

Promising Developments in Astrobiology

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Protoplanetary disks and their physical and chemical processes



Formation and Evolution of Planetary System
Detection of habitable worlds



Impacts and their Role in the Evolution of Planets, Moons and Life



Planetary Environments and Habitability



The pathway to complexity: from simple molecules to first life



Tracing Life and Identifying Habitable Environments



Evolution and Traces of Early Life and Life under Extreme Conditions



Biosignatures and the Detection of Life beyond Earth



Historical, Philosophical, Societal and Ethical Issues

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ALMA



SKA



HPC



PLATO



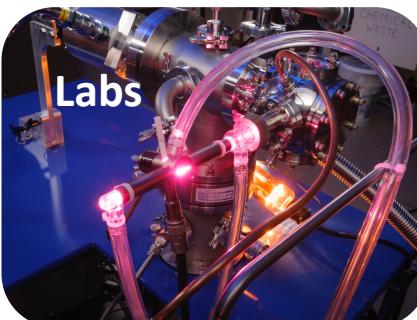
JWST



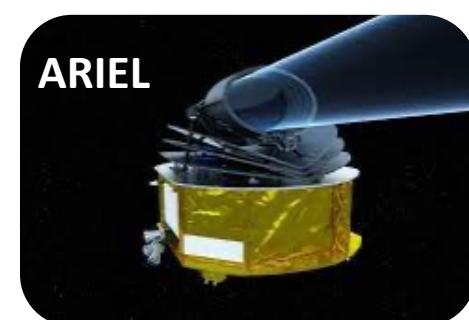
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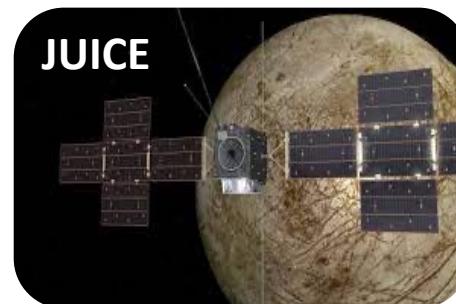
Labs



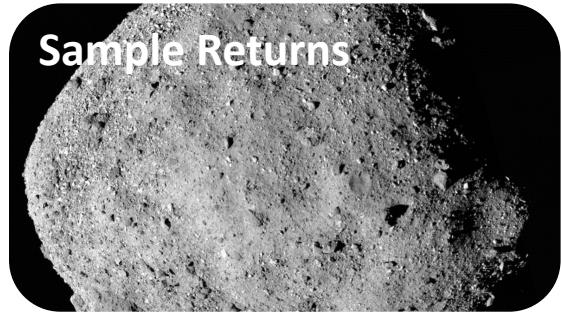
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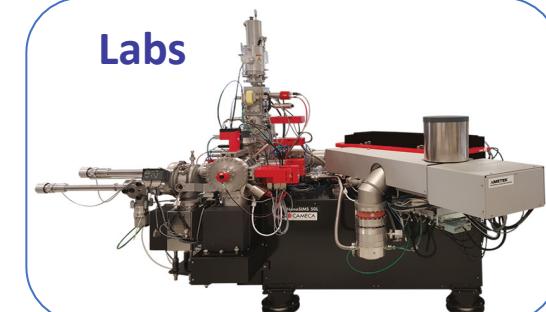
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Sample Returns



HPC



Labs

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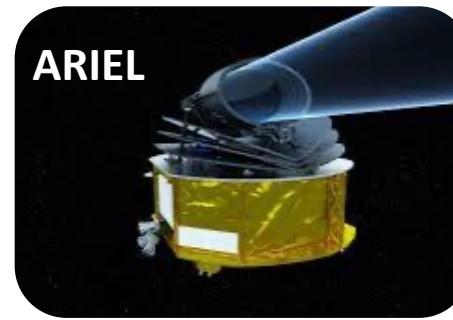
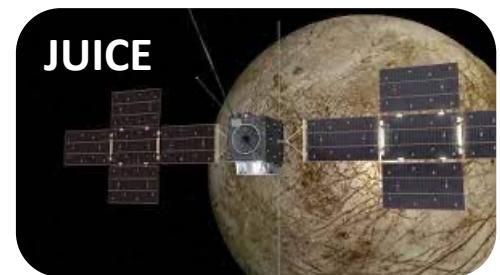
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Evolution of Planets, Moons and Life

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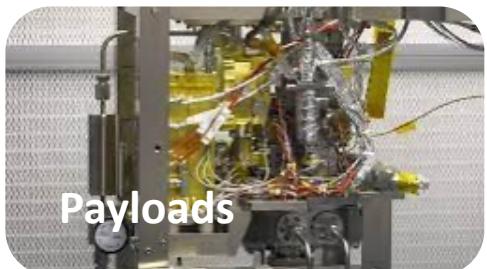
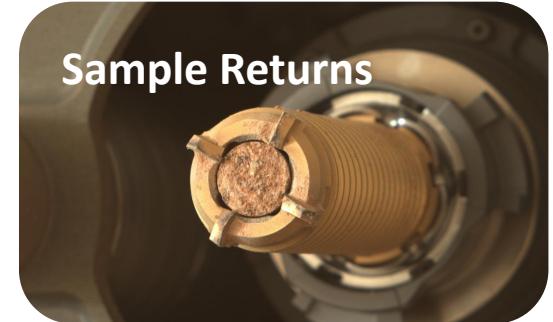
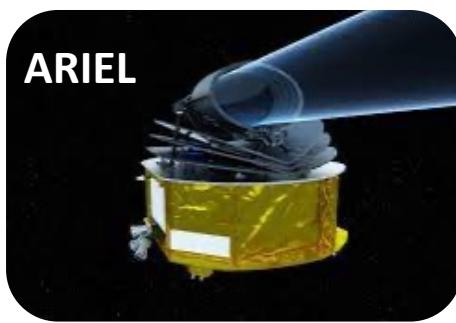
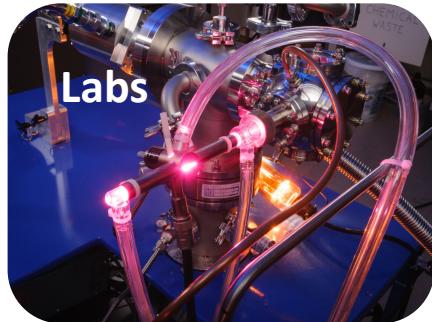
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**Planetary Environments and
Habitability**



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Biosignatures and the Detection of
Life beyond Earth



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Quale valore aggiunto?

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Formation and Evolution of Planetary Systems
Detection

$1+1+1 >> 3$



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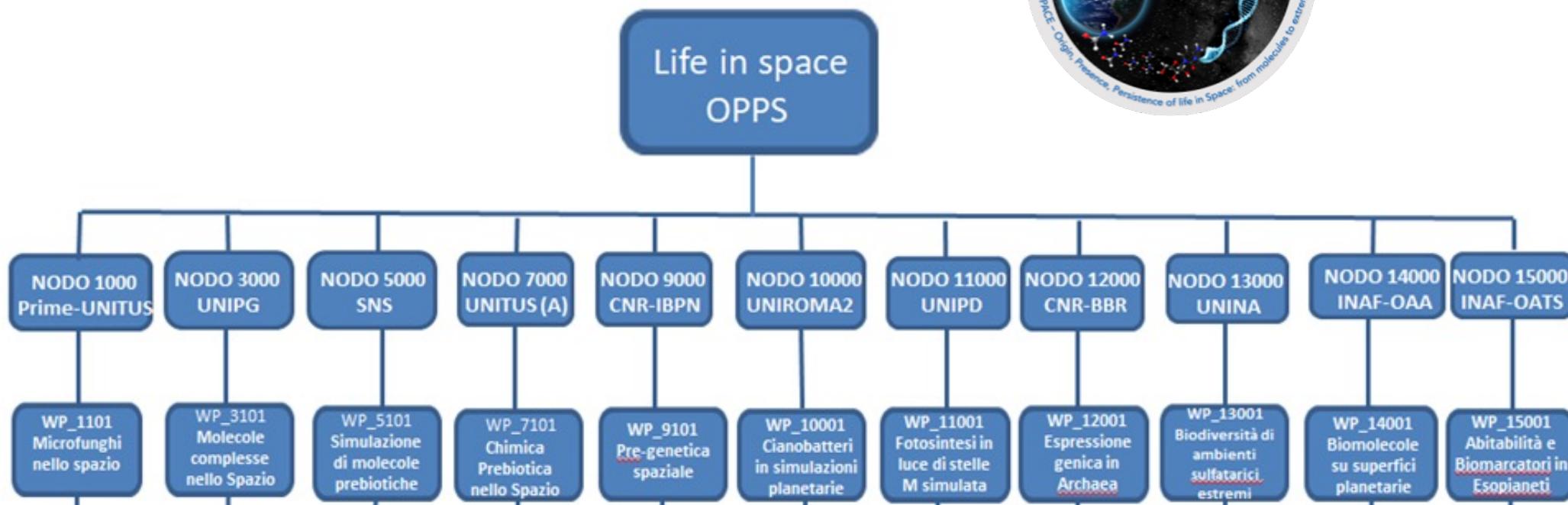
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Quale valore aggiunto?

Dal 2019 al 2023
Budget 1.5 MEuro



Agenzia
Spaziale
Italiana



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Quale valore aggiunto?



Bando per

“Attività relative al supporto allo sviluppo di progetti/esperimenti scientifici nell’ambito dell’Astrobiologia”

- Settore A: sviluppo di prototipi/dimostratori/tecniche, analisi dati e modellistica **2.5 MEuro**
- Settore B: siti analoghi terrestri per esplorazione umana e robotica **1.6 MEuro**

Promising Developments in Astrobiology

Astrobiologia momento Sputnik

- In questo decennio ci si aspetta un grande impulso per l'astrobiologia.
- Si dovrà elaborare una grande quantità di dati attraverso conoscenze scientifiche complementari.
- Bisogna formare ADESSO le nuove generazioni di ricercatori con competenze interdisciplinari.



- Avere più corsi di Astrobiologia presso le varie Università Italiane.
- Istituire dottorati in astrobiologia.
- Fluidificare l'interscambio con i dipartimenti di Chimica, Biologia, Geologia e con Istituti CNR.
- Favorire accesso al super calcolo: Big Data - Machine Learning – Artificial Intelligence – Deep Learning.
- Potenziare la dotazione strumentale analitica dei laboratori INAF.
- Dotarsi di un'infrastruttura per la gestione e analisi dei campioni riportati a terra da mission spaziali.
- Essere attrattivi verso i ricercatori stranieri.
- ... e come sempre nuovi TI da assumere con una programmazione sistematica... o almeno provarci