



UNSW
SYDNEY



Satellite Navigation and Positioning (SNAP) Laboratory

The SNAP Laboratory has led Australian research in satellite navigation for more than 20 years.

Competitive advantage

- Global Navigation Satellite System (GNSS) receiver design and signal processing capabilities, including:
- Multi-GNSS receivers
- Interference and spoofing
- GNSS remote sensing (reflectometry and radio occultation)
- Precise positioning algorithms
- Multi-sensor navigation, and the application of navigation technologies for transport
- Machine automation and unmanned aerial vehicles (UAVs)
- Satellite missions

Impact

- Improved precision and robustness of satellite and UAV navigation

Successful applications

- Synthetic aperture radar formation flying, Australian Space Research Program
- Unmanned aerial vehicles and their applications
- Improved detection of interference sources affecting Global Positioning Systems GPS and capability and technology demonstrator (CTD)
- Mapping radar for CubeSats
- Successfully commercialised product for geolocating GNSS jammers
- Company spun off to use reflectometry for sea state, target detection

Capabilities and facilities

- Hardware and software test facilities, including GNSS simulators and field-programmable gate array (FPGA) development tools
- GNSS receivers and other navigation sensor technologies
- Access to a wide variety of UAVs

Our partners

- Defence Science and Technology (DST)
- Australian Research Council Training Centre for CubeSats
- Defence Materials and Technology Centre (DMTC)

More Information

Professor Andrew Dempster

Australian Centre for Space
Engineering Research (ACSER)

T: +61 (0) 2 9385 4208

E: a.dempster@unsw.edu.au

UNSW Knowledge Exchange

knowledge.exchange@unsw.edu.au

www.capabilities.unsw.edu.au

+61(2) 9385 5008