

# Anglo-Australian Telescope

The 3.9 m Anglo-Australian Telescope (AAT) is operated by the Australian National University, on behalf of a consortium of 13 Australian universities. Its function is to provide world-class observing facilities for Australian optical astronomers. Non-Australian proposals can also access the AAT's capabilities through a pay-for-access program.

The AAT's wide-field prime focus is a unique capability for a 4 m telescope. It has a 2° field for medium (AAOmega) and high resolution spectroscopy (HERMES) of 400 objects simultaneously, and supports a 1° field for visitor instruments and a facility multi-IFU system (SAMI).

## AAT Profile

The AAT is the largest optical telescope in Australia, with an excellent instrumentation suite that has kept it globally competitive amongst 4m-class telescopes. It remains extremely productive, with recent projects including:

- OzDES A survey to measure the redshifts of tens of thousands of galaxies and obtain spectra of supernovae and other transients. The galaxy redshifts will be used to make the most detailed measurement of the Universe's expansion history, leading to a better understanding of the physics behind the acceleration of the Universe;
- GAMA (Galaxy Mass and Assembly), a survey of galaxies and galaxy clusters to investigate the formation and evolution of galaxies;
- The Anglo-Australian Planet Search, a long term, high-precision search that has found more than 40 planets around neighbouring stars;
- GALAH (Galactic Archaeology with HERMES), a new project to understand the chemical evolution of our own Galaxy by surveying a million stars.



## New AAT Access Arrangements

From 2018B, access to the AAT is available through Open Time or Paid Time schemes. Australian proposals may seek either Open Time or Paid Time on the AAT. A proposal is Australian if at least half of the proposers and the lead proposer are based at Australian institutions. Paid Time is available to both Australian and non-Australian proposals. Non-Australian proposals can only access Paid Time. Large programs will be considered for paid time, as will proposals to explore new science opportunities.

Enquiries regarding the terms and conditions for AAT Paid Time can be made to the Astronomy Australia Limited office: [info@astronomyaustralia.org.au](mailto:info@astronomyaustralia.org.au)



# AAT Snapshot

Telescope: 3.9 m, Cassegrain reflector, equatorial mount.

Location: Siding Spring Observatory, New South Wales, Australia;  $31^{\circ}16'24''\text{S}$   $149^{\circ}03'52''\text{E}$ ; altitude - 1,165 m.

Instruments:

- AAOmega fibre-fed optical spectrograph, fed by either:
  - the 2 Degree Field (2dF) robotic fibre positioner covering a 2 degree field at prime focus with 392 fibres; or
  - KOALA - a wide-field, high efficiency, integral-field unit with 1000 hexagonal lenslets in either  $15.3 \times 28.3$  arcsec ( $0.7''$  sampling) or  $27.4 \times 50.6$  arcsec ( $1.25''$  sampling) array.
- HERMES - fibre-fed high-resolution spectrograph, fed by the 2 Degree Field (2dF) robotic fibre positioner covering a 2 degree field at prime focus with 392 fibres.
- SAMI - a multi integral-field-unit for the AAOmega spectrograph. SAMI provides 13 IFUs, each with a field of view of 15 arcseconds sampled with 61 1.6 arcsecond fibres. SAMI will be decommissioned and replaced with HECTOR in 2019.
- HECTOR - a multi integral-field-unit spectrograph aimed at obtaining a low-redshift galaxy survey of up to 30,000 galaxies, with 90% imaged out to 2 effective radii.
- Veloce - a stabilised, fixed-format, high-resolution ( $R \sim 75,000$ ) echelle spectrograph, covering  $\sim 580 - 930$  nm (with a  $380 - 930$  nm extension planned for 2020).
- We accept visitor instruments at the Cassegrain focus, with either the  $f/8$  or the  $f/15$  top ends, or at prime focus, which has a field of view of one degree.

Further information on the telescope and instruments can be found at: <https://aat.anu.edu.au/>

