



UNSW
SYDNEY

Acoustic Metamaterials

Acoustic metamaterials, effective medium approximation and development of novel materials for maritime applications.

Competitive advantage

- Development of sound-absorbing materials for use as hull coatings
- Design of composite materials with sub-wavelength acoustic capabilities.
- Novel materials including locally resonant photonic crystals
- Understanding acoustic performance by incorporating physical phenomena associated with size, shape and location of inclusions

Impact

- Advances in design of hull coatings and the characterisation of novel materials to be applied in submarines and surface shipbuilding for the Royal Australian Navy
- Minimising underwater noise pollution, contributing to the health of the natural marine environment
- Maximising stealth capability through reduction of sonar detection

Capabilities and facilities

- Expertise in multi-disciplinary numerical modelling on vibro-acoustics and flow induced noise

Our partners

- Defence Science & Technology (DST)
- Naval Group

More Information

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