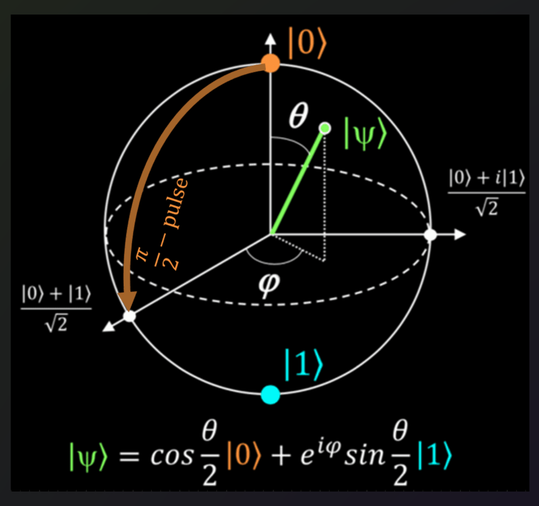
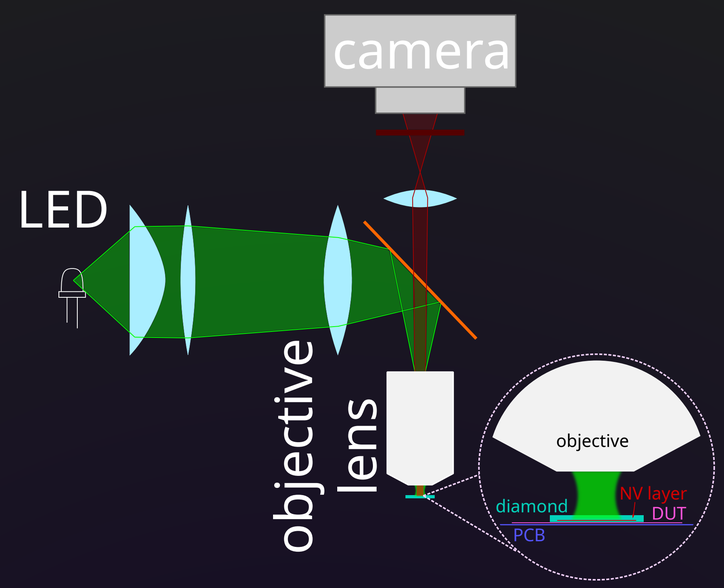
Quantum sensing using diamonds (... and other things)

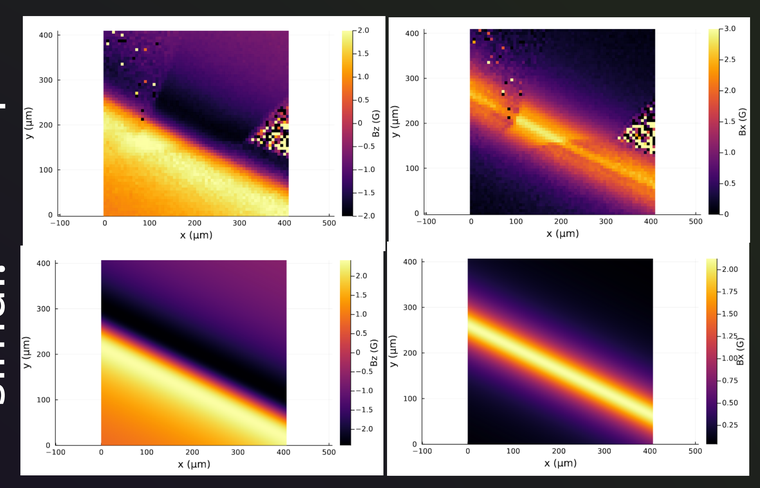
Michael Barson, Kristian Helmerson
School of Physics and Astronomy, Monash University

We perform measurements using quantum objects as our sensors

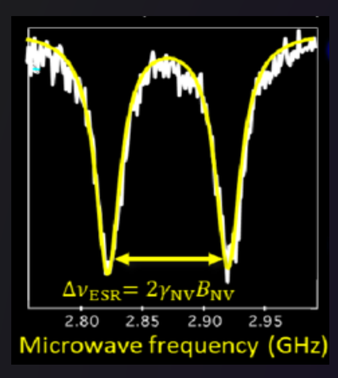


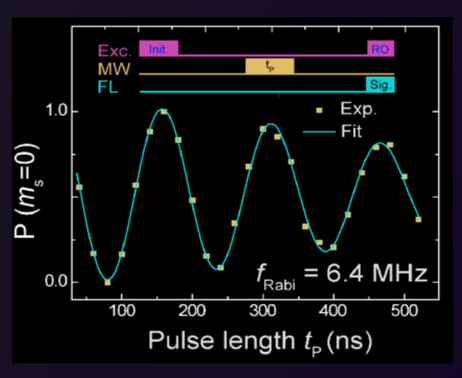
In particular we focus on measuring and imaging magnetic fields by optically measuring electron spins

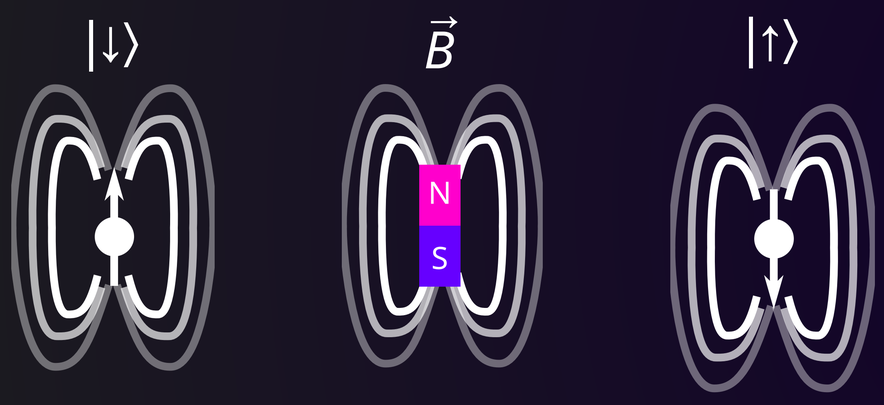




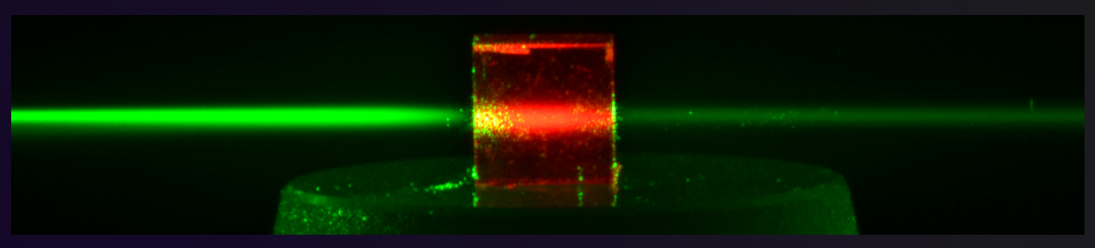
Our research integrates experimental quantum physics, optics and magnetic spin-resonance

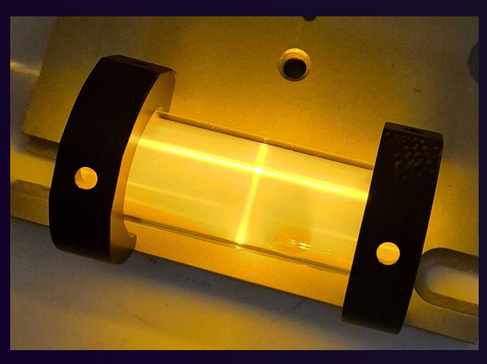


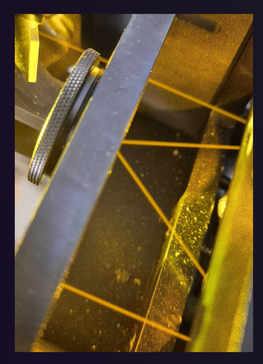


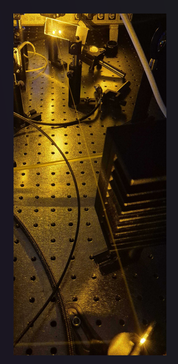


Our quantum sensors are colour centres in diamond or atomic vapours

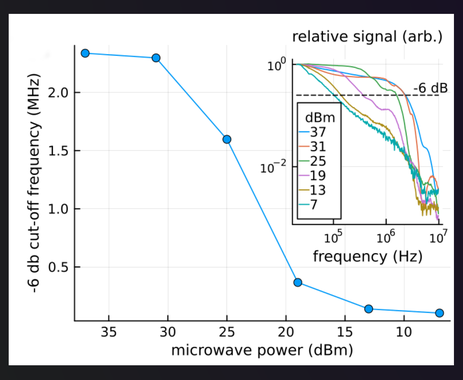


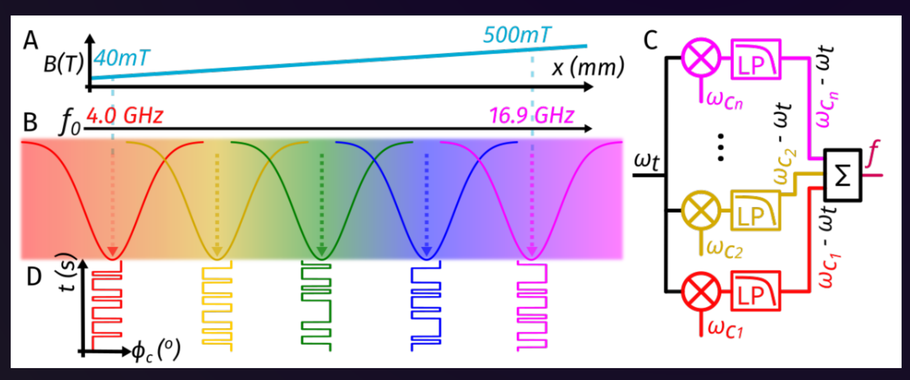






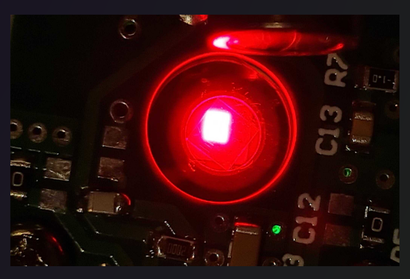
We focus on trying to improve sensitivty, bandwidth, spatial precision ...

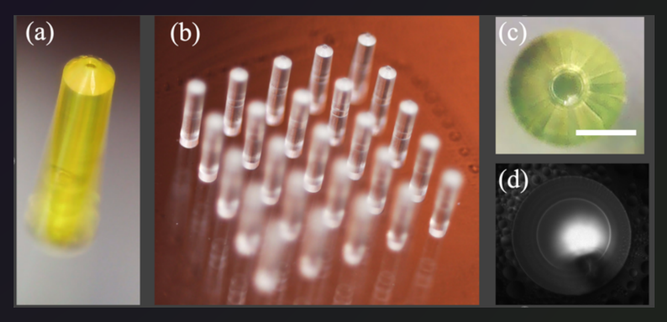




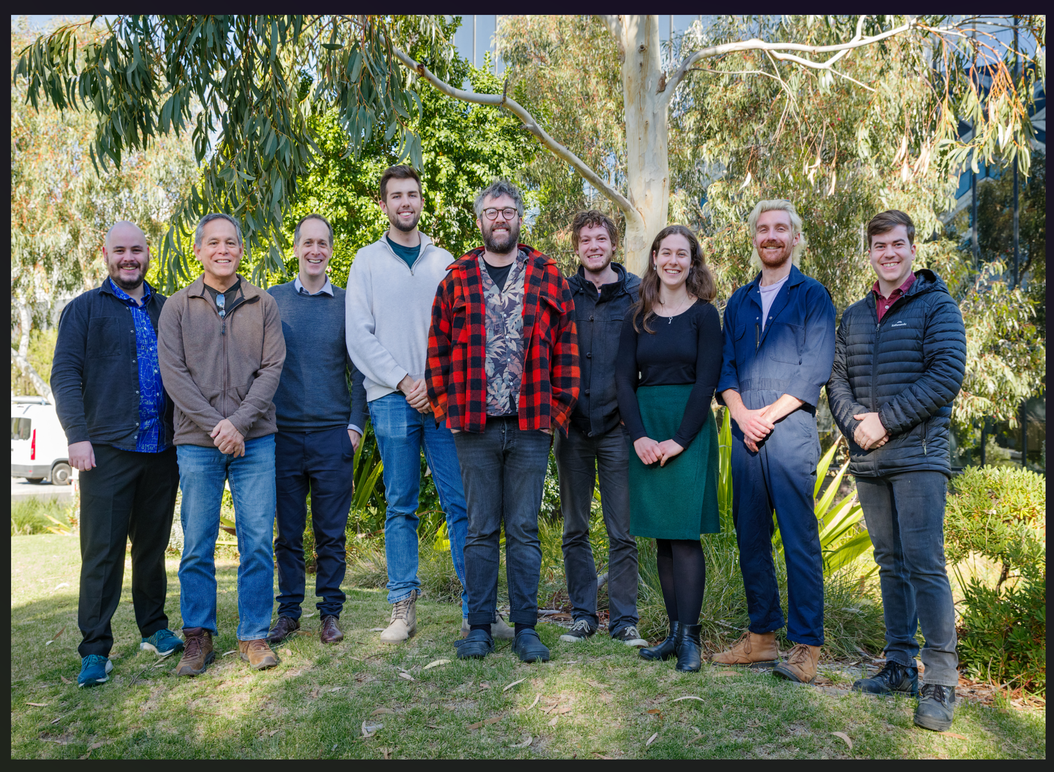
and to engineer compact, rugged and integrated sensors







Our research requires expertise in
- Quantum physics
- Optics
- Magnetics
- Mechanics
- Electronics
- Simulations
- Control



Funding ($4.8M):
NIPG (ONI)
NISDGR (ONI)
ASCA (DSTG)
RICO (Army)
IE24 (ARC)