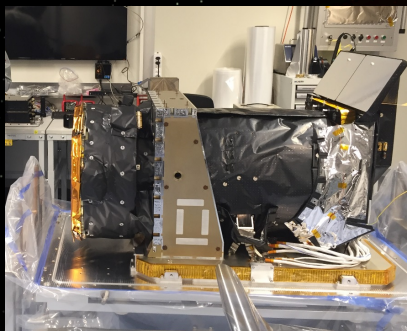


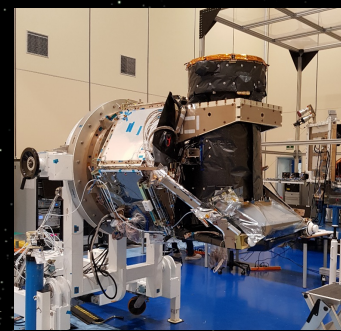
# CHEOPS

## Observing with CHEOPS



### CHEOPS (CHAracterising ExOPlanet Satellite)

- First mission dedicated to the search for exoplanet transits of local, bright stars already known to host exoplanets, through ultra-high precision, wide-band (0.33 – 1.1  $\mu\text{m}$ ) transit photometry
- Partnership between ESA's Science Programme and Switzerland; Mission Consortium of 11 member states, led by Prof Willy Benz @Univ. Bern (CH)



### The Mission

- 3.5 yrs nominal lifetime (goal 5 yrs).
- Sun-synchronous orbit LTAN 6AM, altitude 700km.
- Shared launch on Soyuz from Kourou.
- Targeting completion of satellite-level tests by end 2018, launch expected in first half of 2019 (awaiting confirmation of launch period from Arianespace)

### Observing with CHEOPS

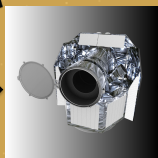
- Up to 10% of time top-sliced for spacecraft activities and monitoring & characterisation programme.
- Remainder split 80%:20% between Guaranteed Time Observing (GTO) and Guest Observers (GO) Programmes

→ 1578 hrs/946 orbits (c. 100 mins) available to Community in first yr

Ground-based transit surveys eg. Next Generation Transit Survey

Ground-based RV surveys eg. HARPS, HARPS-N, HIRES, SOPHIE, ESPRESSO (2017)

TESS candidates, (Kepler<sup>3</sup>)/K2



Guest Observers Programme (20%): Any science, however GTO targets blocked

### Guaranteed Time Observing Programme (GTO)

- Belongs to, and defined by, CHEOPS Science Team.
- Core target list covers 3.5 years → targets reserved: frozen at the time of GO calls, updated in between.

### ESA Guest Observers' Programme (GO)

- Managed by ESA, open to all.
- Competitive selection process via annual calls/Announcements of Opportunity (AOs).
- Any science using CHEOPS capabilities can be proposed
- Targets on the core target list blocked to GO.
- Up to 25% of GO time allocated to Discretionary Programme (DT) → rapid response → inject targets newly discovered during the AO cycle.

### CHEOPS data

- All science data pipeline-processed at Science Operations Centre (SOC) @ UGeneva (CH).
- Calibration/reference files + descriptions of algorithms will be available through the CHEOPS archive.
- Data products include calibrated/corrected images and light curves/time series, together with raw data.

### CHEOPS data access

- Available through CHEOPS data archive, hosted by SOC.
- GTO and GO data subject to proprietary period on a per target basis:
  - One year after last observation of target successfully completed
  - No longer than 1.5 years after the first visit.
- Proprietary period of DT up to that of GTO/GO.

### Applying for time on CHEOPS

- First call 10<sup>th</sup> September 2018, open for 8 weeks.
- Details will be available on the ESA CHEOPS mission website <https://www.cosmos.esa.int/web/cheops>
- Two-stage process:
  - Phase 1: scientific + technical justification, targets, time request (ESA proposal submission tool)
  - Phase 2 (successful proposals): observation requests.
- Tools developed by CHEOPS Consortium to support proposal preparation:
  - Exposure Time Calculator, reserved target list checker, target visibility maps/feasibility checker, Observer's Manual.

### More information?

- Overview of CHEOPS, how to observe, performances, capabilities and tools given in presentations from 2017 Open Time Workshop: <https://www.cosmos.esa.int/web/cheops-guest-observers-programme/open-time-workshop-2017>

Further information on CHEOPS at <http://sci.esa.int/cheops> and <http://cheops.unibe.ch>

Contact ESA project scientist: kate.isaak@esa.int

1. Instrument in the cleanroom at UBern, shortly before shipping to ADS, Spain, Credit UBern ; 2. CHEOPS spacecraft in the final stages of integration at ADS, Spain, Credit ADS  
3. Restricted visibility only of the Kepler fields.