Exoplanets in Italy: status and perspectives

Wednesday 26 February 2025 - Friday 28 February 2025

Palazzo Corsini

Book of Abstracts

Contents

Planet Formation and Observations of Infant Planets / **1**

Protoplanetary Disks and the Dawn of Planets

Invited talk

Planet Formation and Observations of Infant Planets / **2**

Orbital architectures of Jupiter-mass exoplanets: the role of planet migration in protoplanetary discs

Planet Formation and Observations of Infant Planets / **3**

Evidence of disc instability in the planet forming disc of AB Aur

Planet Formation and Observations of Infant Planets / **4**

Direct imaging of accreting protoplanets

Planet Formation and Observations of Infant Planets / **5**

Planet formation with ERIS - report of the INAF ERIS GTO program

Planet Formation and Observations of Infant Planets / **6**

Planet formation from the Solar System to Exoplanetary System

Invited talk

Planet Formation and Observations of Infant Planets / **7**

Multiple planets perturbations on the dust in a circumstellar disk

Planet Formation and Observations of Infant Planets / 8

Unlocking the Potential of High-Resolution Spectroscopy for Protoplanet Research: Insights from synthetic observations

Planet Formation and Observations of Infant Planets / 9

Rethinking the proto-planetary disc turbulent paradigm

Demographics and Architectures of Planetary Systems / 10

Navigating the Outer Planetary Systems: SHARK-NIR's Contributions to Understanding Planet Formation and Evolution

Invited talk

Demographics and Architectures of Planetary Systems / 11

Satellites around exoplanets and brown dwarfs

Demographics and Architectures of Planetary Systems / 12

Unveiling Planetary System Architectures: Low-Mass Planets Around Sun-like Stars and M Dwarfs

Invited talk

Demographics and Architectures of Planetary Systems / 13

Validating Gaia astrometric candidates: a deep dive with HARPS-N

Demographics and Architectures of Planetary Systems / 14

Detection and characterization of planetary mass objects using a multi-technique approach

Demographics and Architectures of Planetary Systems / 15

Unveiling the history of the warm Jupiters

Demographics and Architectures of Planetary Systems / 16

Young planetary systems

Invited talk

Demographics and Architectures of Planetary Systems / 17

Towards the characterisation of Earth analogues: news from the HARPS-N Collaboration

Demographics and Architectures of Planetary Systems / 18

HONEI: the HOt-NEptune Initiative

Demographics and Architectures of Planetary Systems / 19

The OMEGA Key Project search for microlensing exoplanets

Demographics and Architectures of Planetary Systems / 20

Transit Timing Variation analysis in the TESS and CHEOPS era: towards Ariel and PLATO

Demographics and Architectures of Planetary Systems / 21

An excess of stellar companions in stars with hot Jupiters

The Star-Environment-Planet connection / 22

Genetic links between stars, their circumstellar disks and their planets

Invited talk

The Star-Environment-Planet connection / 23

Asteroseismic Constraints on Exoplanet Host Stars: Insights from Current Efforts and Preparatory Work for PLATO

The Star-Environment-Planet connection / 24

The exoplanet population in the Galactic context from the Ariel sample

The Star-Environment-Planet connection / 25

Non solar-like stars as a probe for planet formation

The Star-Environment-Planet connection / 26

White dwarfs, dust, disks and debris: exo-rocks compositions and the end of planetary systems

The Star-Environment-Planet connection / 27

Star-Planet Interaction

Invited talk

The Star-Environment-Planet connection / 28

Close-in non-transiting planets as a key to improving our understanding of star-planet interactions

The Star-Environment-Planet connection / 29

Star-Planet Interactions (SPI): Is planetary inward migration responsible for GJ 504's fast rotation and bright X-ray luminosity? New constraints from eROSITA

The Star-Environment-Planet connection / **30**

Parametric study of star-planet interaction in case of HD209458b

The Star-Environment-Planet connection / **31**

Can Planetary Wind Form a Circumstellar Disk? Insights from the WASP-12 Hot Jupiter System

Atmospheric Characterization of Exoplanets / **32**

Evaporation of close-in planets

Invited talk

Atmospheric Characterization of Exoplanets / **33**

How long a planetary atmosphere could resist to the action of stellar wind?

Atmospheric Characterization of Exoplanets / **34**

Planetary Atmospheres from Low and High Dispersion Spectroscopy

Invited talk

Atmospheric Characterization of Exoplanets / **35**

Retrieving the Atmospheres of Distant Worlds: Insights from High-Resolution Spectroscopy

Atmospheric Characterization of Exoplanets / 36

High dispersion optical phase curves of ultra-hot Jupiters with SHINE ON

Atmospheric Characterization of Exoplanets / 37

Single line analysis: a powerful tool to probe exoplanetary atmospheres

Atmospheric Characterization of Exoplanets / 38

Atmospheric characterization of Exoplanets with CHEOPS

Atmospheric Characterization of Exoplanets / 39

Modelling Exoplanetary Atmospheres undergoing Atmospheric Escape Mechanisms

Atmospheric Characterization of Exoplanets / 40

Exo-climates and habitability of rocky planets: modelling tools and systematic studies for future instruments

Atmospheric Characterization of Exoplanets / 41

Constraining exoplanetary clouds with Jupiter Observations: Insights from Juno & JWST

Atmospheric Characterization of Exoplanets / 42

ASTERIA: Adaptability of cyanobacteria from extreme environments to stellar UV radiation

Outreach, education and training / 43

Engaging the public with exoplanets: the INAF perspective

Outreach, education and training / **44**

Round table on the Perspectives for the training of young researchers in exoplanetary sciences

Future Instruments and Technologies for Exoplanet Science / **45**

PLATO: an ESA mission to discover transiting habitable Earths around solar-type stars

Invited talk

Future Instruments and Technologies for Exoplanet Science / **46**

Ariel

Invited talk

Future Instruments and Technologies for Exoplanet Science / **47**

The Roman Galactic Exoplanet Survey: demographics beyond the snow line with microlensing

Future Instruments and Technologies for Exoplanet Science / **48**

HWO and LIFE: future space telescopes to look for life in the universe

Invited talk

Future Instruments and Technologies for Exoplanet Science / **49**

A look to the future: the HWO mission

Future Instruments and Technologies for Exoplanet Science / 50

Pushing the Limits of space-based Astrometry: Technological Advances and Technical challenges

Future Instruments and Technologies for Exoplanet Science / 51

ANDES the High-Resolution Spectrograph for the ELT - Overview, Future Developments, and Science Objectives

Invited talk

Future Instruments and Technologies for Exoplanet Science / 52

Improving the SPHERE's Extreme Adaptive Optics correction with SAXO+

Future Instruments and Technologies for Exoplanet Science / 53

The Planetary Camera and Spectrograph (PCS) for the ELT

Future Instruments and Technologies for Exoplanet Science / 54

The Sardinia Radio Telescope in the Breakthrough Listen Program and synergies with the science of exoplanets

Future Instruments and Technologies for Exoplanet Science / 55

The role of the TNG in the exoplanetary science of the next future

Perspectives for Exoplanets Science in Italy / 56

GAPS

Perspectives for Exoplanets Science in Italy / 57

Meet the JEDI collaboration - JEts and Disk @ INAF

Perspectives for Exoplanets Science in Italy / 58

Round-table on the Perspectives for Exoplanets Science in Italy