



UNIVERSITÀ
DEGLI STUDI
FIRENZE



INAF
ISTITUTO NAZIONALE
DI ASTRONOMIA



INTERNATIONAL
CHIANTI TOPICS
FOCUS WORKSHOPS

HABITABILITY

QUICK-LOOK PROGRAM

8th CHIANTI TOPICS INTERNATIONAL FOCUS WORKSHOP

14:00 – 16:30

Registration

@ Osservatorio Polifunzionale del Chianti

16:30 – 18:00

Pre-Conference Gathering & Chianti Wine
Experience

@ Fattoria Montecchio

Jun
3



INTERNATIONAL
CHIANTI TOPICS
FOCUS WORKSHOPS

10:00 – 13:00

Registration

14:30 – 14:45

Welcome to the Chianti Topics Workshop

Session 1 - Habitability: Habitable Zone and beyond I

14:45

Ravi Kumar Kopparapu (invited)

15:30

Lorenzo Biasiotti

16:05

Coffee Break

Session 2 - Habitability: Habitable Zone and beyond II

16:45

Marco Marcellino

17:20

Matteo Simonetti

17:55

Alfredo Biagini

18:30

Welcome Drink

Jun
4



Session 3 - Future space missions: search of life in the Solar System and beyond I

09:00	Lee Feinberg	(invited)
09:45	Sascha Quanz	(invited)
10:30	Coffee Break	

Session 4 - Future space missions: search of life in the Solar System and beyond II

11:10	Romain Laugier	
11:45	Beatrice Gorga	
12:20	Federico Colaiuta	
13:00	Lunch	

Session 5 - Future space missions: Experimental studies & challenges I

14:30	Andrea Bocchieri	
15:05	Francesca Vitali	
15:40	Lorenzo Biasiotti	
16:15	Coffee break	

Session 6 - Future space missions: Experimental studies & challenges II

16:45	Camilla Pezzotti	
17:20	Janina Hansen	
17:55	Andrea Bocchieri	
20:00	Social dinner	

Jun
5



Session 7 - Biosignatures I

09:00 Silvia Pagnoscin (invited)

09:45 Runa Briguglio

10:20 Coffee break

Session 8 - Biosignatures II

11:00 Francesca Furnari

11:35 Michele Maris

Session 9 - Technosignatures

12:10 Svetlana Berdyugina (invited)

13:00 Lunch

Round table

14:30 Perspectives on «Habitability» Science

16:00 End of the Workshop

Jun
6





HABITABILITY

DETAILED PROGRAM

8th CHIANTI TOPICS INTERNATIONAL FOCUS WORKSHOP

Wednesday 4 June

10:00 – 13:00 Registration

14:30 – 14:45 Welcome

Session 1 - Habitability: Habitable Zone and beyond I

14:45 – 15:30 Ravi Kumar Kopparapu Habitable Zone and Beyond (invited)

15:30 – 16:05 Lorenzo Biasiotti Potential climates and habitability on eccentric worlds: the case of GL514b and HD20794d

Coffee break

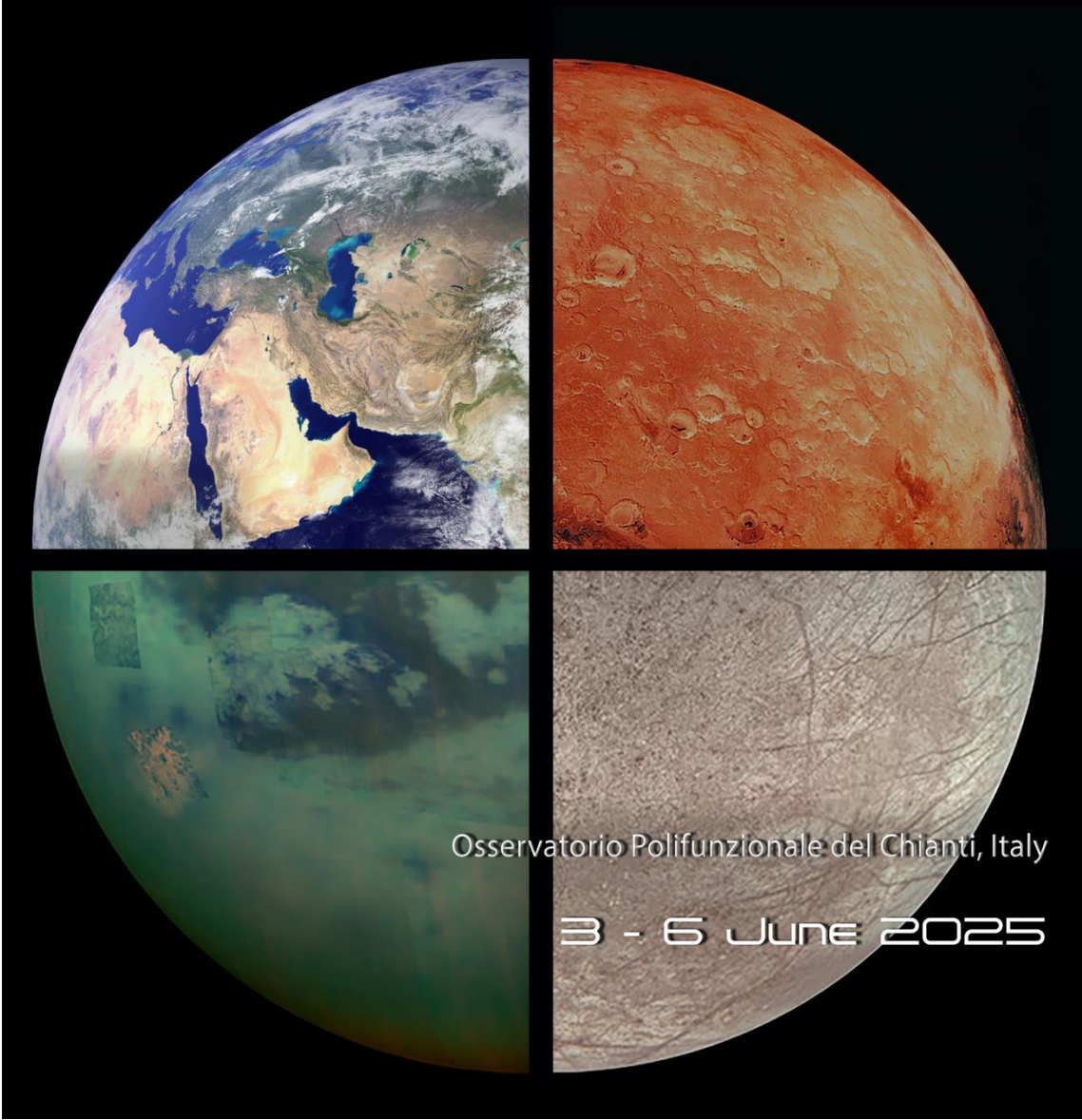
Session 2 - Role of Small Telescopes in top science

16:45 – 17:20 Marco Marcellino Beyond habitability: How extremophiles shape our understanding of life's potential

17:20 – 17:55 Matteo Simonetti A new energy balance model to map the habitability of rocky, tidally locked planets: Application to the Ariel target list

17:55 – 18:30 Alfredo Biagini A reanalysis of the LHS 1140b atmosphere observed with the Hubble Space Telescope

18:30 Welcome Drink



8th CHIANTI TOPICS INTERNATIONAL FOCUS WORKSHOP

HABITABILITY

Thursday 5 June

Session 3 - Future space missions: search of life in the Solar System and beyond I

- 09:00 – 09:45 Lee Feinberg (invited) Advancing the Concept Maturity and Technology of the Habitable Worlds Observatory (HWO09:45)
- 09:45 – 10:30 Sascha Quanz (invited) The large interferometer for exoplanets (LIFE) - a space mission designed to search for life outside the solar system

Coffee Break

Session 4 - Future space missions: search of life in the Solar System and beyond II

- 11:10 – 11:45 Romain Laugier Arguments and proposition for a joint HWO-LIFE data challenge and the nulling interferometry data standard to support it
- 11:45 – 12:20 Beatrice Gorga Radiometric performance model for a notional imaging spectrometer as part of the Uranus flagship mission
- 12:20 – 12:55 Federico Colaiuta Evaluating lunar surface chemistry with a Python routine: Mairan crater as a test case for ISRU in future Artemis missions

13:00 Lunch

Session 5 - Future space missions: Experimental studies & challenges I

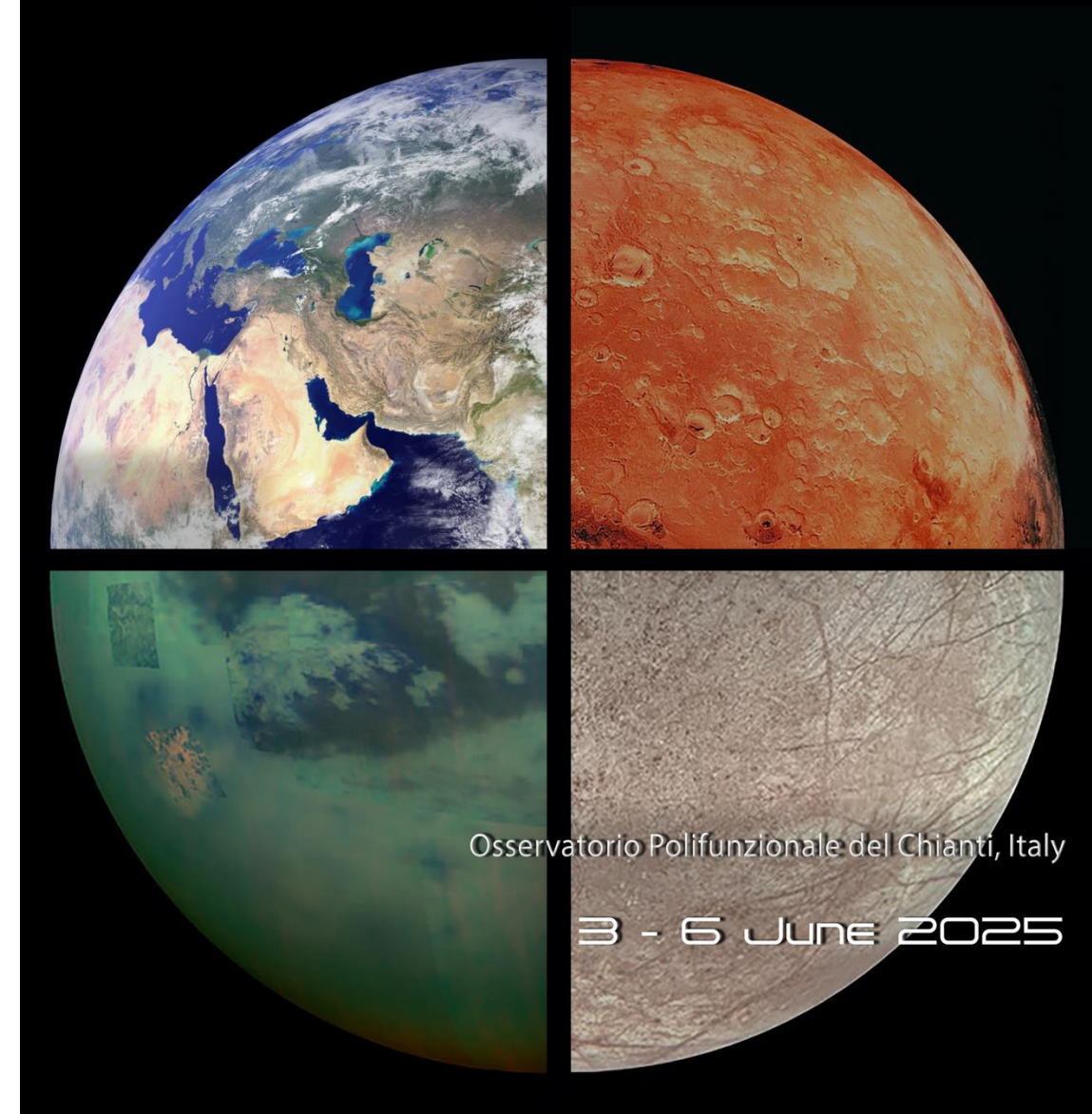
- 14:30 – 15:05 Andrea Bocchieri Ariel-IT end-to-end exercise from the astrophysical scene to planetary spectra: simulations and retrieval
- 15:05 – 15:40 Francesca Vitali Experimental study of the interference dips observed on the Collision-induced Absorption fundamental band of H₂: their relevance to planetary atmosphere characterization
- 15:40 – 16:15 Lorenzo Biasiotti The impact of extreme space weather events on Earth's climate and habitability

Coffee break

Session 6 - Future space missions: Experimental studies & challenges II

- 16:45 – 17:20 Camilla Pezzotti The activity-rotation-age relationship under the lens of asteroseismology
- 17:20 – 17:55 Janina Hansen Detecting atmospheric CO₂ trends as population-level signatures for long-term stable water oceans and biotic activity on temperate terrestrial exoplanets
- 17:55 – 18:30 Andrea Bocchieri ExoNAMD: a community tool to gauge multi-planetary systems

20:00 Social dinner @ Osservatorio Polifunzionale del Chianti



8th CHIANTI TOPICS INTERNATIONAL FOCUS WORKSHOP

HABITABILITY

Friday 6 June

Session 7 - Biosignatures I

09:00 – 09:45	Silvia Pagnoscin	(invited) Biosignatures: Traces of Life Across the Solar System
09:45 – 10:20	Runa Briguglio	WaveFront sensing and control for high contrast in space: R&D at INAF, from LBT to HWO
	Coffee break	

Session 8 - Biosignatures II

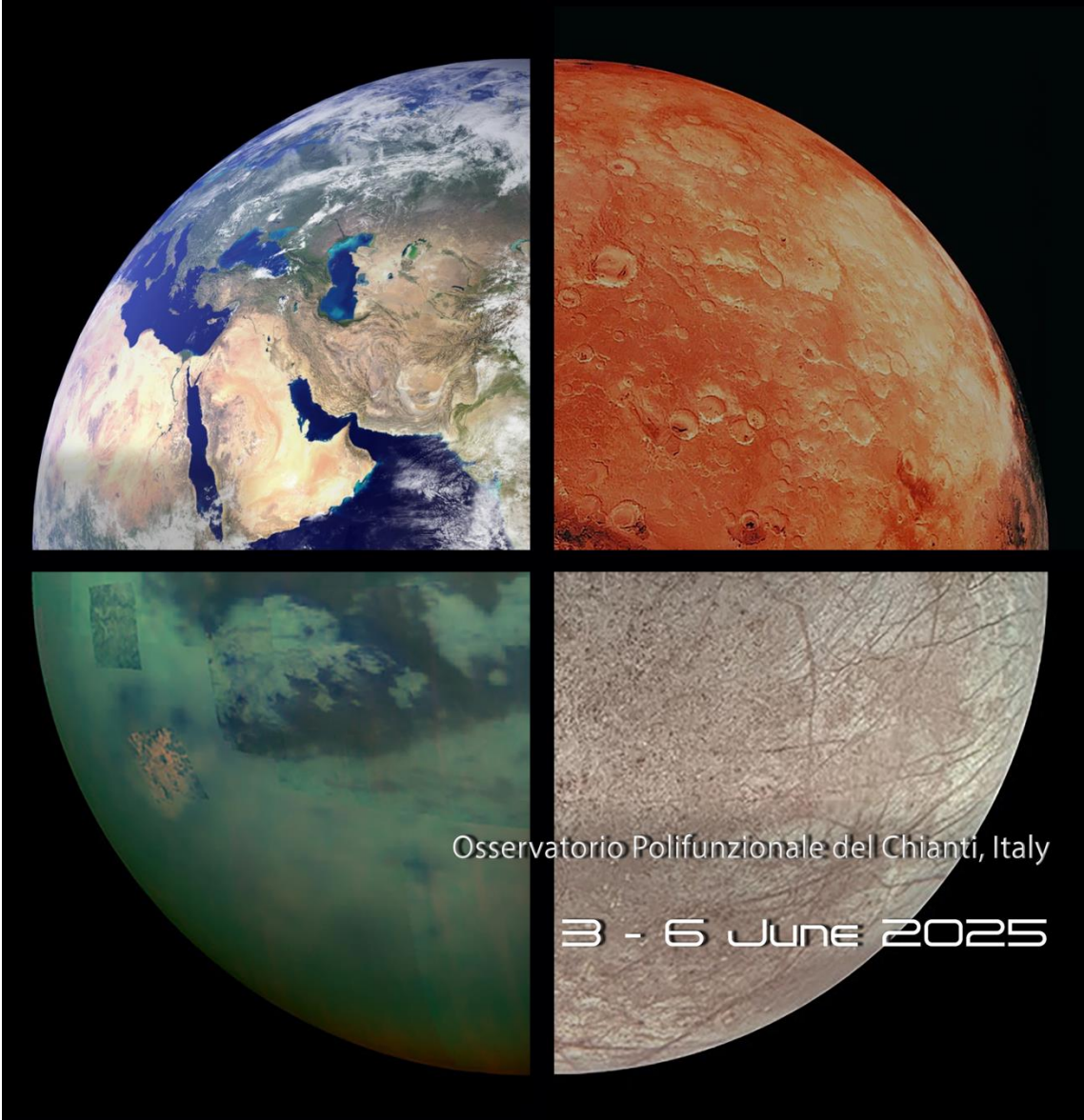
11:00	Francesca Furnari	Spectroscopic measures of hydrated sulfate as a relevant planetary analogue for Jupiter's icy moons
11:35	Michele Maris	Linking the prediction of biosignatures observability with climate models: the case of refraction and photosynthetic habitability for M stars planets

Session 9 - Technosignatures

12:10	Svetlana Berdyugina	(invited) Life in the Universe: from Bio to Techno
13:00	Lunch	

Round table

14:30	Perspectives on «Habitability» Science
16:00	End of the Workshop



8th CHIANTI TOPICS INTERNATIONAL FOCUS WORKSHOP
HABITABILITY

The Scientific Organising Committee
The Local Organising Committee
wish to
THANK YOU
for attending the
8th Chianti Topics International Focus Workshop
“Habitability”
and invite you to visit the workshop website

<http://chiantitopics.it>

to get further information, presentations, and video-proceedings.

*All the presentations will be published on the Workshop Website
unless consent is expressly denied*



habitability

CURRENT AND FUTURE SPACE EXPLORATION OF HABITABLE WORLDS

Chair persons:
Eleonora Alei
Riccardo Claudi
Emanuele Pace

SOC:
Giada N. Arney
José A. Caballero
Giuseppina Micela
Isabella Pagano
Giuseppe Piccioni
Ignasi Ribas
Giovanna Tinetti
Federico Tosi

LOC:
Lorenzo Betti
Clarissa Calamai
Riccardo Ciantini
Lara Fossi
Marianna Michelagnoli
Irene Parenti
Ruggero Stanga

Osservatorio Polifunzionale del Chianti, Italy

3 - 6 JUNE 2025

<http://chiantitopics.it>
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