



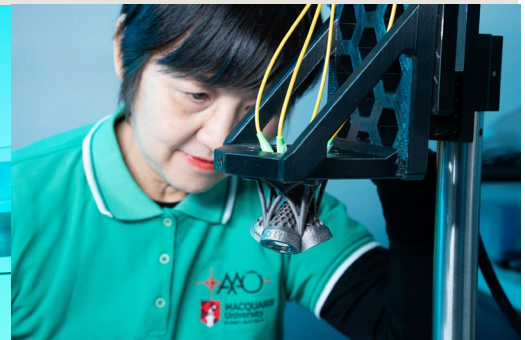
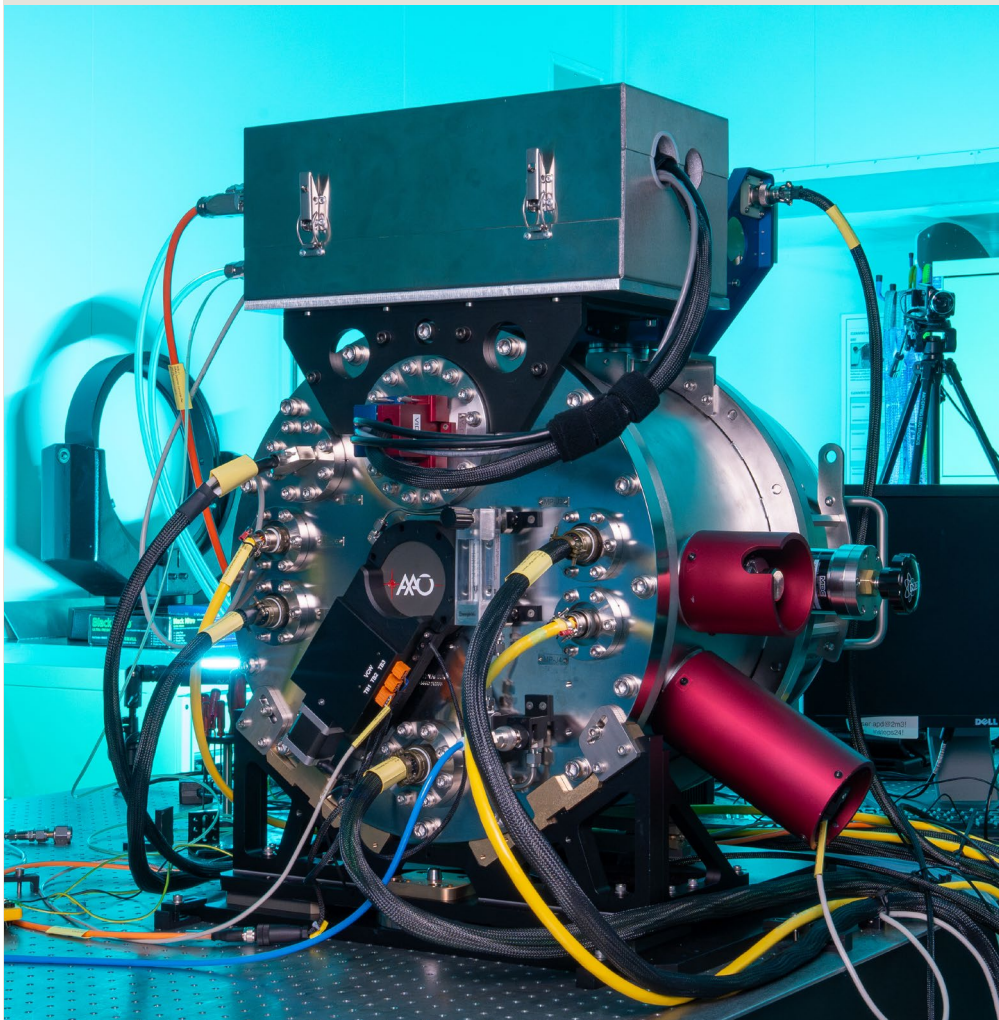
MACQUARIE
University
SYDNEY · AUSTRALIA

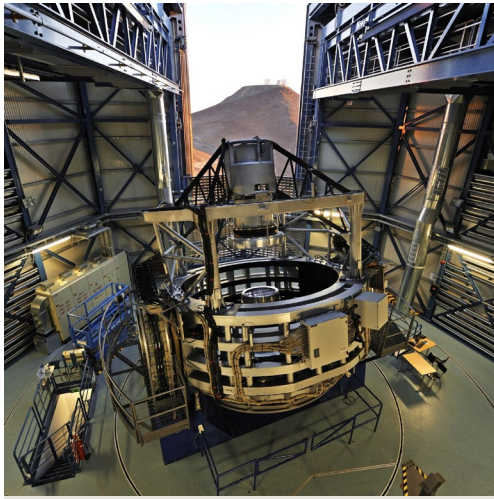
AAO-Macquarie

With decades of experience in design, manufacture, integration and testing of instrumentation we are leaders in:

- Integrated precision visible and infrared opto-mechanical systems with electronic and software control
- Data acquisition, management and analytics

Our specialty is providing complete solutions to difficult problems. This technical expertise is supported by professional project management and systems engineering, along with an international network of collaborating institutes, companies and government organisations.





AAO-Macquarie has more than 60 staff, with expertise that spans systems engineering, project management, opto-mechanical engineering, optical design and engineering, electronics, mechanical engineering and mechatronics, software engineering, data analytics and data science, and stellar, galactic and extragalactic astronomy.

CURRENT SIGNIFICANT PROJECTS INCLUDE:

- MAVIS (Multi-conjugate Adaptive optics Imager and Spectrograph for the Very Large Telescope, ESO Chile)
- DIRAC (InfraRed Imager for the DAG telescope, Turkey)
- GNAOB (Gemini North Adaptive Optics Bench, Gemini North, Hawaii)
- MANIFEST (Fibre positioner for the Giant Magellan Telescope, Chile)
- DOT (High resolution spectrograph for the Devasthal Optical Telescope, India)
- K-SPEC (Spectrograph for the Korean KMTNet Telescope, Siding Spring Observatory)
- Mayla (Thermal camera payload for a low earth orbit spacecraft)
- ALOHA (optical head for the navigation system for a Lunar lander)
- Design and build of the Australian Optical Data Centre for astronomical data

EXAMPLE OF POTENTIAL PROJECTS FOR MRES/PHD STUDENTS:

- Novel spacecraft optical systems
- Astrophotonics projects (Miniature spectrographs, OH suppression or Silicon photonics, among others)
- Adaptive optics for astronomy
- Robotic positioning system development

OUR TECHNOLOGY AREAS OF EXPERTISE INCLUDE:

- Robotic optical-fibre positioning technologies
- High-precision motion control systems
- Selective wavelength suppression using fibre Bragg gratings
- Design and fabrication of cryogenic systems
- High fidelity imaging cameras and spectrograph
- Precision optics and opto-mechanical systems
- Micro-optic systems design and fabrication
- Fibre systems for light transport
- Photonic simulations and modelling
- Space-based optical systems

OUR DATA RESEARCH AND SOFTWARE PROGRAM COVERS:

- Software algorithm and systems design
- Instrumentation control software development
- Instrument control and monitoring
- Data processing, analysis and pipeline software design and development
- Full software lifecycle for instrumentation and data processing projects

FIND OUT MORE

Email: fse.aao-admin@mq.edu.au

mq.edu.au/aaomq
aao.org.au
datacentral.org.au

PHOTOS: AAO, G. Hüdepohl/ESO,
ESO/VPHAS+ team
CRICOS Provider 00002J