



UNSW
SYDNEY



Novel Analysis and Control of Microgrids

Using expertise in analysis and control of microgrids to develop and implement novel solutions.

Competitive advantage

- Expertise in modelling, analysis, fault detection, fault classification and control of microgrids, including peak demand management, demand response and fault-ride through operations
- Novel approaches to:
 - detection and classification of disturbances in islanded microgrids
 - fault location
 - regulating frequency through demand response
- Improved load-shedding techniques

Impact

- Appliance level data analysis and control
- Integration of electric vehicles
- Power demand management
- Novel controllers under unbalanced voltage conditions

Successful applications

- Reliable microgrids for remote communities with a communication-based control architecture - Sri William Tyree Foundation Research Fund - 1.5m - 2017-2019
- Analysis and control of DFIG in microgrids - Transfield foundation - 45K - 2013-20
- Micro generation test facility for the assessment of power quality and hybrid system control - Australian Power Institute - 103k - 2011-20

Capabilities and facilities

- Single-phase microgrid test facility in Electrical Engineering Building
- Three-phase microgrid in Tyree Energy Technologies Building
- Software tools for analysis

More Information

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