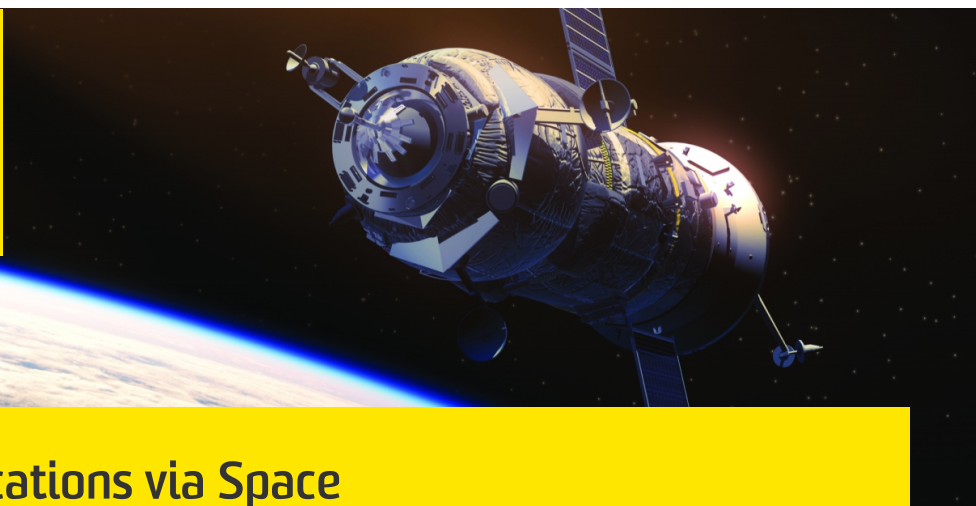




**UNSW**  
SYDNEY



## Quantum Communications via Space

**Quantum communication via low earth orbit (LEO) satellites offers a paradigm shift in telecommunications. Development of new state-of-the-art quantum communication protocols that optimise secure communication throughput over very large distances provide ultra-high information security in satellite communications. This is a major step forward in building a global quantum internet.**

### Competitive advantage

- Extensive experience in researching quantum communication for low-orbit satellites
- Expertise on quantum key distribution (QKD) protocols, and the resulting ultra-secret key rates that can be produced from the different variants of such protocols
- Expertise across quantum information systems, including those involving discrete variables coded into single photons, and continuous variables coded into weak laser pulses
- Patented technology in location verification in quantum communications

### Impact

- Ultra-high security satellite communications
- Successful applications Quantum Sensing and Processing, Quantum Key Distribution

### More Information

Associate Professor Robert Malaney

School of Electrical Engineering and Telecommunications

T: +61 (0) 2 9385 6580

E: [r.malaney@unsw.edu.au](mailto:r.malaney@unsw.edu.au)

UNSW Knowledge Exchange

[knowledge.exchange@unsw.edu.au](mailto:knowledge.exchange@unsw.edu.au)

[www.capabilities.unsw.edu.au](http://www.capabilities.unsw.edu.au)

+61 (2) 9385 5008