

## Ariel-It Science (May 2022)

### 25 maggio 2022

Starting time	Speaker	Talk Title	Duration
14:30	G. Micela	Introduction	00:20
14:50	Angelos Tsiaras	Exoplanet data analysis in the era of Ariel	00:30
<b>Atmospheric Diagnostics of Planet Formation</b>		<b>Chair: A. Bonomo</b>	
15:20	Diego Turrini	Planets, their atmospheres and their stars: new tools to study how planet formation links them	00:30
<b>15:50</b>	<b>Break</b>		<b>00:20</b>
16:10	Eliana Pacetti	Chemical diversity in protoplanetary discs and its impact on the formation history of giant planets	00:25
16:35	Eugenio Schisano	Deriving general prescriptions for the accretion of heavy elements during the formation of giants planets	00:25
17:00	Sergio Fonte	Oxygen depletion in giant planets with different formation histories	00:25

### 26 maggio 2022

Starting time	Speaker	Talk Title	Duration
<b>Stellar characterization and stellar activity</b>		<b>Chair: M. Rainer</b>	
09:30	Laura Magrini	Stellar characterization for Ariel	00:30
10:00	Katia Biazzo	Elemental abundances in planet host stars (and their use as chemical clocks)	00:25
10:25	Serena Benatti	Stellar activity	00:25
<b>10:50</b>	<b>Break</b>		<b>00:30</b>
11:20	Jesus Maldonado	Activity-rotation, flux-flux relationships, and active-region evolution through stellar age	00:25
11:45	Antonino Petralia	Stellar activity through different observing modes	00:25
12:10	Alfredo Biagini	Stellar activity through simultaneous multiband photometry: V1298 Tau case study	00:25
12:35	Ignazio Pillitteri	X-rays from stars with planets and relevance for the ARIEL mission	00:25
<b>13:00</b>	<b>Lunch</b>		<b>01:30</b>
<b>Models and diagnostics</b>		<b>Chair: G. Guilluy</b>	
14:30	Daniele Locci	Chemical signatures in synthetic spectra induced by XUV radiation	00:25
14:55	Cesare Cecchi Pestellini	Dust, haze and clouds in exoplanet atmospheres: the need for laboratory measurements and numerical modelling	00:30
15:25	Stavro Ivanovski	Modelling of the birth and evolution of planets: non-spherical dust dynamics in formation of planetary systems, star-planet interaction and radiative transfer of planetary atmospheres	00:30
<b>15:55</b>	<b>Break</b>		<b>00:25</b>
<b>Synergies</b>		<b>Chair: T. Zingales</b>	
16:20	Isabella Pagano	Synergies with Cheops	00:30
16:50	Paolo Giacobbe	Retrieval of molecular abundances and temperature-pressure profiles with high-resolution transmission spectroscopy in the near-infrared.	00:25
17:15	Gloria Guilluy	Synergy between Ariel and ground-based high-resolution spectroscopy	00:25

### 27 maggio 2022

Starting time	Speaker	Talk Title	Duration
<b>Mass measurements impact and preparatory observations</b>		<b>Chair: J. Maldonado</b>	
09:30	Serena Benatti	Updates from the planetary mass determination	00:25
09:55	Claudia Di Maio	Analysis of the mass uncertainties on retrieval accuracy	00:25
10:20	Alessandro Sozzetti	Measuring precise masses of Ariel planets - lessons learned	00:25
<b>10:45</b>	<b>Break</b>		<b>00:30</b>
<b>Tools</b>		<b>Chair: S. Benatti</b>	
11:15	Lorenzo Mugnai	Ariel simulators	00:30
11:45	Angelo Zinzi	ExoplAn3T: the SSDC tool for exoplanetary science	00:25
12:10	Andrea Bocchieri	Predicting the optical performance of the Ariel Telescope using PAOS	00:25
12:35	Tiziano Zingales	TauREx2D	00:25