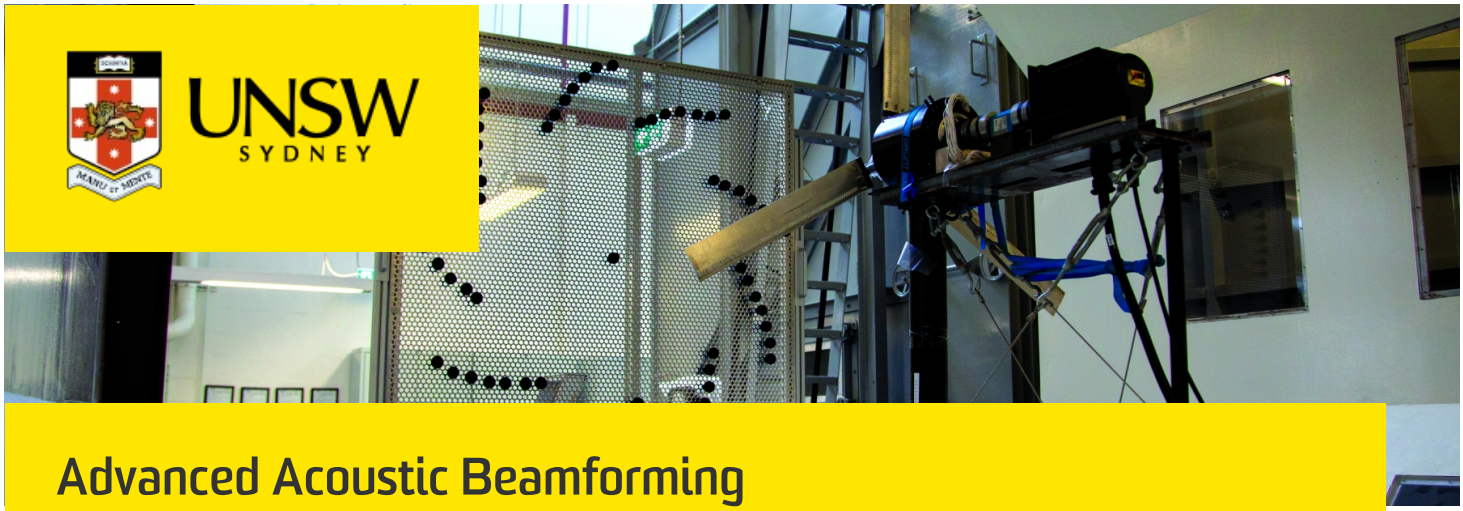

Advanced Acoustic Beamforming

Advanced methodologies for the localisation and characterisation of sound that can be used in challenging environments, such as wind tunnels, hydroacoustic testing tanks and factories, to improve the design of aircraft, submarines and wind turbines.

Competitive advantage

- Expertise in advanced acoustic source localisation and characterisation—leading performance in complex environments
- Ability to visualise noise sources—fast diagnosis of noise, allowing for rapid implementation of noise control solutions
- Unique signal processing for use in high-noise and reverberant environments, such as wind tunnels, wind turbines, fans, UAVs and industrial settings

Impact

- Quieter and more efficient aircraft, submarines and wind turbines

More Information

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Successful applications

- Aero-acoustic beamforming array in wind tunnel for submarine noise evaluation, Defence Science and Technology (DST)
- Hydro-acoustic measurement capability in cavitation tunnel, Australian Maritime College
- Resolving the mechanics of wind turbine noise
- Physiological and sleep disruption characteristics of wind farm versus traffic noise disturbances in sleep
- Fine bubble characterisation facility using active acoustic monitoring
- Measurement and control of wind turbine noise

Capabilities and facilities

- Acoustic arrays, data acquisition and processing
- Advanced aero-acoustic laboratory
- Anechoic wind tunnels
- Wide variety of acoustic and fluid mechanics measurement equipment
- Acoustic array design and signal processing capability (air and water)