

Da dove veniamo?  
Alla ricerca delle nostre origini cosmiche

Leonardo Testi





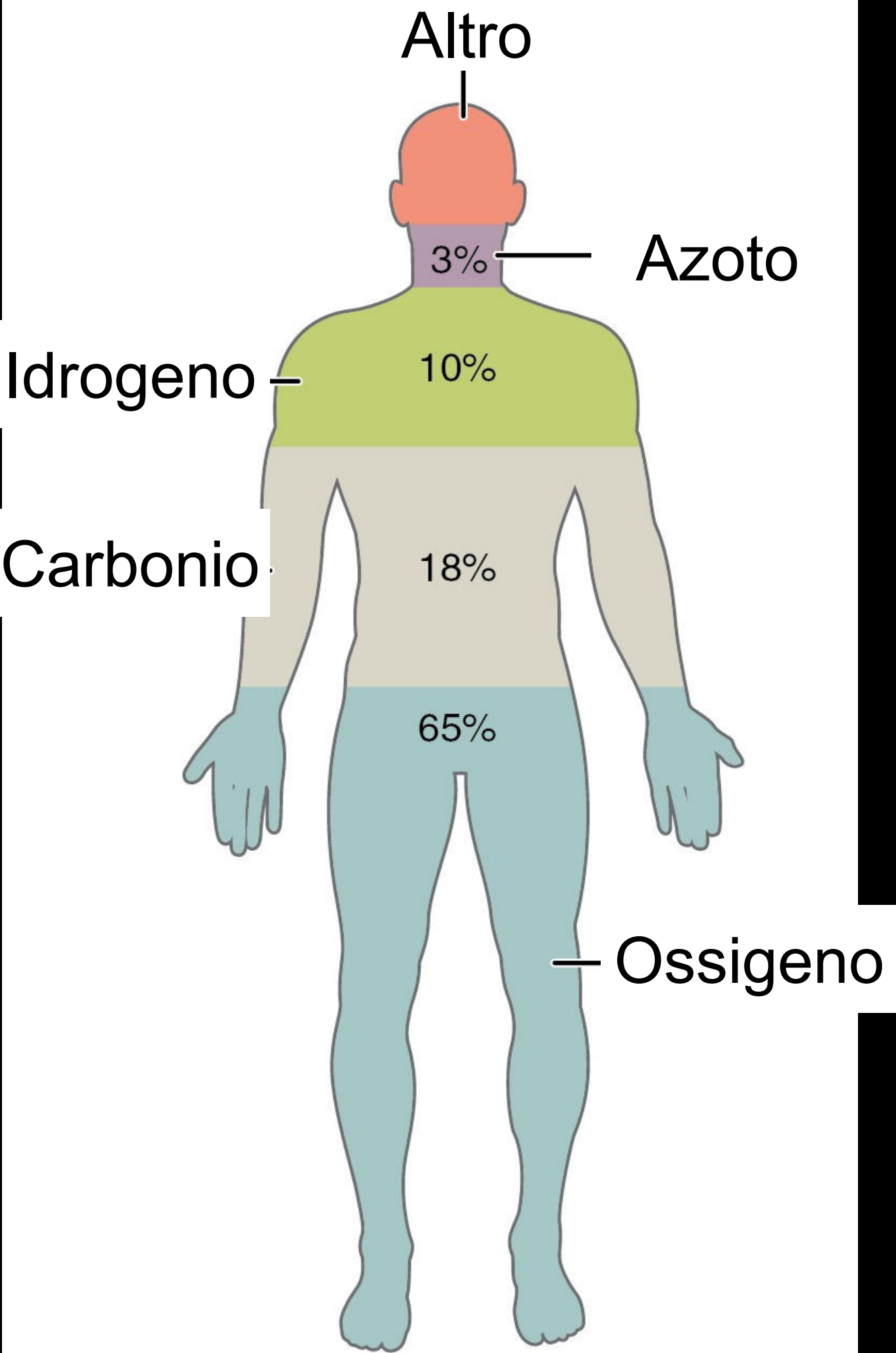


## Palazzo Pitti

in Pietraforte di Firenze della cava di Boboli

Arenaria con frequenti vene di calcite e tracce di ferro



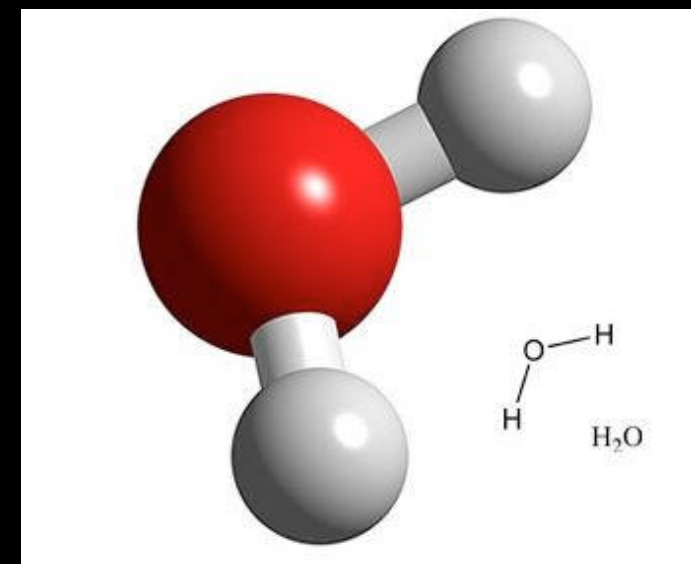


## Corpo Umano

Principalmente composto di Ossigeno, Carbonio, Idrogeno, Azoto

Altro: Calcio, Fosforo, Potassio, Zolfo, Sodio, Cloro...

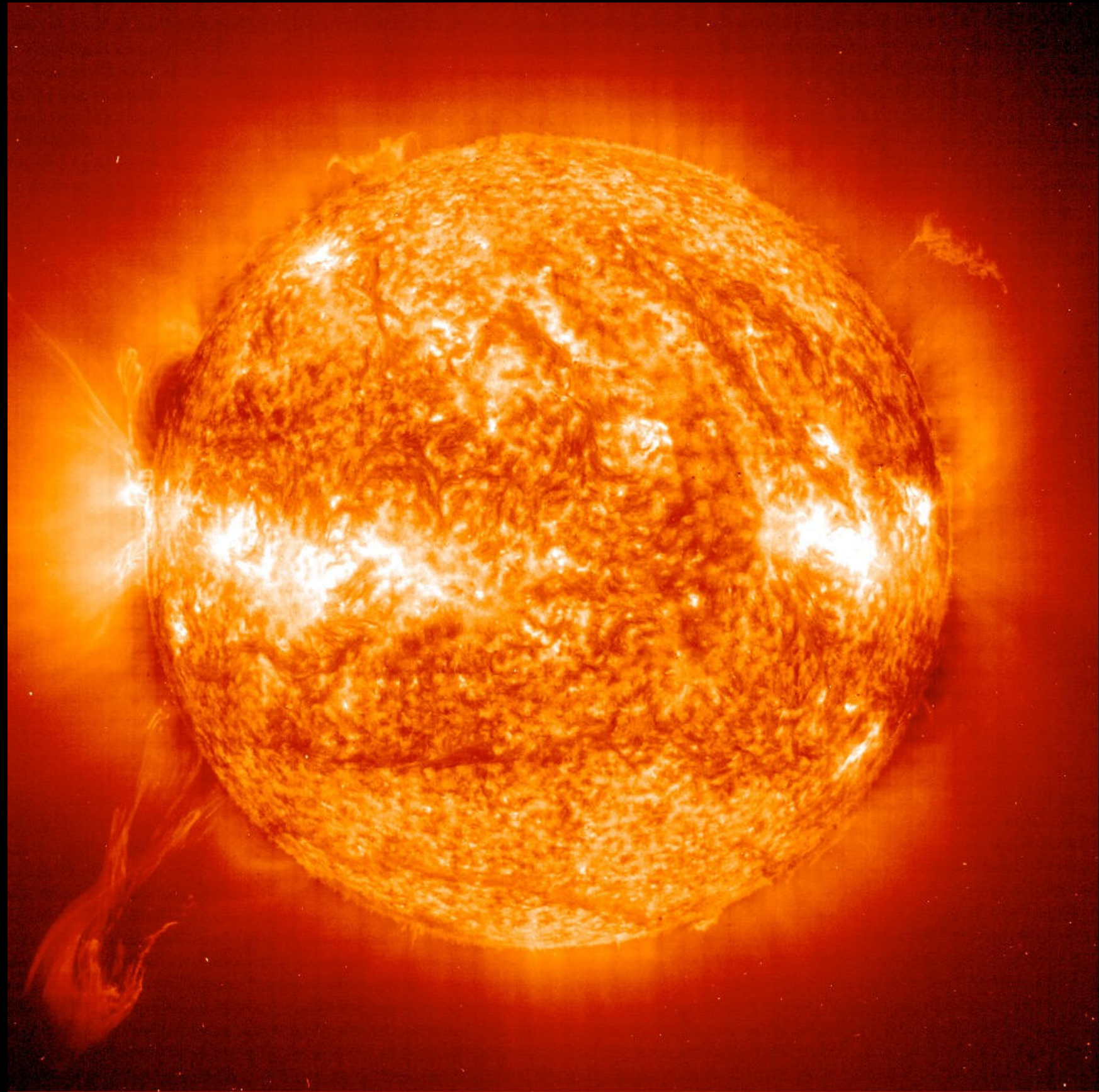
Principalmente aggregati in molecole. Esempio: acqua ( $H_2O$ )



# Sole

Principalmente  
composto da  
Idrogeno (74%) e  
Elio (25%)  
Altro (1%)

Altro: Ossigeno,  
Carbonio,  
Azoto,  
...





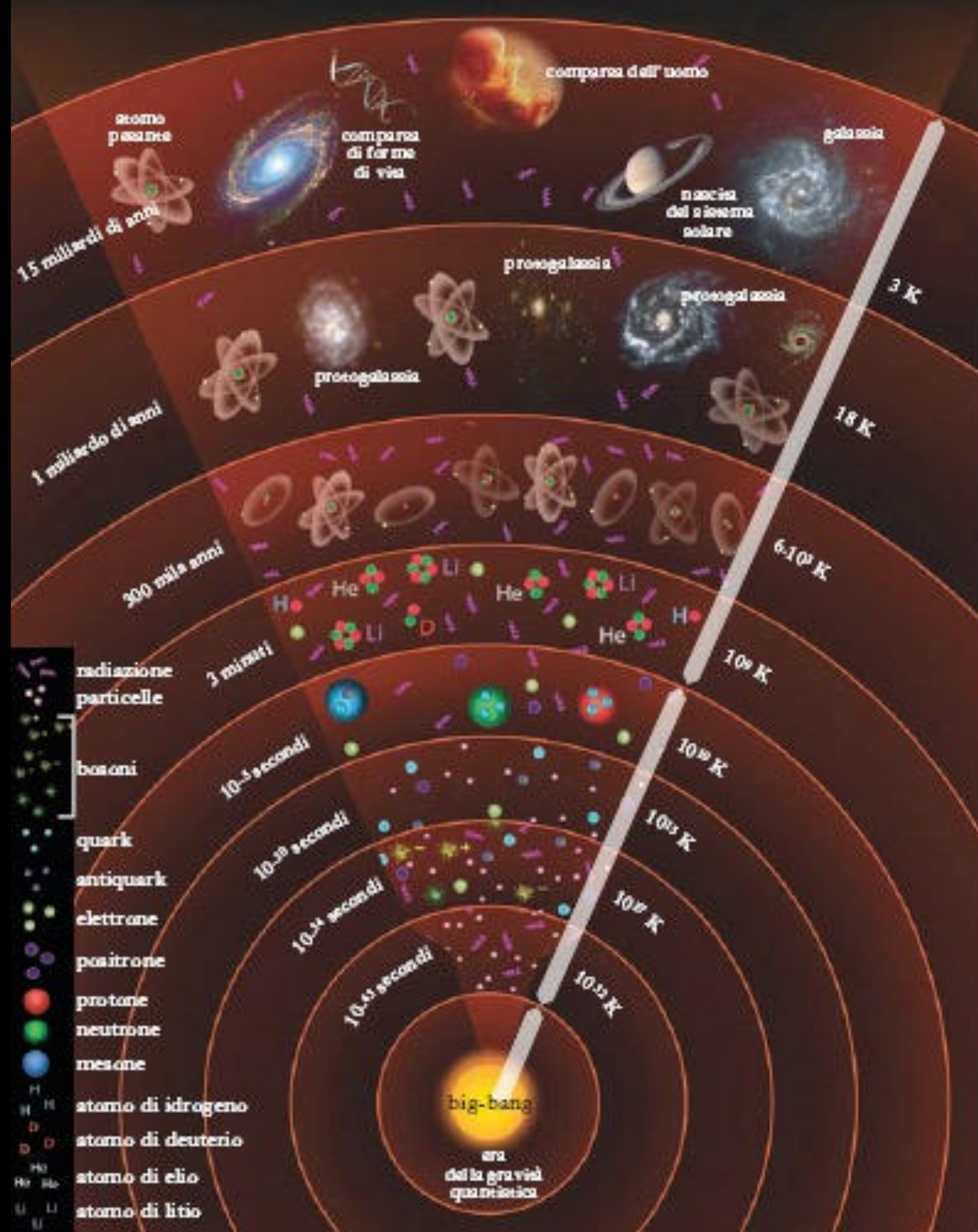
# Universo Primordiale

Gli atomi si sono formati nei primi 3 minuti della vita dell'Universo:

Idrogeno (75%) e Elio (25%)

Altro (0.0001%)

Altro: Deuterio, Litio, Berillio







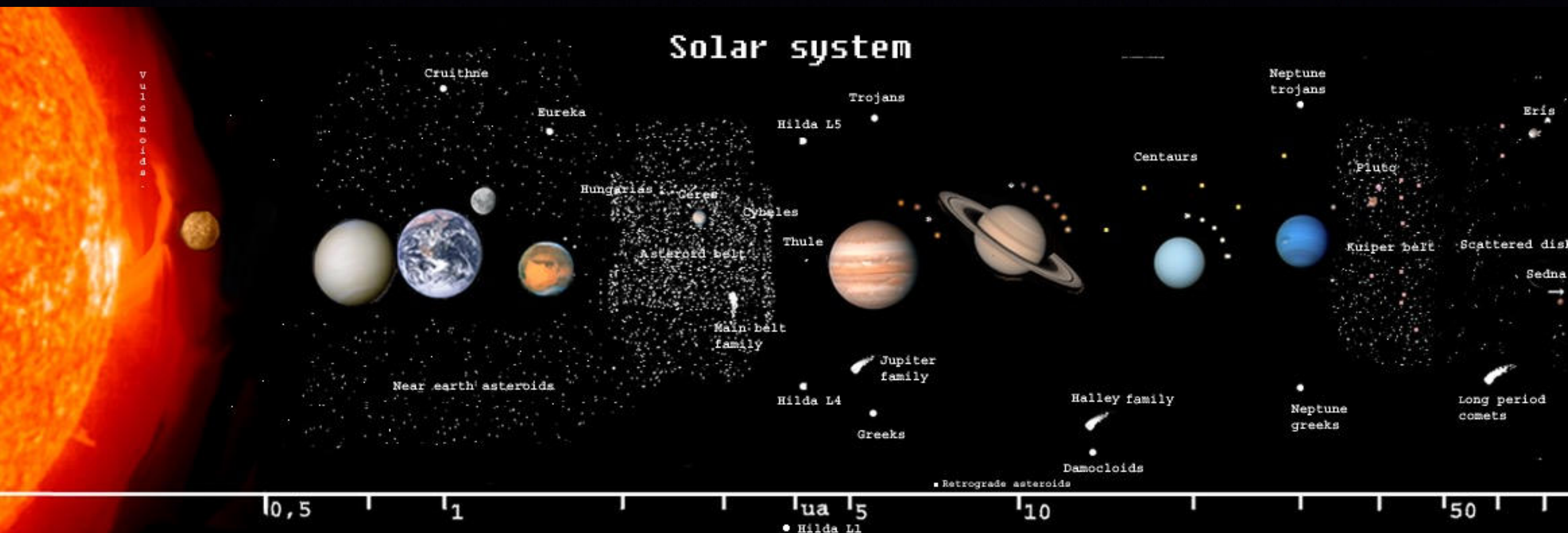


**link al video**

**<https://www.youtube.com/watch?v=17jymDn0W6U>**



# Il Sistema Solare



- 4 pianeti rocciosi interni
- 2 giganti gassosi; 2 giganti ghiacciati
- Corpi minori: pianetini, asteroidi, comete...

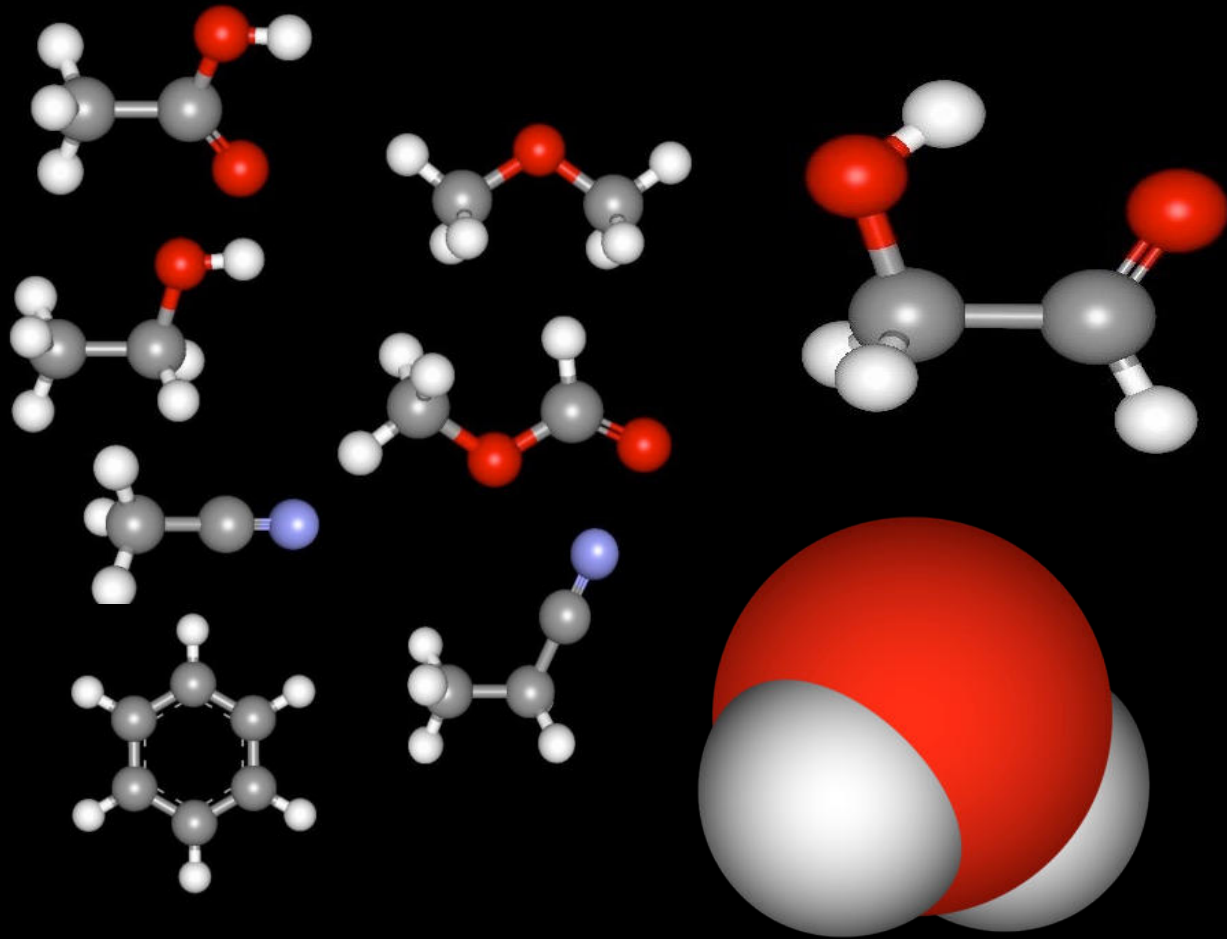


# Il Calendario Cosmico

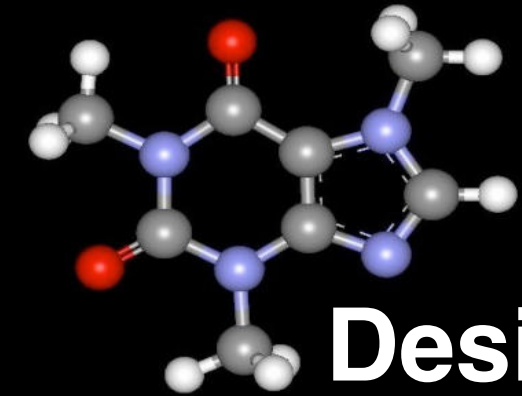




# Come costruirsi un pianeta abitabile



**Cercate**  
(Glicina)

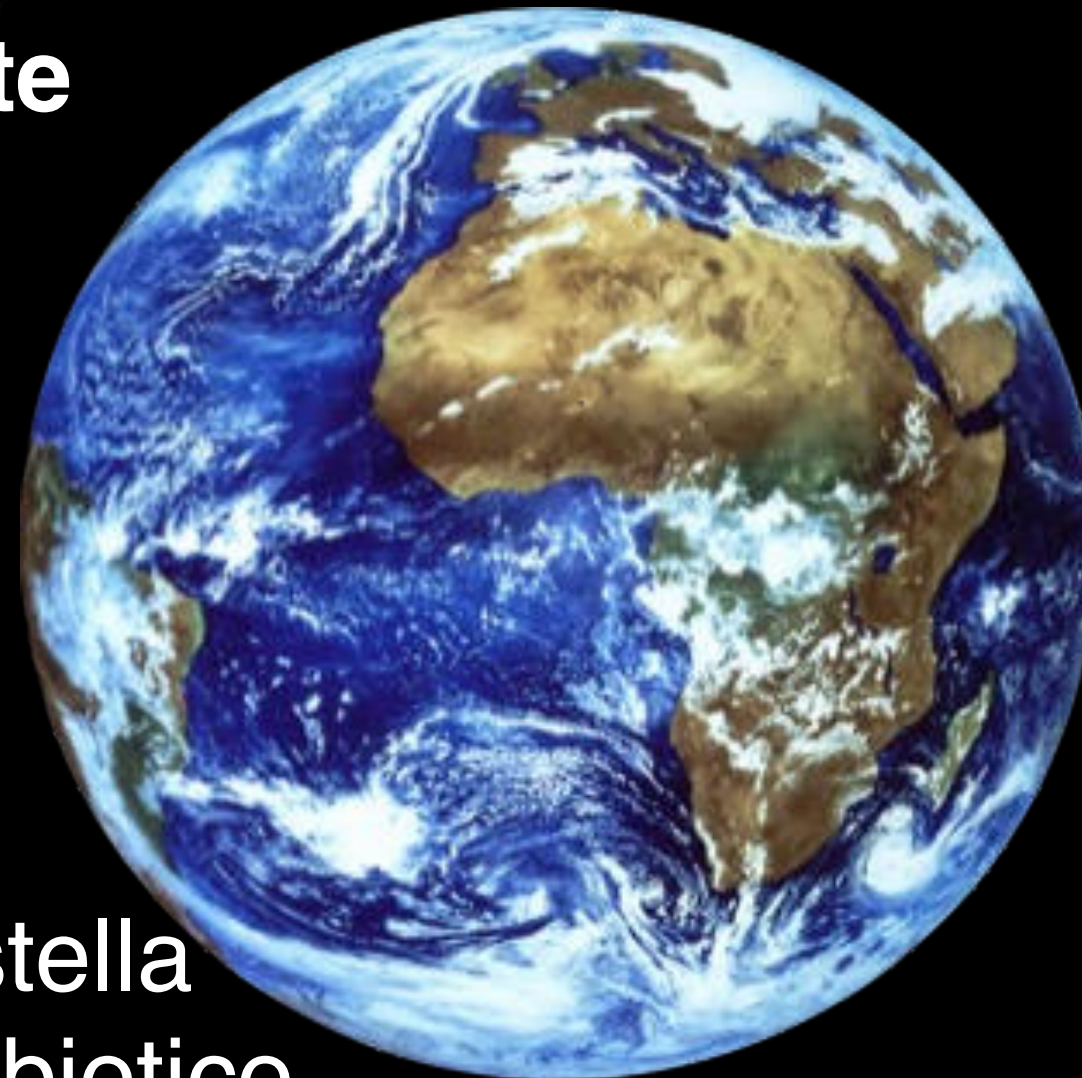


**Desiderate**  
(Caffeina)

**Osservate nel mezzo interstellare**

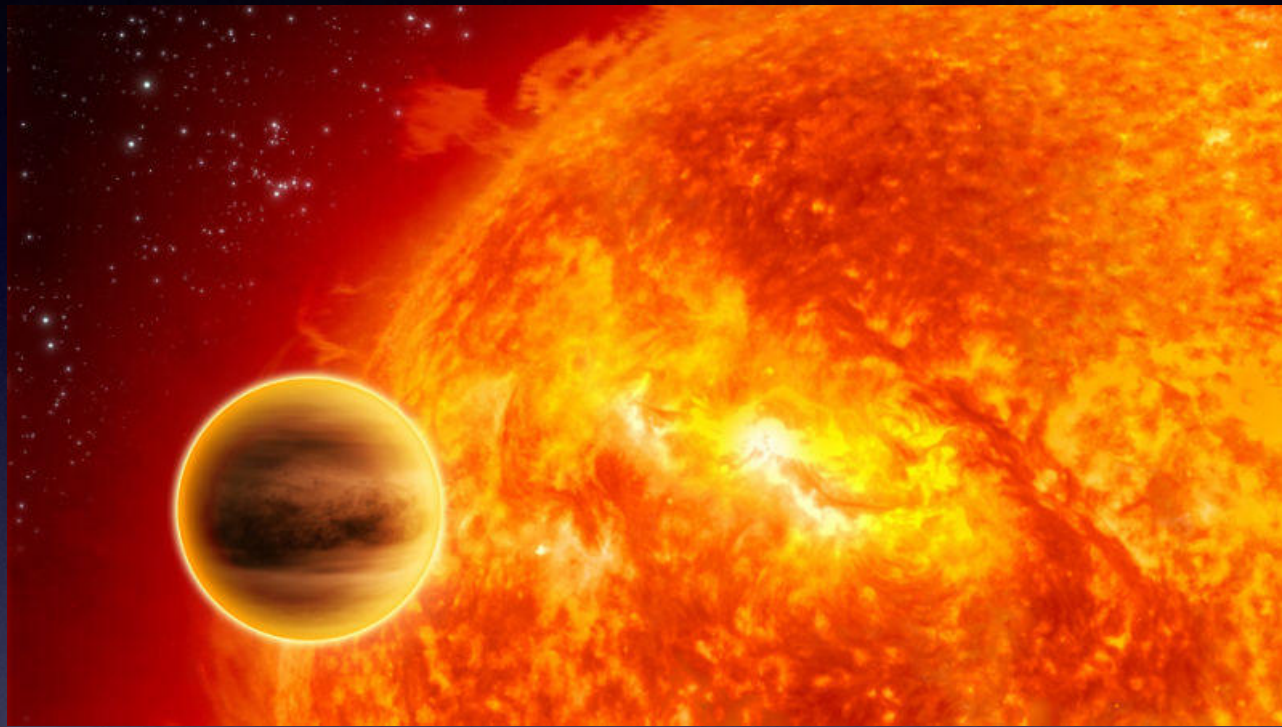
## **Ricetta:**

- Comporre un pianeta terrestre
- Porlo alla giusta distanza dalla stella
- Depositarcì sopra materiale pre-biotico





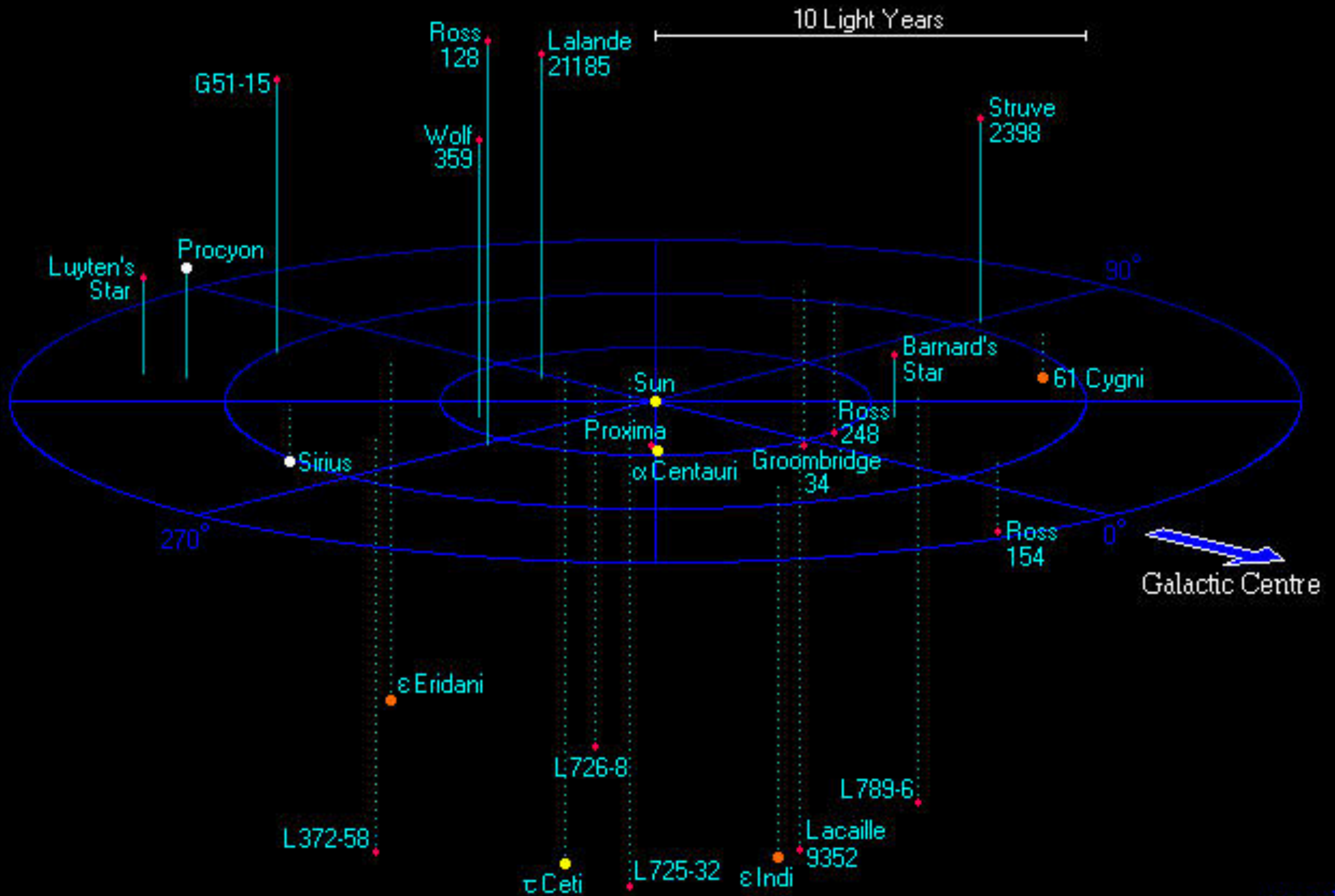
# Pianeti Extrasolari



- La maggior parte delle stelle ha un sistema planetario
- La maggior parte dei sistemi conosciuti sono molto diversi dal Sistema Solare

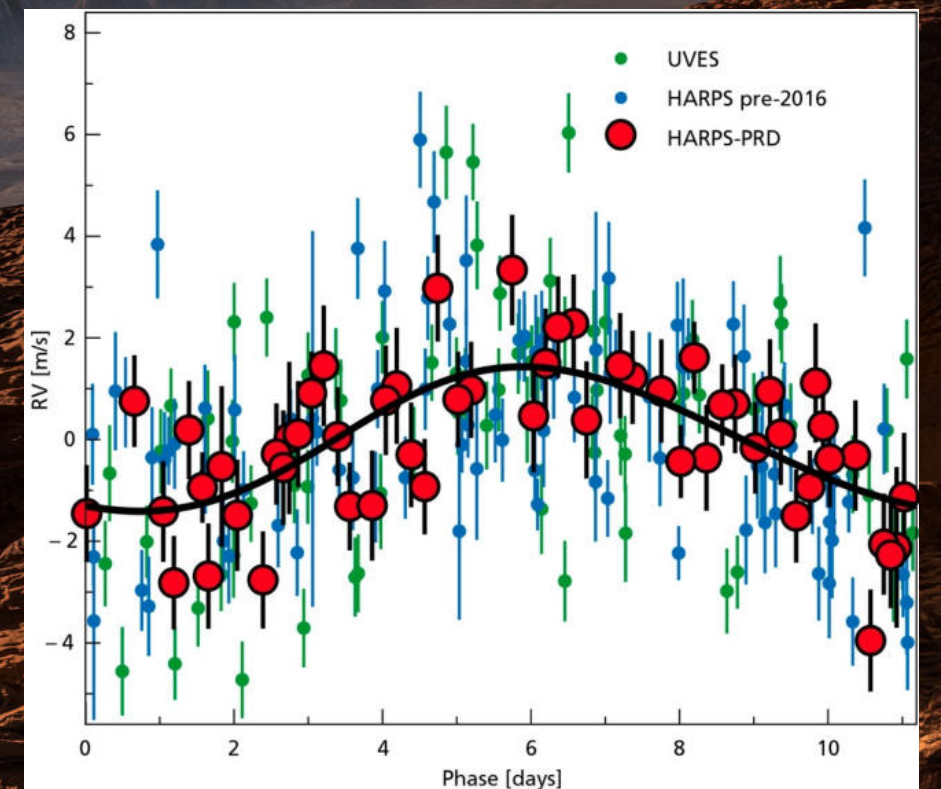
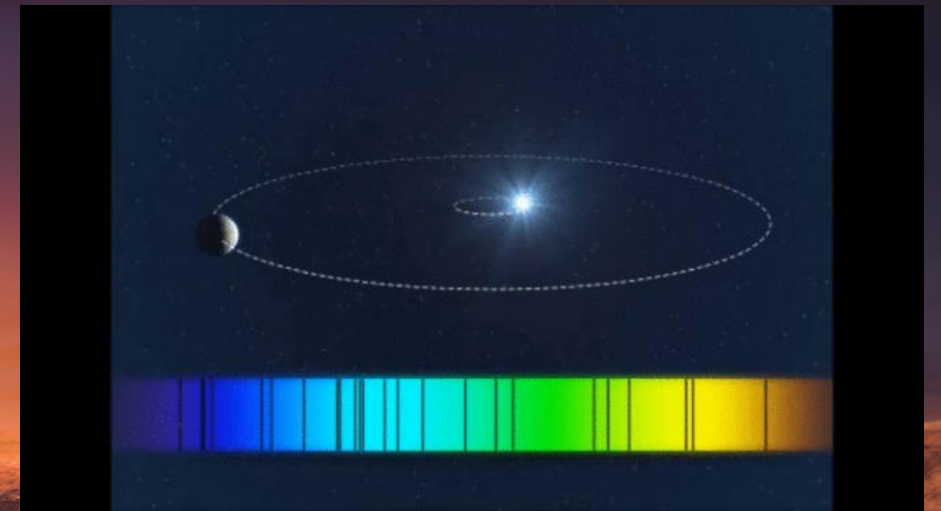
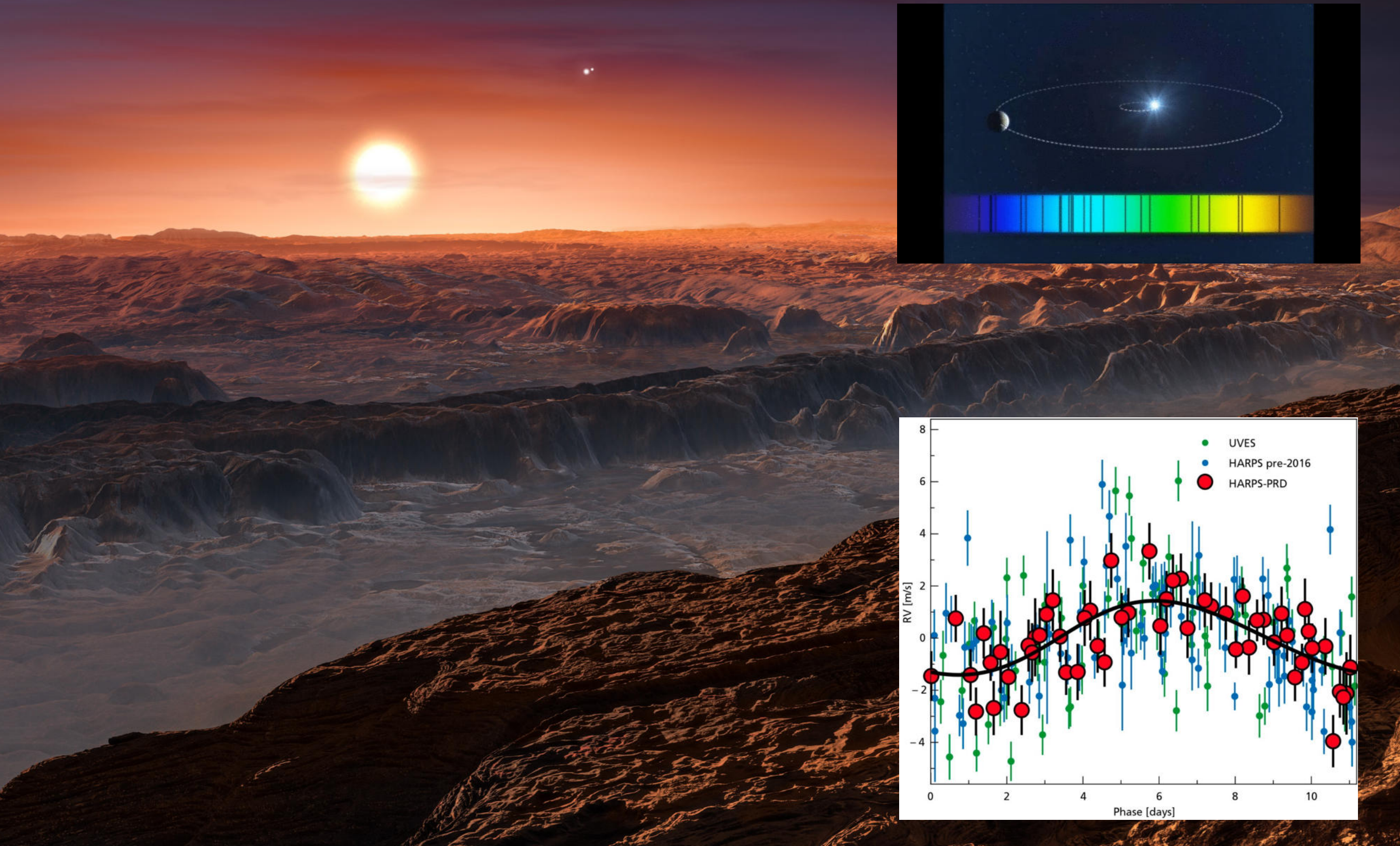


# I dintorni del Sole





# Proxima Centauri b

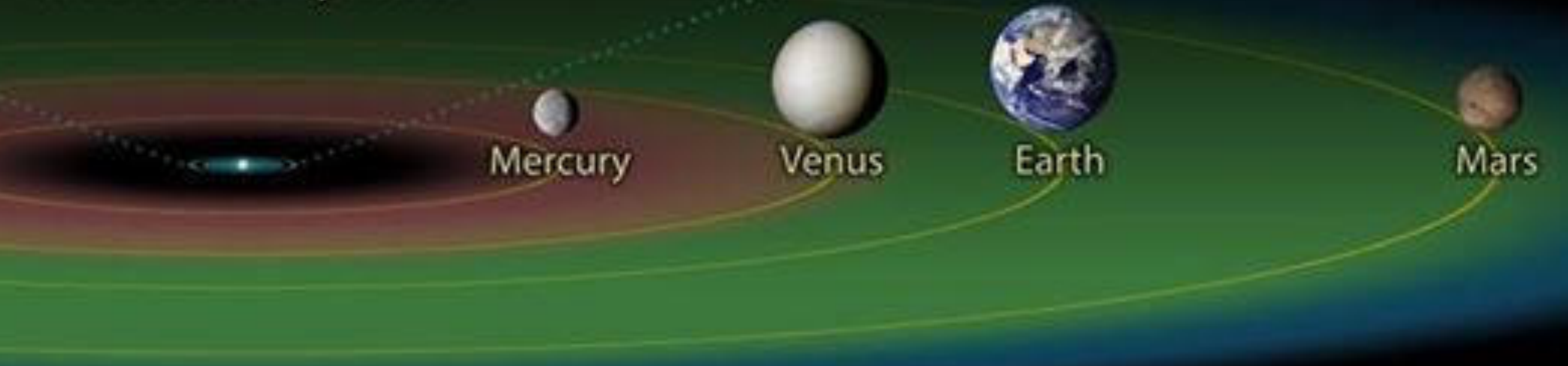




# TRAPPIST-1 System

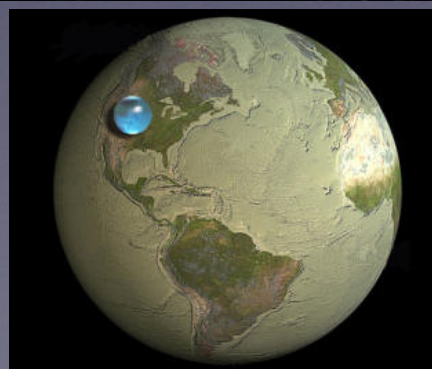
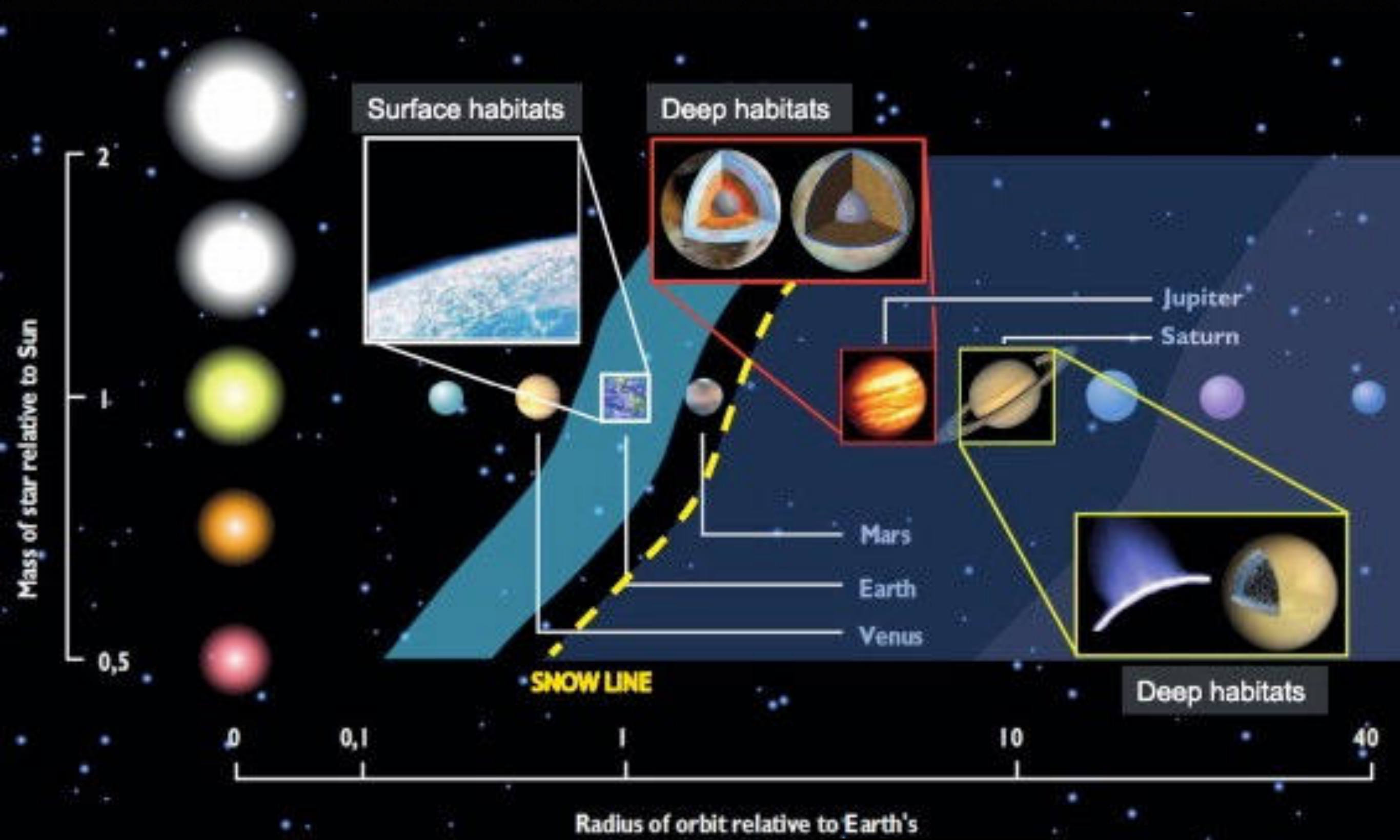


# Inner Solar System



Enlarged 25x





Terra



Europa



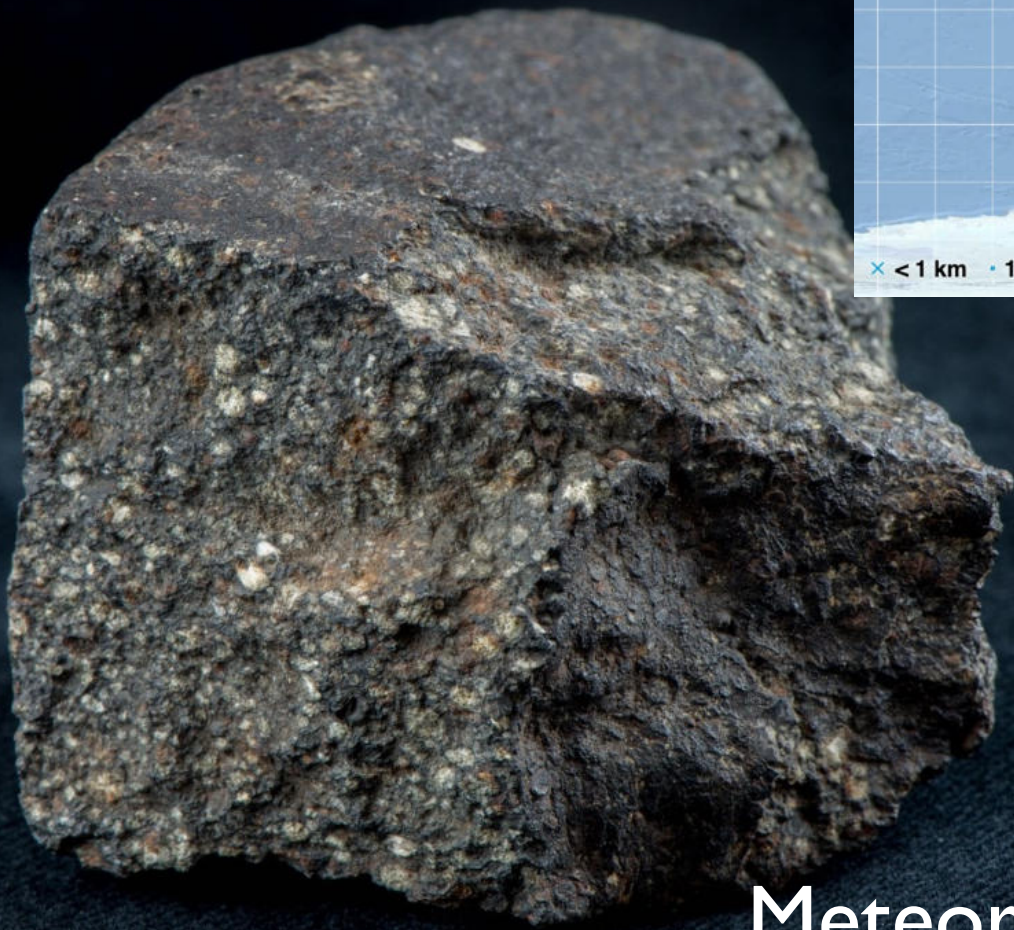
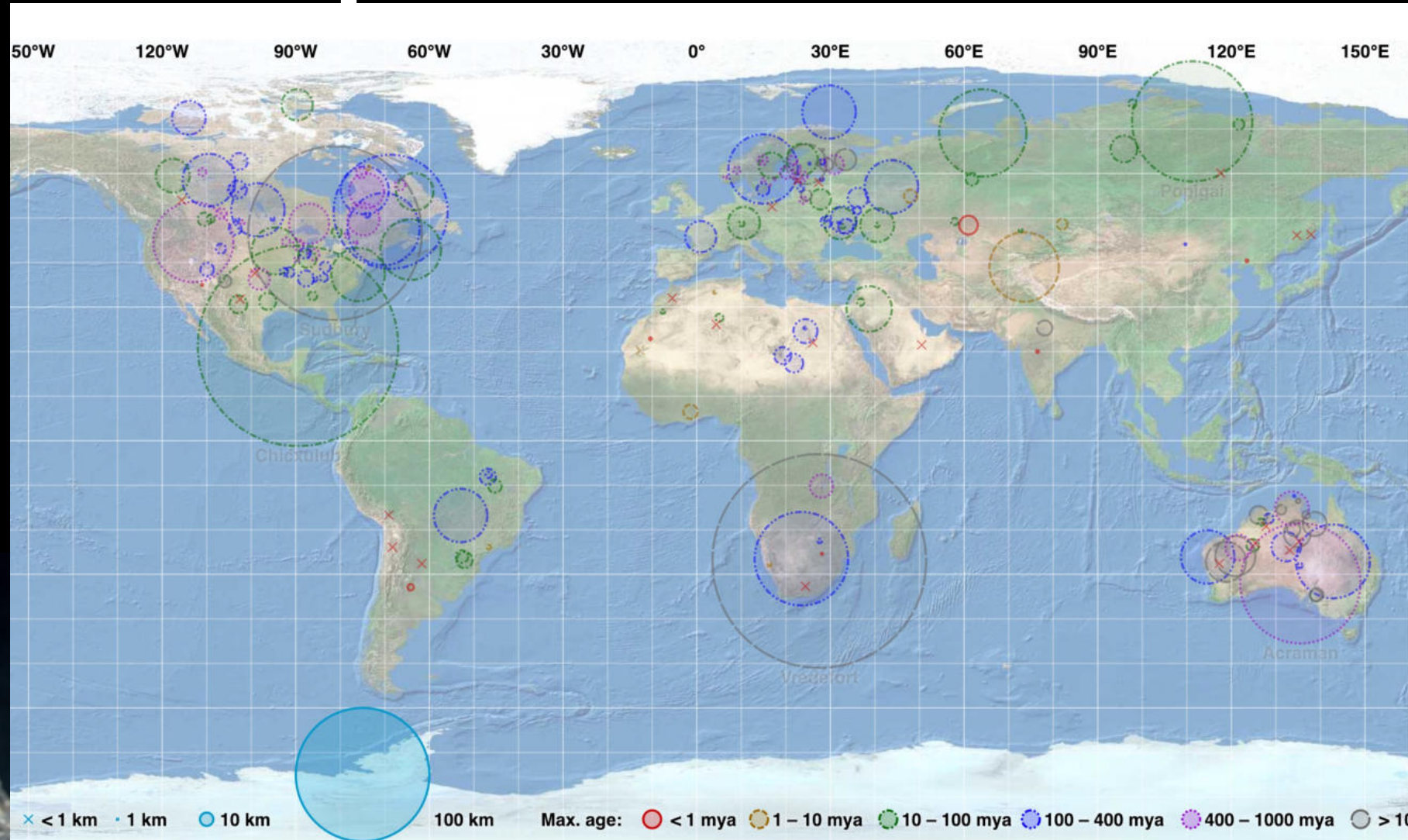
七年彗星先出東方見北方五月見西方  
 八年王弟長安君成嶺死屯備城其民於  
 九年王弟長安君成嶺死屯備城其民於  
 十年王弟長安君成嶺死屯備城其民於  
 十一年王弟長安君成嶺死屯備城其民於  
 十二年王弟長安君成嶺死屯備城其民於  
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 十四年王弟長安君成嶺死屯備城其民於  
 十五年王弟長安君成嶺死屯備城其民於  
 十六年王弟長安君成嶺死屯備城其民於  
 十七年王弟長安君成嶺死屯備城其民於  
 十八年王弟長安君成嶺死屯備城其民於  
 十九年王弟長安君成嶺死屯備城其民於  
 二十年王弟長安君成嶺死屯備城其民於





# Evidenze di impatti

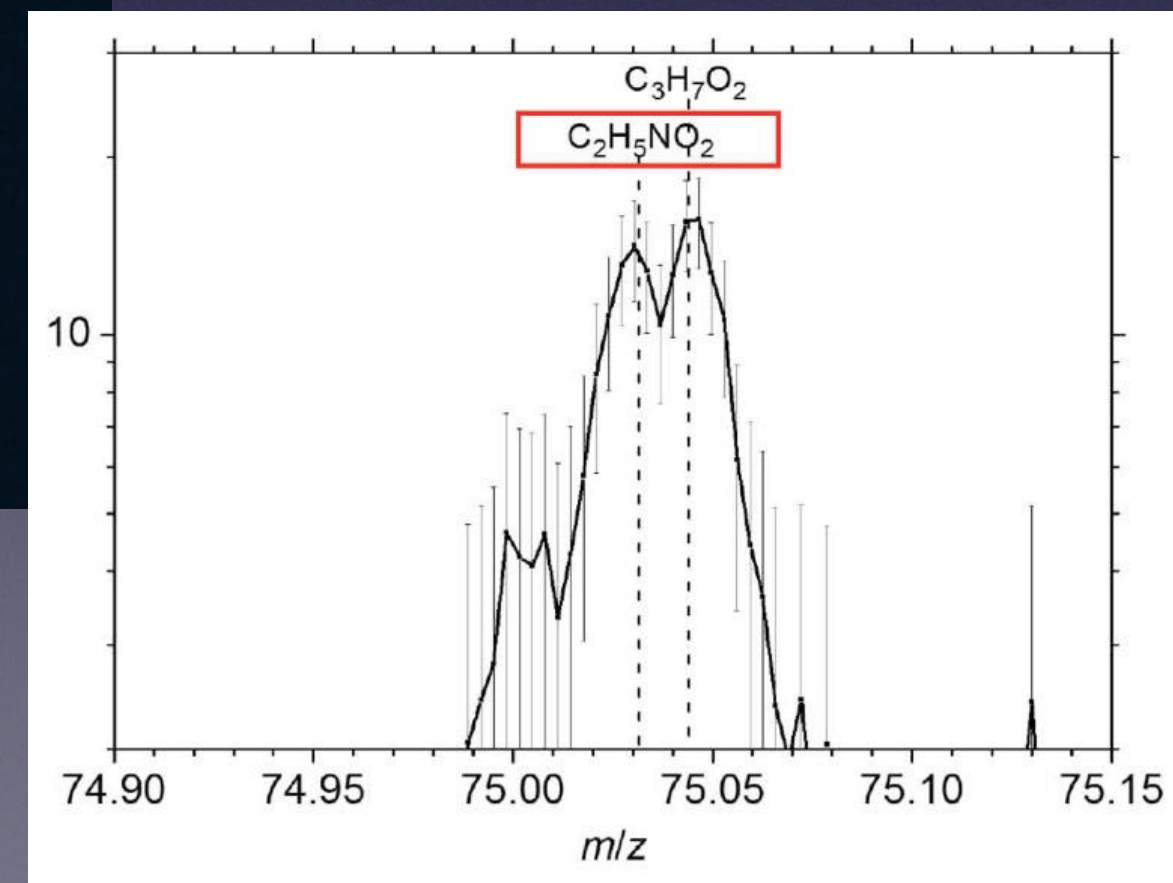
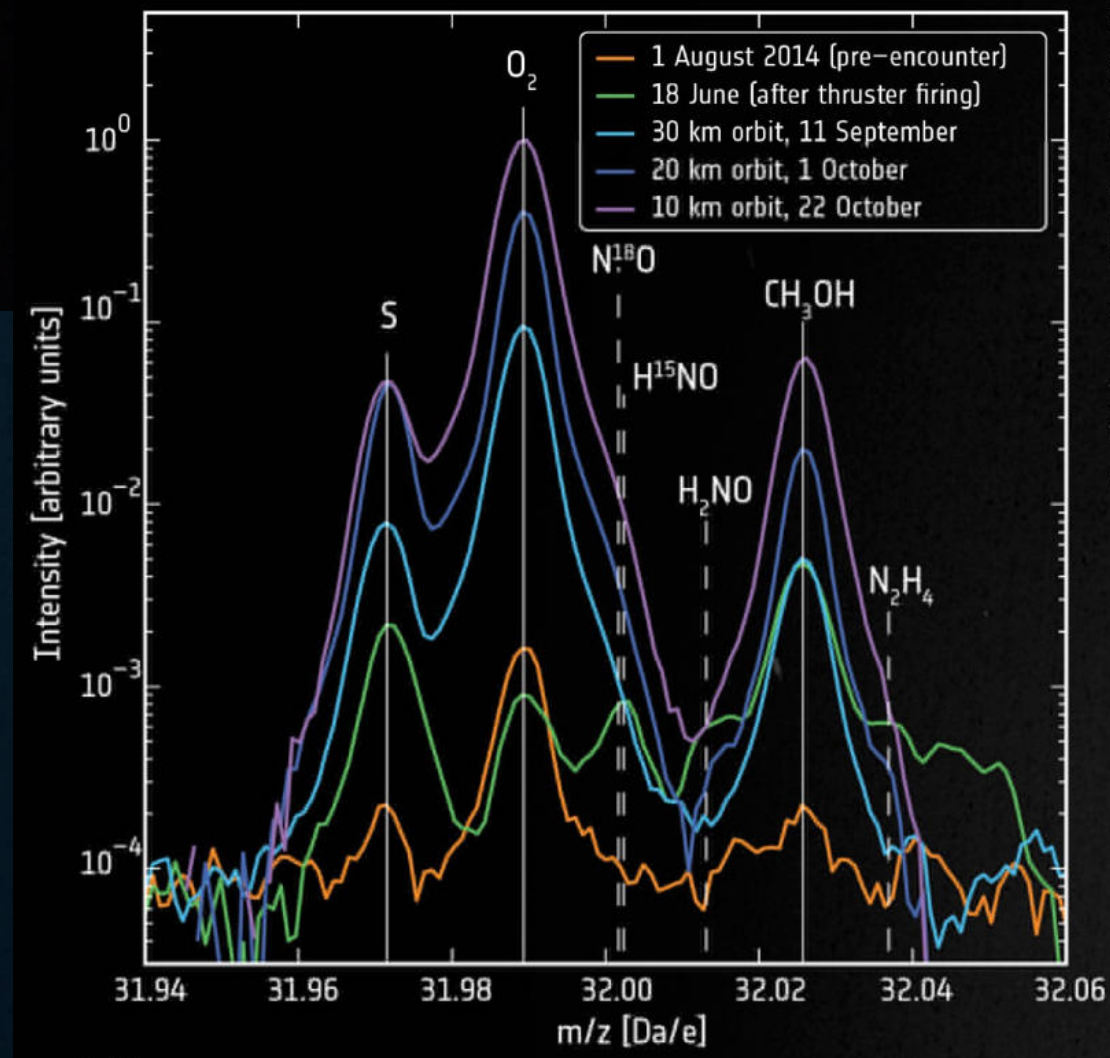
Adesso eventi rari  
(per nostra fortuna)



Meteorite di Renazzo (1824), Museo Luigi Bombicci



# Comete



Immagini e misure dalla sonda Rosetta

Presenza di molecole complesse

- Metanolo
- Glicina
- ...



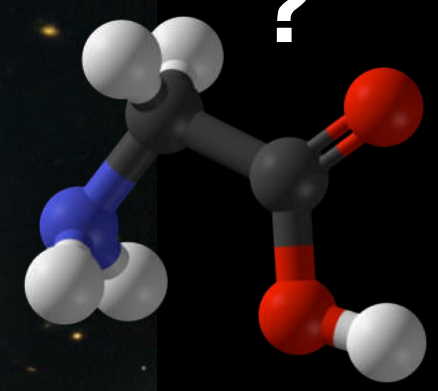
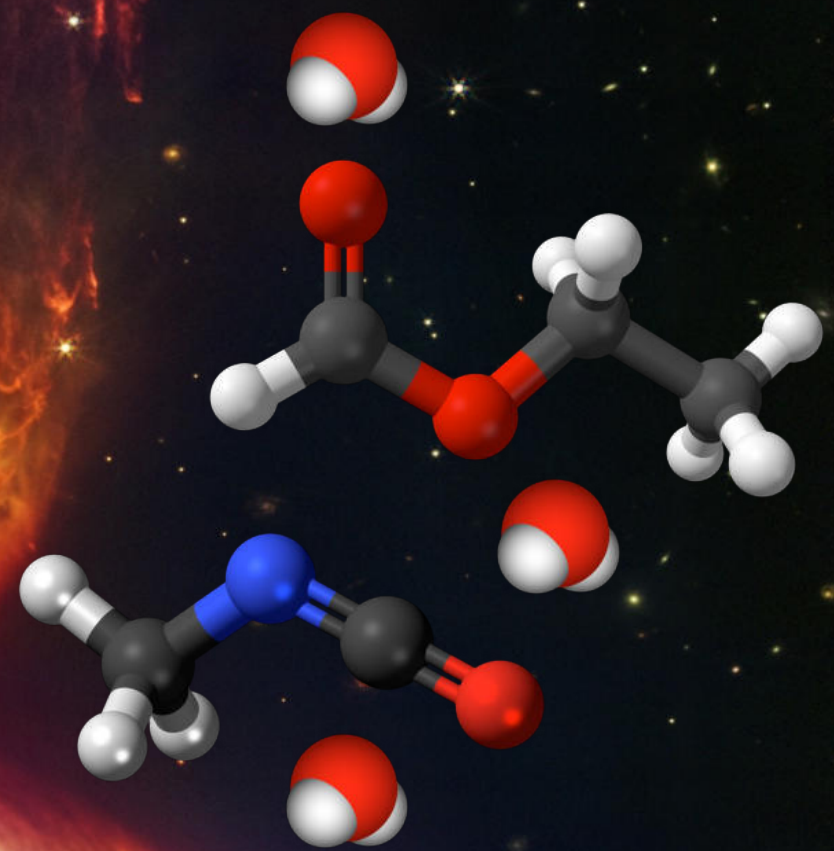
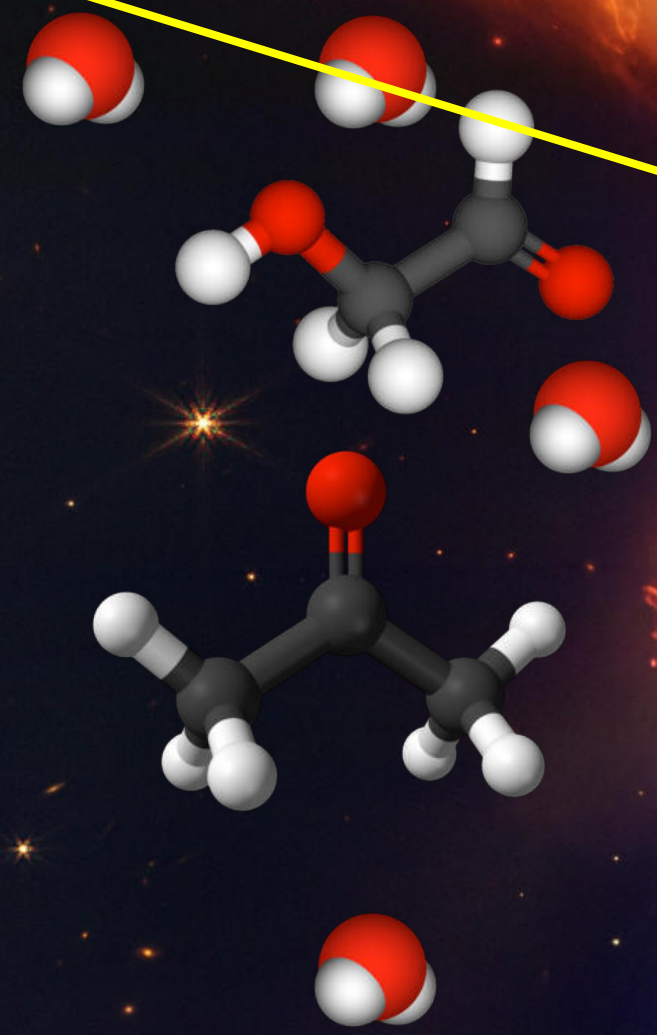
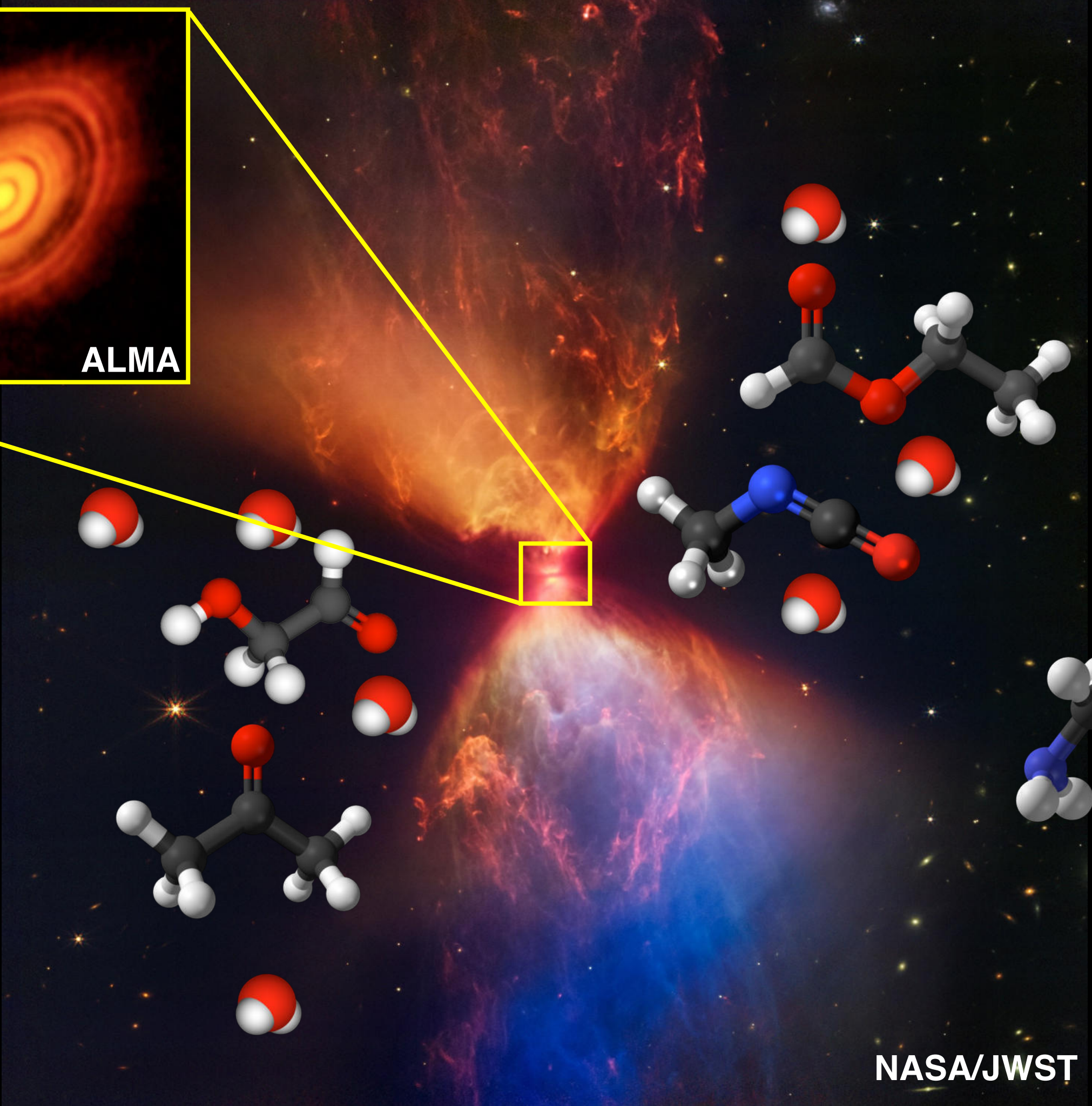
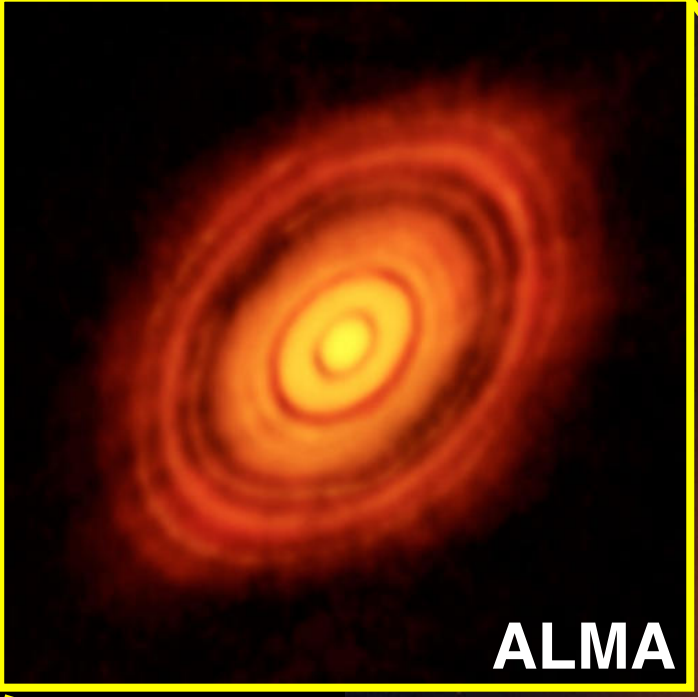




ALMA

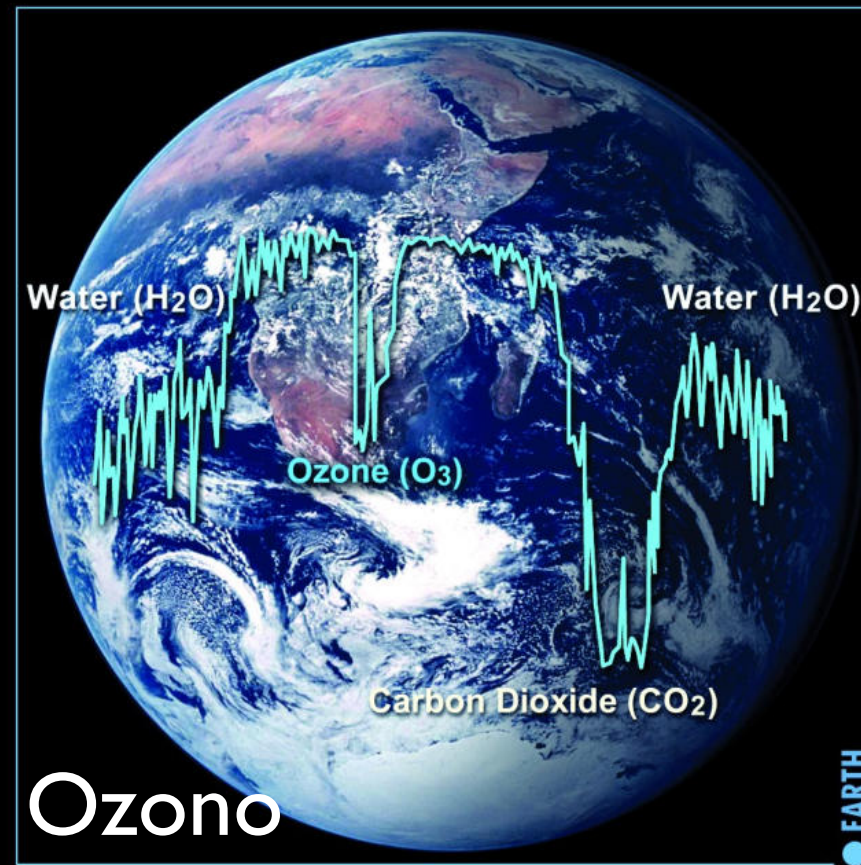
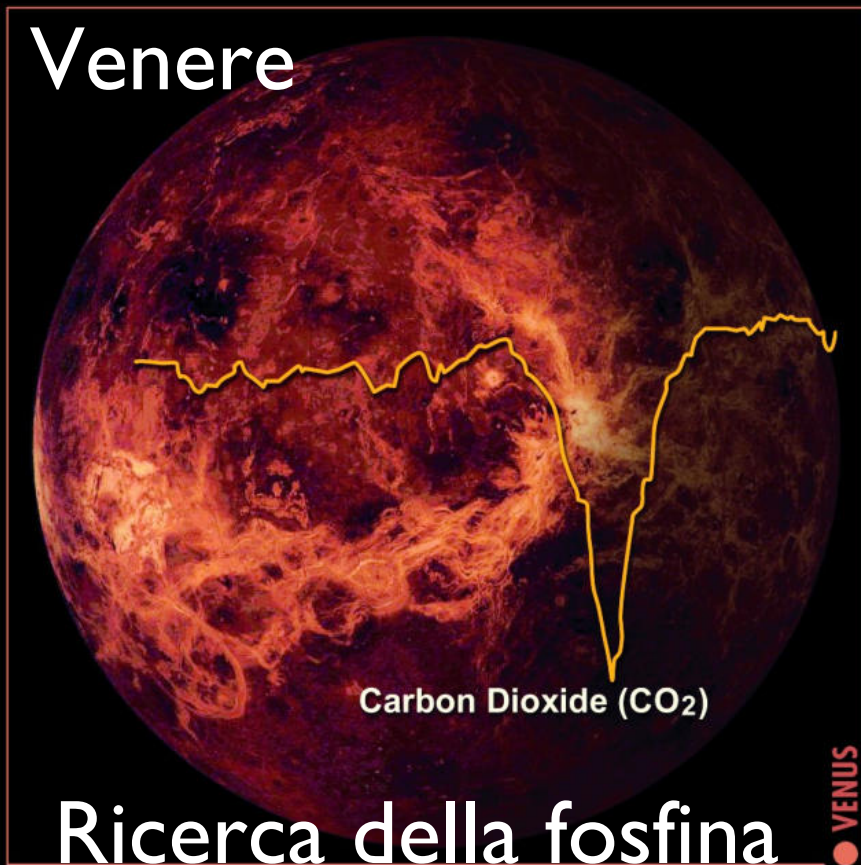
NASA/JWST

?





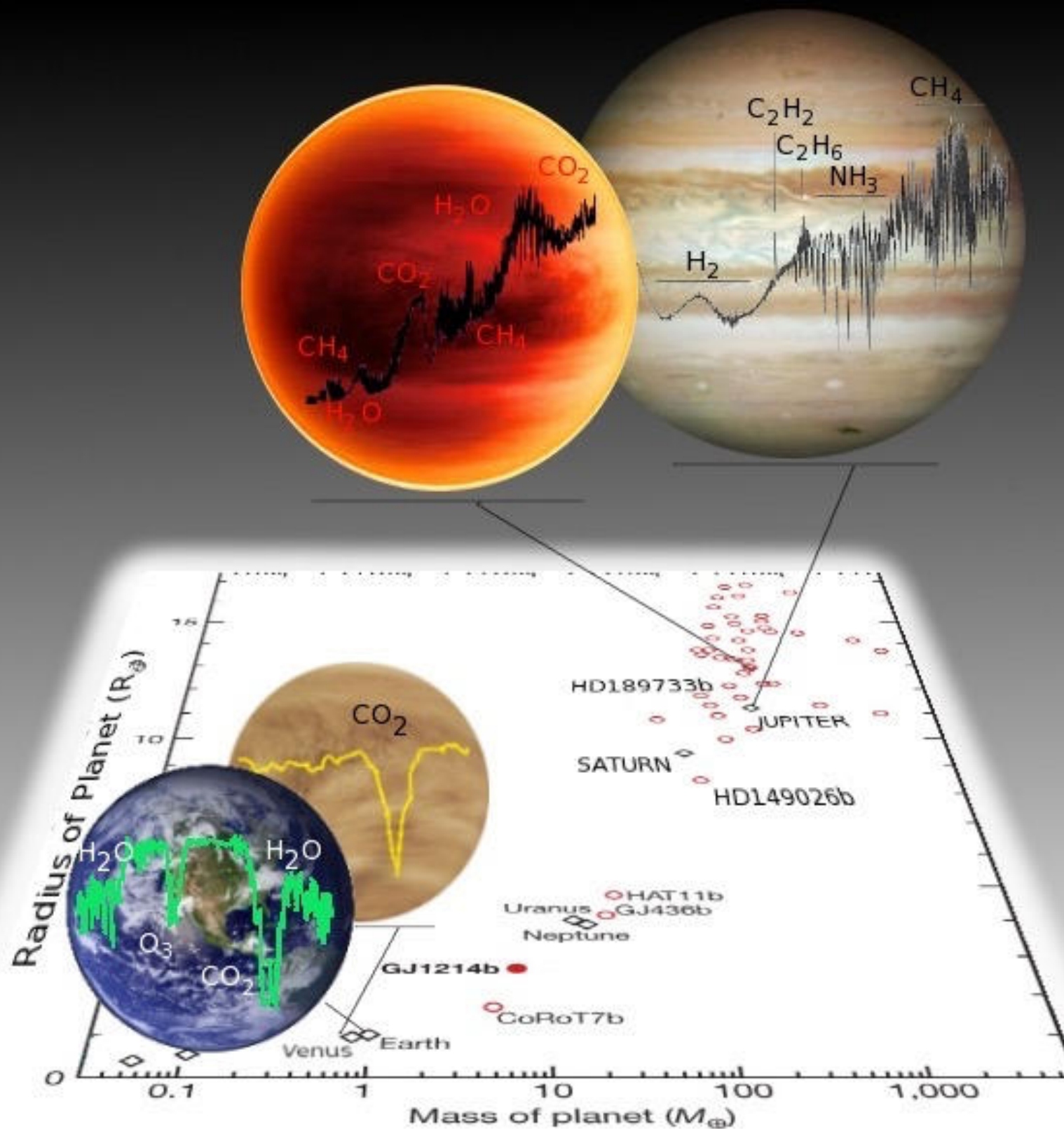
# Evoluzioni parallele e divergenti



Speranze e disillusioni nella ricerca della vita nel Sistema Solare



# Atmosfera planetarie





# European Extremely Large Telescope

120 m

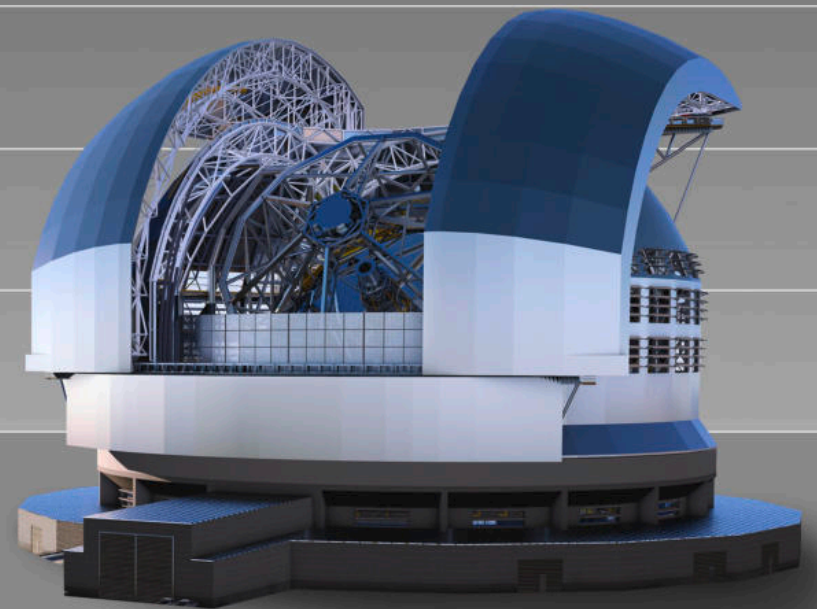
100 m

80 m

60 m

40 m

20 m





A movie poster for the film 'Contact'. The background is a deep blue night sky filled with stars. In the foreground, a man with dark hair and a goatee, wearing a dark jacket, stands looking towards the right. In front of him, a woman with dark hair, wearing a white lab coat and large headphones, sits looking towards the left. Behind them are several large, white, parabolic radio telescope dishes mounted on a dark structure. The overall mood is one of scientific exploration and discovery.

# CONTACT

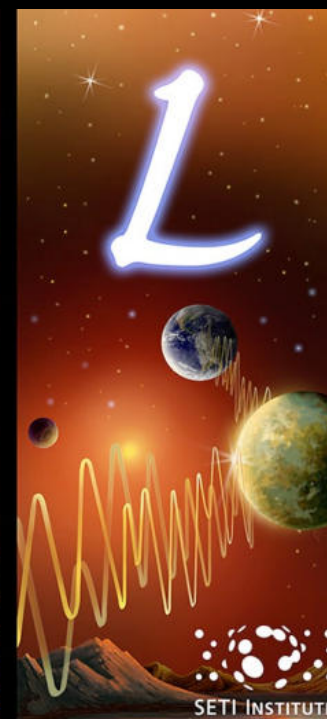
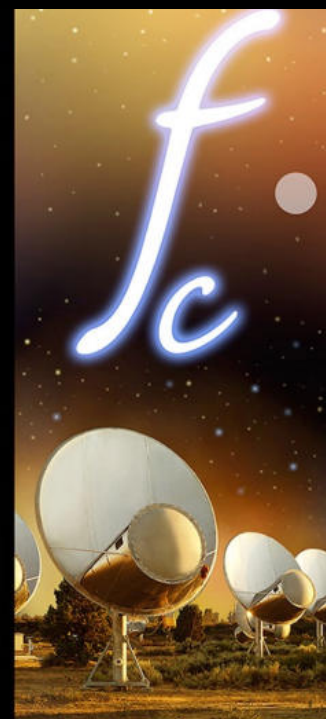
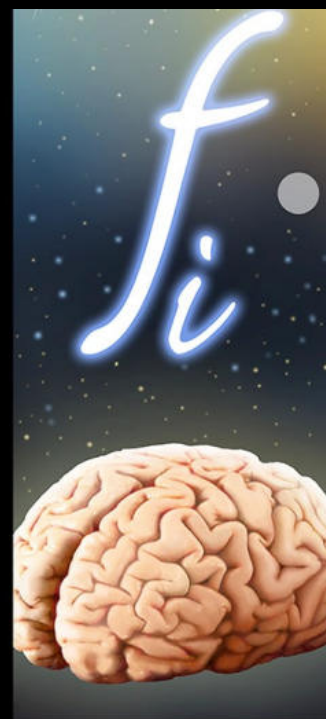
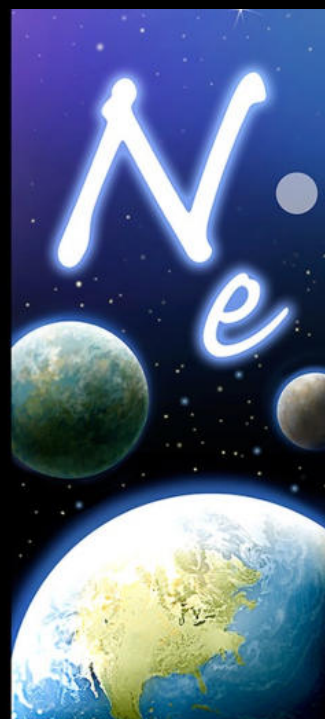
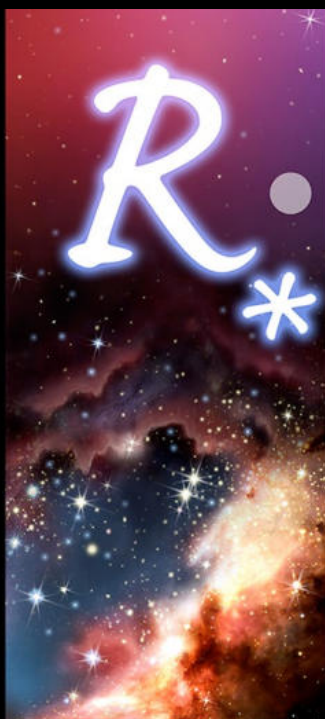
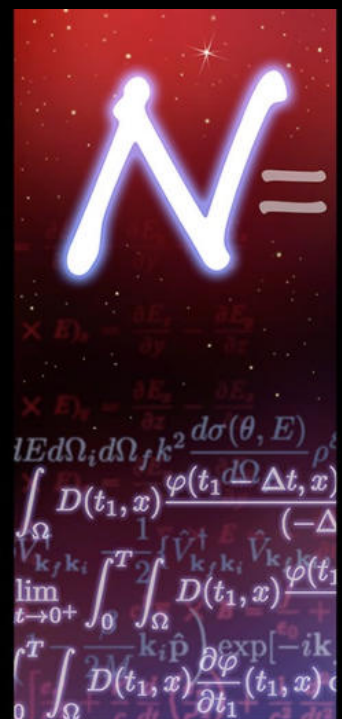
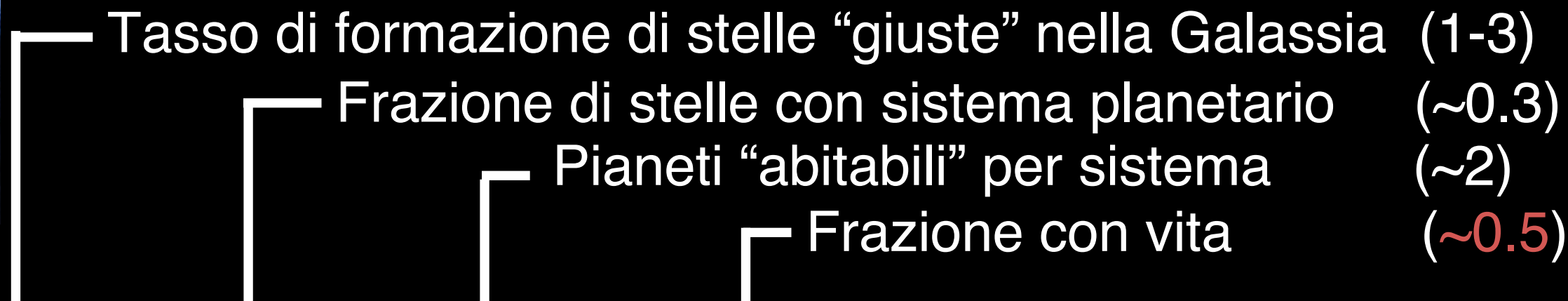
A message from deep space.  
Who will be the first to go?  
A journey to the heart of the universe.





1961

# Equazione di Drake



Frazione che sviluppa vita intelligente (~0.1)

Frazione con civiltà in grado di comunicare (~0.1)

Durata di una civiltà in grado di comunicare (~50-??)

Numero di civiltà con cui possiamo entrare in contatto (?-0.3-?)



link al video dato in precedenza seconda parte

