

# PLATO 2.0 Science Workshop Programme

*Day 1 - Monday 29 July 2013*

11:00 *Registration open*

## **Session 1: The PLATO 2.0 Mission**

13:00 Welcome

13:05 PLATO as M3 candidate mission

Arvind Parmar  
ESA

13:20 PLATO 2.0: Science objectives and consortium overview

Heike Rauer  
Institut fuer Planetenforschung, DLR, DE

13:50 PLATO Mission overview

Philippe Gondoin  
ESA

14:10 The PLATO payload

Roberto Ragazzoni  
INAF-Osservatorio Astronomico di Padova, IT

14:25 The PLATO Science Ground Segment

Raymond Burston  
MPS, DE

14:40 PLATO Science preparation

Don Pollacco  
Warwick University, UK

14:55 Ground based follow-up - The context: Past and future projects

Stephane Udry  
University of Geneva, CH

15:15 *Coffee Break*

## **Session 2: Past and future facilities**

15:40 CoRoT greatest hits: recopulatory of the best lessons in 4CCDs

Roi Alonso  
Instituto de Astrofísica de Canarias, ES

16:05 Lessons for PLATO from CoRoT (and Kepler) on follow-up observations.

François Bouchy  
Institut Astrophysique de Paris, FR

16:25 Passing the baton from Kepler to TESS, a wealth of exoplanetary and Astrophysics science results achieved and anticipated

Jon Jenkins  
SETI Institute, US

17:00 The CHEOPS mission

Willy Benz  
University of Bern, CH

17:20 The Gaia catalogue: a treasure trove for PLATO 2.0 target selection and characterization

Alessandro Sozzetti  
INAF-Osservatorio Astrofisico di Torino, IT

17:40 Atmospheric characterization of PLATO exoplanets with the E-ELT

Matteo Brogi  
Leiden University, NL

18:00 Astrophysical false positives in transit surveys: from Kepler to PLATO 2.0

Alexandre Santerne  
Centro de Astrofísica da Universidade do Porto, PT

18:15 Precise spectroscopic stellar parameters for the PLATO targets

Annelies Mortier  
Centro de Astrofísica da Universidade do Porto, PT

18:30 Discussion

19:00 *Welcome drink and Poster session*

19:45 *Bus departure to Noordwijk hotels*

*Day 2: Tuesday 30 July 2013*

## **Session 3: Planetary transits analysis**

08:45 The challenge of the detection of transiting terrestrial extrasolar planets

Juan Cabrera  
German Aerospace Center, DE

09:00 The need of precise planetary parameters and extras: How to get them with PLATO

Szilard Csizmadia  
Institut fuer Planetenforschung, DLR, DE

09:15 Position angles and coplanarity of multiple systems from transit timing

Aviv Ofir  
Institute for Astrophysics, Göttingen, DE

09:30 Statistical validation of PLATO2.0 planet candidates

Rodrigo Díaz  
Laboratoire d'Astrophysique de Marseille, FR

#### Session 4: Asteroseismology and stellar science

09:45	Asteroseismology across the HR diagram	Marc Antoine Dupret University of Liège, BE
10:15	Oscillations of solar-like stars and red giants, the observer perspective	Saskia Hekker University of Amsterdam, NL

10:35 *Coffee Break*

11:05	Asteroseismology of exoplanet host stars: results from Kepler and prospects for PLATO	William Chaplin University of Birmingham, UK
11:25	Asteroseismology and methods for stellar parameter estimation	Michael Bazot Centro de Astrofísica da Universidade do Porto, PT
11:40	Reaching the 1% accuracy level on stellar mass and radius determinations from asteroseismology	Valerie Van Grootel University of Liège, BE
11:55	Update on inversion methodologies	Daniel R. Reese University of Liège, BE
12:10	Stellar rotation and magnetic activity seen through Asteroseismology	Rafael A. Garcia SAP, CEA/Saclay, FR
12:25	Determination of the stellar properties of the PLATO targets from non-seismic constraints	Thierry Morel University of Liège, BE
12:40	Detailed analysis of Kepler-10: Synergy between asteroseismology and exoplanet research	Hans Kjeldsen Aarhus University, DK

12:55 *Lunch*

#### Session 5: Star-Planet interactions

14:25	Stellar activity	Isabella Pagano INAF-Osservatorio Astrofisico di Catania, IT
14:45	Star-planet tidal and magnetic interactions	Nuccio Lanza INAF – Osservatorio Astrofisico di Catania, IT
15:05	Star-planet interaction	Helmut Lammer Austrian Academy of Sciences, AT
15:25	Enshrouded close-in exoplanets	Carole Haswell The Open University, UK
15:40	Dealing with stellar activity in high-precision photometric and spectroscopic transit observations	Mahmoudreza Oshagh Center for Astrophysics of Uni of Porto, PT
15:55	Magnetic fields of planet-host stars	Rim Fares University of St Andrews, UK

16:10 *Coffee Break*

#### Session 6: Planetary science

16:40	How could PLATO serve Planetary Physics and what can we learn from Solar System planets for terrestrial exoplanets?	Tilman Spohn DLR, DE
17:10	Gaseous and icy giant planets	Ravit Helled Tel-Aviv University, IL
17:40	Comparison of transit spectra and direct imaging spectra	Jean Schneider Paris Observatory, Meudon, FR
17:55	What can we learn about exoplanetary atmospheres in the optical?	Kevin Heng University of Bern, CH
18:10	Circumbinary planet detection with PLATO	Hans Deeg Instituto de Astrofísica de Canarias, ES
18:25	Exoplanets around evolved stars	Roberto Silvotti INAF-Osservatorio Astrofisico di Torino, IT

19:00 *Bus departure to Noordwijk hotels*

20:00 *Dinner*

## Day 3, Wednesday 31 July 2013

### Session 7: Planet formation

08:30	Planet formation and dynamics	Willy Kley Universität Tübingen, DE
08:55	Evolution of multi-planet systems	Richard Nelson Queen Mary University of London, UK
09:20	Dynamical evolution of planetary systems - PLATO's contribution	Cilia Damiani Laboratoire d'Astrophysique de Marseille, FR
09:35	What do we know about collisions in planetary systems?	Rudolf Dvorak University of Vienna, AT
09:50	Planet formation and system chronology	Günther Wuchterl Thüringer Landessternwarte Tautenburg, DE
10:05	Planet synthesis modelling	Christoph Mordasini MPIA, DE

10:30 *Coffee Break*

### Session 8: Complementary and legacy science

11:00	Stellar populations and galactic science	Andrea Miglio University of Birmingham, UK
11:25	Complementary and legacy Science	Konstanze Zwintz KU Leuven, BE
11:50	PLATO science on classical variable stars	Robert Szabo Konkoly Observatory, HU
12:05	Discussion	

12:45 *End of meeting*

## Posters

#1	Characterizing stellar and exoplanetary environments via Ly-alpha transit observations of exoplanets	K.G. Kislyakova et al. Austrian Academy of Sciences, AT
#2	Extreme orbital forcing simulations with the PlaSim general circulation model and its implications on habitability	Manuel Linsenmeier & Salvatore Pascale University of Hamburg, DE
#3	EXOTRANS a detection pipeline ready to face the challenge to hunt and characterize exoplanetary systems in upcoming space missions.	Sascha Grziwa U. Koeln, DE
#4	The PLATO Simulator: Modelling Space-Based Imaging	Pablo Marcos-Arenal et al, KU Leuven, BE
#5	The HoSTS Project: Homogeneous Analysis of Transiting Systems	Yilen Gomez Maqueo Chew et al. Warwick University, DE
#6	The BT-Settl model atmospheres for Stars, Brown Dwarfs, and Gas Giant Planets	France Allard Centre de Recherche Astrophysique de Lyon, FR
#7	TNG spectrophotometric measurements of HAT-P-1	Marco Montalto et al. Centro de Astrofisica da Universidade do Porto, PT
#8	A Survey for planets of main-sequence stars of intermediate mass	Eike W. Guenther Thueringer Landessternwarte Tautenburg, DE
#9	Population considerations for binary stars using transit searches	Ulrich Kolb et al. The Open University, UK
#10	Hybrid methods in planetesimal dynamics	Pau Amaro Seoane Max Plack for Gravitational Physics, DE
#11	Stellar Characterization for Transiting Exoplanet Surveys: Lessons from Kepler, Prospects for TESS and Plato	Eric Gaidos University of Hawaii at Manoa, US