

# ESA M4 ARIEL-IT Meeting



## Report of Contributions

Contribution ID: 3

Type: **not specified**

## **The science of ARIEL**

*Tuesday 2 October 2018 11:00 (45 minutes)*

**Author:** TINETTI, Giovanna (UCL)

**Presenter:** TINETTI, Giovanna (UCL)

**Session Classification:** Session #1

Contribution ID: 4

Type: **not specified**

## **The ARIEL Payload**

*Tuesday 2 October 2018 11:45 (30 minutes)*

**Presenter:** PACE, Emanuele (UniFi)

**Session Classification:** Session #1

Contribution ID: 5

Type: **not specified**

## **The Italian contribution to ARIEL**

*Tuesday 2 October 2018 12:15 (30 minutes)*

**Presenter:** MICELA, Giusi

**Session Classification:** Session #1

Contribution ID: 6

Type: **not specified**

## **ARIEL performances**

*Tuesday 2 October 2018 12:45 (30 minutes)*

**Presenter:** PASCALE, Enzo (UniRoma1)

**Session Classification:** Session #1

Contribution ID: 7

Type: **not specified**

## **Optimizing the selection of ARIEL targets**

*Tuesday 2 October 2018 14:30 (20 minutes)*

**Presenter:** PILLITTERI, Ignazio Francesco (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #2

Contribution ID: 8

Type: **not specified**

## **Optimization and Prioritization of the ARIEL target sample**

*Tuesday 2 October 2018 14:50 (20 minutes)*

**Presenter:** SOZZETTI, Alessandro (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #2

Contribution ID: 9

Type: **not specified**

## **Spectroscopic characterization of the host star**

*Tuesday 2 October 2018 15:10 (20 minutes)*

**Presenter:** MAGRINI, Laura

**Session Classification:** Session #2



Contribution ID: **10**

Type: **not specified**

## **The age of planet hosting stars**

*Tuesday 2 October 2018 15:30 (20 minutes)*

**Presenter:** SACCO, Giuseppe Germano (INAF-OAA)

**Session Classification:** Session #2

Contribution ID: 11

Type: **not specified**

## **Earth observed as an exoplanet: VIRTIS-M/Venus Express data analysis**

*Tuesday 2 October 2018 16:20 (20 minutes)*

**Presenter:** OLIVA, Fabrizio (INAF-IAPS)

**Session Classification:** Session #3

Contribution ID: 12

Type: **not specified**

## **Observing the Sun as a star to characterize the impact of stellar activity on ARIEL observations**

*Tuesday 2 October 2018 16:40 (20 minutes)*

**Presenter:** LANZA, Antonio Francesco (INAF-OACt)

**Session Classification:** Session #3

Contribution ID: 13

Type: **not specified**

## **ARIEL: investigating the signatures of planetary formation**

*Wednesday 3 October 2018 09:50 (20 minutes)*

**Presenter:** TURRINI, Diego (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #6

Contribution ID: 15

Type: **not specified**

## **ALMA meets ARIEL: from protoplanetary disc chemistry to planetary atmospheres**

*Wednesday 3 October 2018 10:50 (20 minutes)*

**Presenter:** FEDELE, Davide (INAF-OAA)

**Session Classification:** Session #6

Contribution ID: 16

Type: **not specified**

## **X-ray photochemistry of planetary atmospheres**

*Tuesday 2 October 2018 17:00 (20 minutes)*

**Presenter:** LOCCI, Daniele (INAF-OAPa)

**Session Classification:** Session #4

Contribution ID: 17

Type: **not specified**

## **Exploring the potential for ARIEL measurements of atmospheric escape**

*Tuesday 2 October 2018 17:20 (20 minutes)*

**Presenter:** SOZZETTI, Alessandro (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #4

Contribution ID: **18**

Type: **not specified**

## **Artecs: the Trieste exoclimates Archive**

*Tuesday 2 October 2018 17:40 (20 minutes)*

**Presenter:** MARIS, Michele

**Session Classification:** Session #4



Contribution ID: 19

Type: **not specified**

## **Climate and radiative properties of a tidally-locked planet around Proxima Centauri**

*Tuesday 2 October 2018 18:00 (20 minutes)*

**Presenter:** BERRILLI, Francesco (UniRoma2)

**Session Classification:** Session #4

Contribution ID: 20

Type: **not specified**

## **Synergy between ARIEL and HIRES**

*Wednesday 3 October 2018 09:10 (20 minutes)*

**Presenter:** SANNA, Nicoletta (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #5

Contribution ID: 21

Type: **not specified**

## **Synergy of ARIEL with CHEOPS and PLATO**

*Wednesday 3 October 2018 09:30 (20 minutes)*

**Presenter:** PAGANO, Isabella (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #5

Contribution ID: 22

Type: **not specified**

## **Atmospheric retrieval using deep learning**

*Wednesday 3 October 2018 11:40 (20 minutes)*

**Presenter:** ZINGALES, Tiziano (UCL/INAF-OAPa)

**Session Classification:** Session #7

Contribution ID: 23

Type: **not specified**

## **Stellar and exoplanetary atmospheres bayesian analysis simultaneous spectroscopy**

*Wednesday 3 October 2018 12:00 (20 minutes)*

**Presenter:** MORELLO, Giuseppe (CEA/INAF-OAPa)

**Session Classification:** Session #7

Contribution ID: 24

Type: **not specified**

## **Atmosphere in a test tube**

*Wednesday 3 October 2018 12:20 (20 minutes)*

**Presenter:** CLAUDI, Riccardo (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session #7

Contribution ID: 25

Type: **not specified**

## **Experimental set up used to characterize the optical properties of gases at typical planetary conditions**

*Wednesday 3 October 2018 12:40 (20 minutes)*

**Presenter:** STEFANI, Stefania (INAF-IAPS)

**Session Classification:** Session #7

Contribution ID: 26

Type: **not specified**

## Closing Remark

*Wednesday 3 October 2018 13:00 (20 minutes)*

**Presenter:** MICELA, Giusi

**Session Classification:** Session #7



Contribution ID: 27

Type: **not specified**

## Opening Address (INAF)

*Tuesday 2 October 2018 10:30 (15 minutes)*

**Presenter:** ZERBI, Filippo Maria ( Direttore Scientifico di INAF)

Contribution ID: **28**

Type: **not specified**

## **The point of view of ASI**

*Tuesday 2 October 2018 10:45 (15 minutes)*

**Presenter:** NEGRI, Barbara (Responsabile dell'Unita' Esplorazione e Osservazione dell'Universo - ASI)

Contribution ID: **30**

Type: **not specified**

## **Hints to planet formation history from the chemistry of disks and natal clouds**

*Wednesday 3 October 2018 10:10 (20 minutes)*

**Presenter:** MOLINARI, Sergio

**Session Classification:** Session #6

Contribution ID: 31

Type: **not specified**

## **ARIEL as a powerful machine for exomoon/Trojan detection and TTVs**

*Wednesday 3 October 2018 10:30 (20 minutes)*

The ARIEL instruments, AIRS and FGS, coupled with the nominal observational strategy, will provide us at zero cost with transit light curves at different integrated bands (VIS to IR) with a rather unique combination of ultra-high photometric precision and fast sampling cadence, which can be exploited for high-impact additional science. Among this, we illustrate the opportunity of searching for exomoons and Trojans around giant planets, and the confirmation and characterisation of multiple planetary systems through the Transit Time Variation and Transit Duration Variation (TTV/TDV) dynamical technique. For known systems already observed by other missions such as TESS, CHEOPS, and PLATO, ARIEL will be appropriate to extend the time baseline (a key factor in TTV analysis), allowing us to reach unprecedented precision and accuracy on the mass and orbital parameters of the planets.

**Presenter:** BORSATO, Luca (Università degli Studi di Padova)

**Session Classification:** Session #6