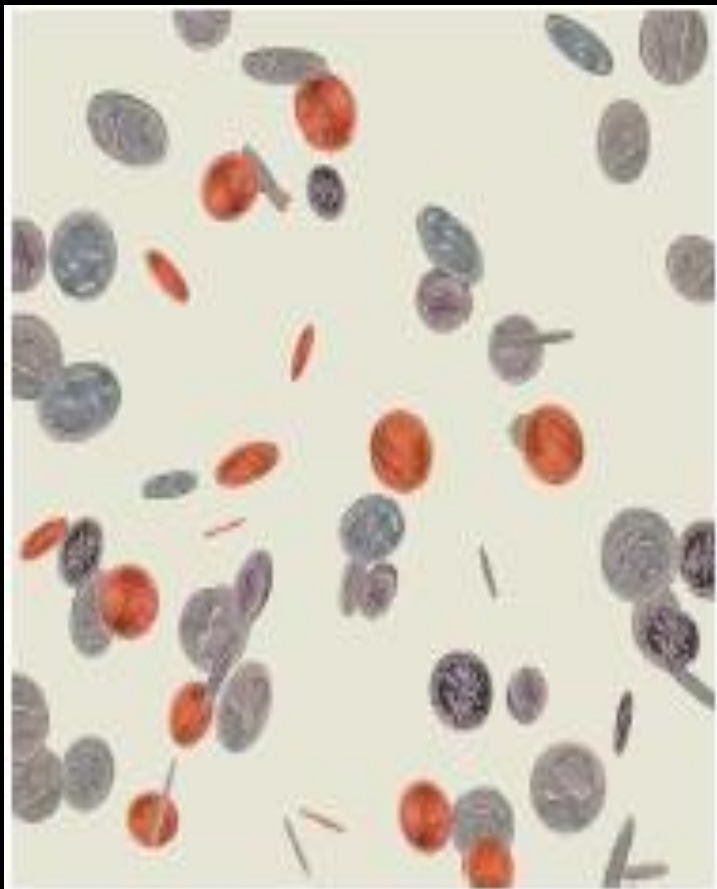














# Dwarf Galaxy Size Comparison Chart

A selection of smaller galaxies shown to the same scale

Large Magellanic Cloud

Dwarf galaxy in our Local Group  
Distance : 163,000 LY  
Diameter : 14,000 LY

1 Zwicky 18

Distance : 59,000,000 LY  
Diameter : 5,200 LY

NGC 4449

Distance : 12,000,000 LY  
Diameter : 20,000 LY

Hanny's Voorwerp

Not a galaxy. Not a nebula.  
It's a freakin' mystery.  
Distance : 650,000 LY  
Diameter : 80,000 LY

Arp 147

Pair of interacting galaxies  
Distance : 440,000,000 LY  
Diameter : 52,000 LY

II Zwicky 96

Ludicrously beautiful interacting galaxies  
Distance : 500,000,000 LY  
Diameter : 30,000 LY

Small Magellanic Cloud

Local Group dwarf galaxy  
Distance : 200,000 LY  
Diameter : 7,000 LY

M104 - "Sombrero"

Spiral galaxy with a prominent  
bulge and dust ring  
Distance : 28,000,000 LY  
Diameter : 50,000 LY

NGC 1569

Galaxy with a huge burst of star formation  
Distance : 11,000,000 LY  
Diameter : 8,000 LY

The Milky Way

It's us!  
Shown for scale - NOT a dwarf galaxy  
About 100,000 LY diameter  
Artist's concept (Nick Risinger)

Arp 133 - "Minkowsky's Object"

Peculiar object with star formation  
triggered by a jet from a nearby giant elliptical  
Distance : 215,000,000 LY  
Diameter : 25,000 LY

M82

Starbursting spiral  
Distance : 11,000,000 LY  
Diameter : 40,000 LY

M33 - "Triangulum"

Smaller spiral in our Local Group  
Distance : 2,700,000 LY  
Diameter : 50,000 LY

## ABOUT THE IMAGE

This image was assembled by Mike Taylor using public domain images from NASA and ESA. The images have been colorized and processed to remove atmospheric background light, as they contain artificial light sources and are not suitable for scientific purposes.

10,000 LY      3,000 parsecs

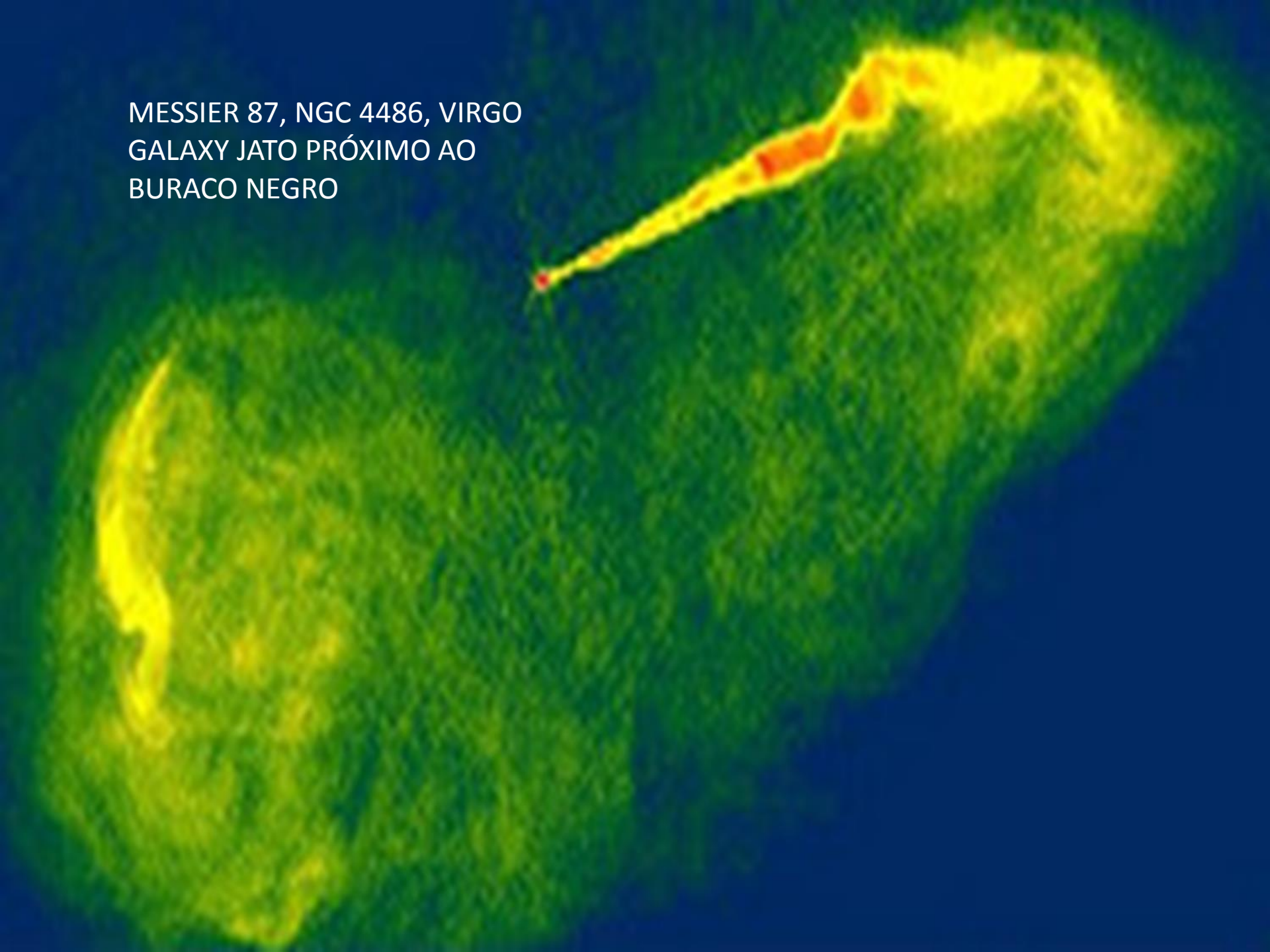
One light year is the distance light travels in a year.  
1 light year = 9,460,000,000,000 m or 5,878,000,000 miles



BURACO NEGRO SUPER MASSIVO –  
NGC 253



MESSIER 87, NGC 4486, VIRGO  
GALAXY JATO PRÓXIMO AO  
BURACO NEGRO



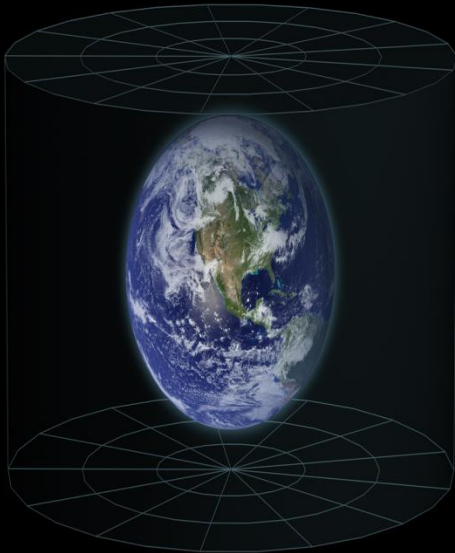


BURACO NEGRO SUPER MASSIVO NA GALÁXIA GIGANTE  
CENTAURUS A – JATOS OBSERVÁVEIS

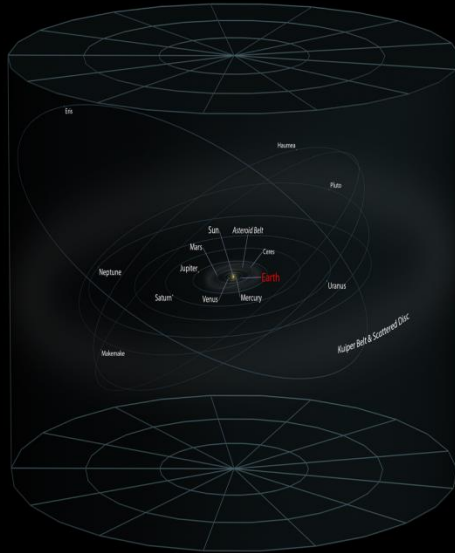




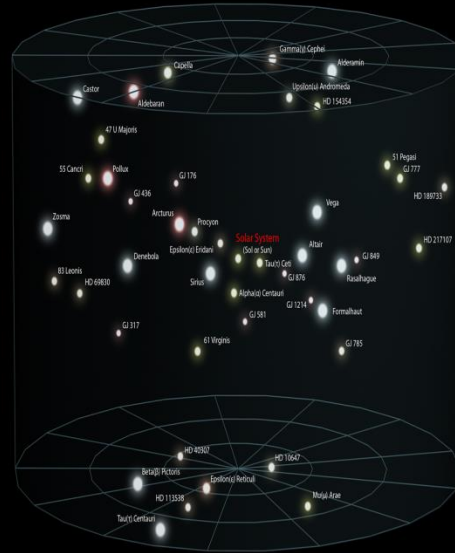
# Earth



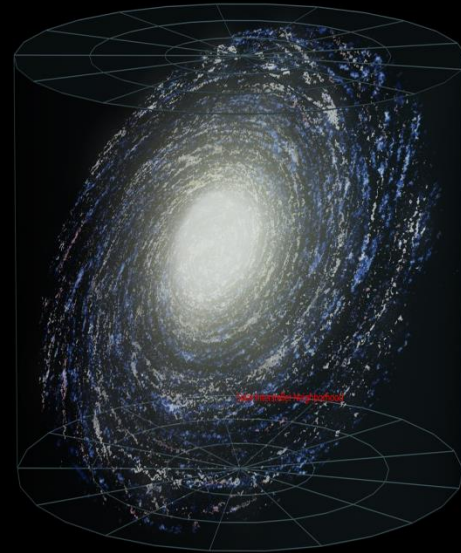
# Solar System



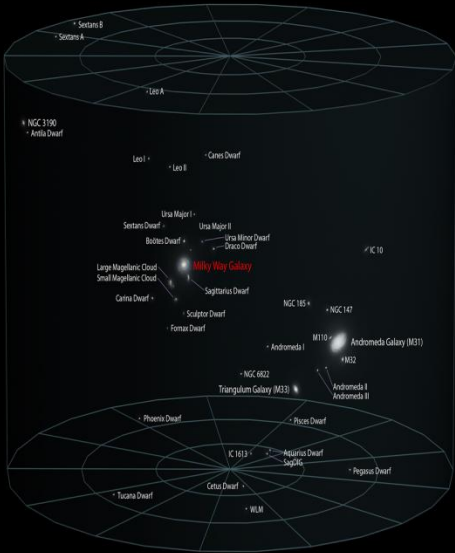
# Solar Interstellar Neighborhood



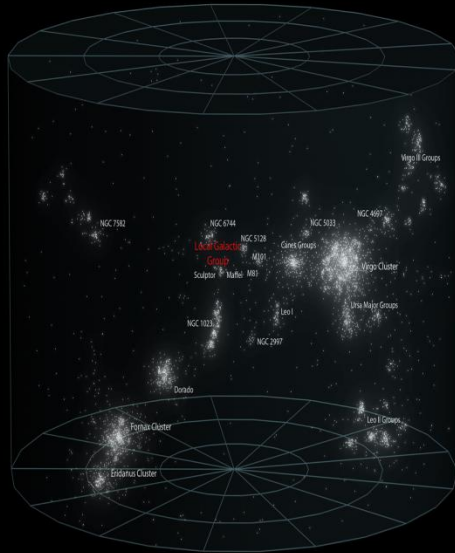
# Milky Way Galaxy



# Local Galactic Group



# Virgo Supercluster



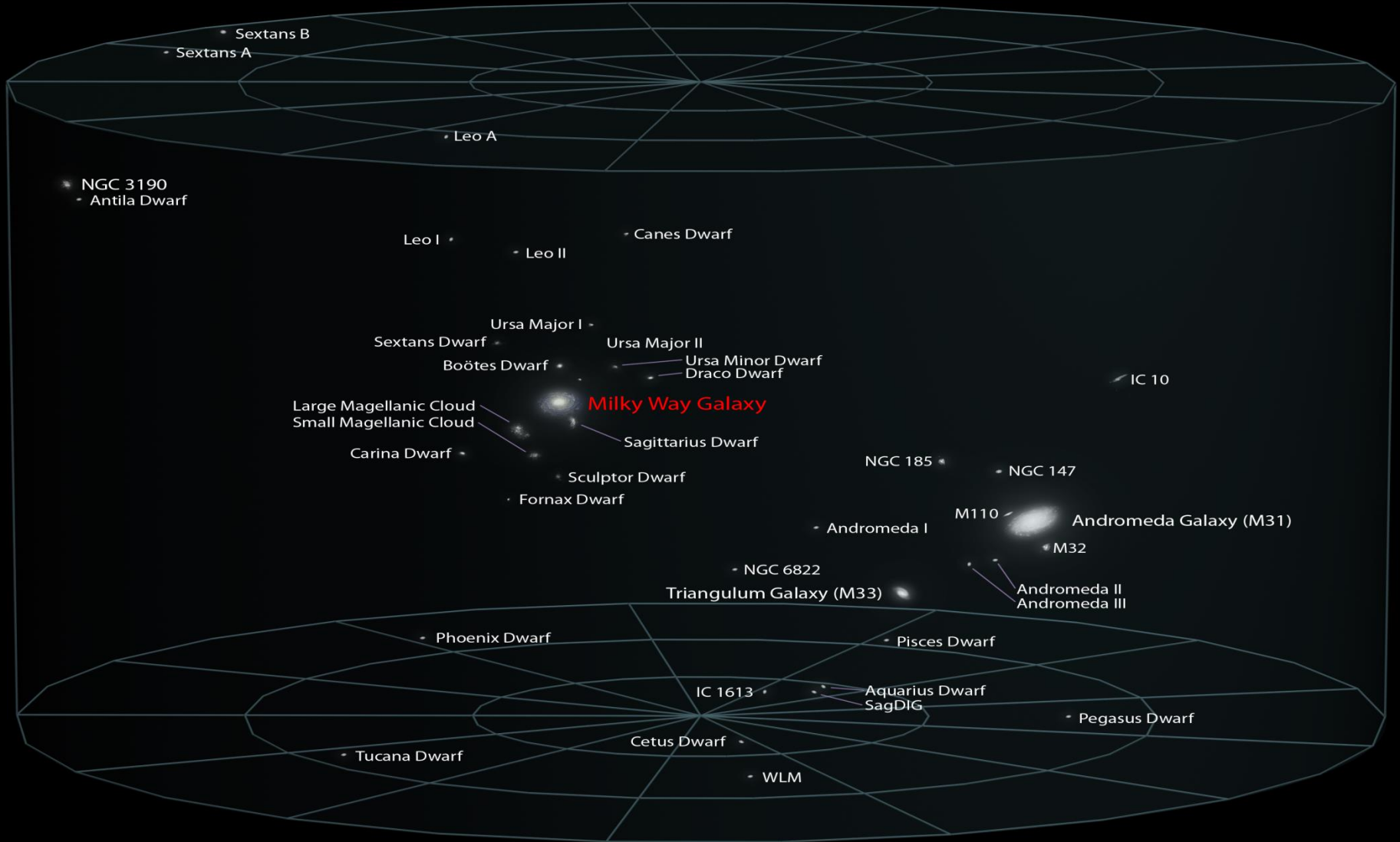
# Local Superclusters



# Observable Universe



# Local Galactic Group





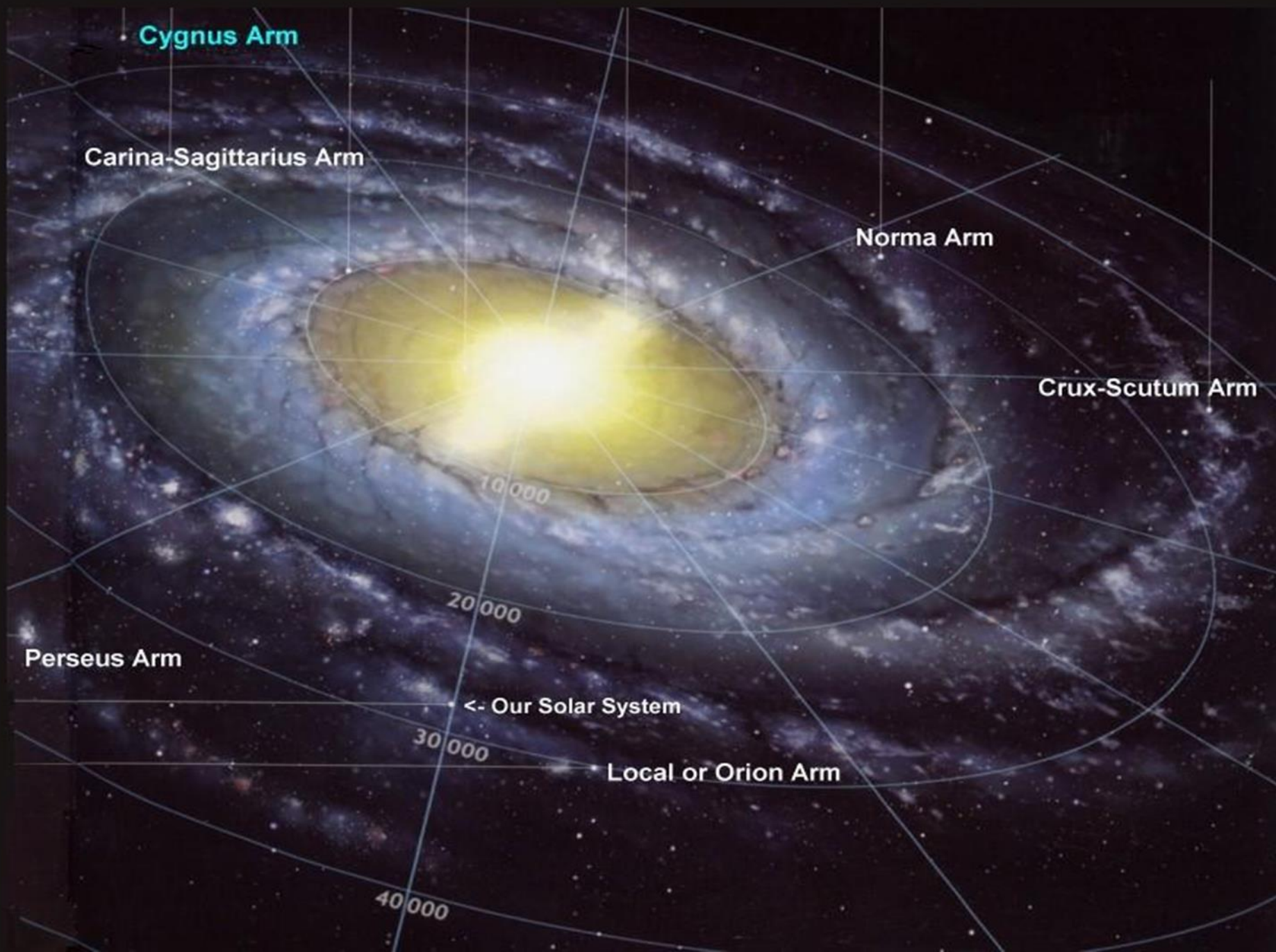
VIA LÁCTEA















M 31  
ANDRÔMEDA









M110



M32





A deep space photograph of a starry night sky, featuring numerous stars of varying colors and sizes. The background is a dark, blackish-blue, densely populated with white and light-colored stars. Some stars are notably brighter and larger than others. A few stars exhibit distinct colors, including a prominent blue star in the upper right and a reddish star in the lower left. The overall appearance is that of a rich, multi-colored stellar population.

M 33  
TRIÂNGULO







IC 10







# NUVENS DE MAGALHÃES















NGC 6822  
BARNARD





NGC 185







COLISÃO NO SISTEMA NGC 2207 NA  
CONSTELAÇÃO DE CÃO MAIOR





DÚVIDAS?

## REFERÊNCIAS:

- Foundations of Astronomy 11th Ed. Seeds/Backman
- 21st Century Astronomy (Full 4th Ed). Kay Palen Smith Blumenthal
- Ancient Astronomy-An Encyclopedia of Cosmologies and Myth. Clive Ruggles