

Opportunities for Students

EPECentre is a world-class clean technology research incubator that fosters collaboration and innovation.

We are a leading independent electric power and clean technologies research group, delivering specialist world-class research and innovation. Through our collaborations over the past two decades, we have a strong understanding of the NZ Electricity landscape and NZ industry in general, including the manufacturing and primary sectors.

Opportunities for Students

EPECentre offers student research opportunities, listed below. Unless otherwise specified, all projects are at postgraduate level.

You can apply by sending your CV, transcript(s) and motivation letter to info@epecentre.ac.nz. Specify the name of the project(s) you are interested in.

Power System Engineering

Control of converter interfaced resources to improve dynamic stability of low-inertia systems

Protection of networks with high level of penetration of converter interfaced technologies

Network stability and reserves considerations for additional power transfer between the NZ North and South Island

Are there sufficient planetary resources to support global power demand sourced from renewable energy?

Renewable Energy Design and Integration

Digital twin of the network and distributed resource enabling operational decisions

Thermal modelling for efficient battery design

Interaction between control of converter interfaced energy sources and loads

Energy modelling and state estimation of low-inertia systems

Instrumentation & Sensors

Electromagnetic imaging of conductive and partially conductive media

Product design for Smart Electrode System commercial offering

Tree-stem imaging by enhanced electrical conductance and admittance tomography

Novel techniques for sap-flow measurement in tree-stems

Identification of cancer tissue using electrical impedance spectrometry

Condition monitoring transmission line

Condition monitoring insulated cables

Electromagnetic Devices

Sub-soil electromagnetic field modelling and implementation, for plant root mimicry

Electronics & Power Electronics Systems

High Power fast operating switches for AC and DC applications

Development of in-window LED-lighting system for new builds

UV LED-based sterilization system for surfaces and packages

Perovskite solar cell process

Industrial Systems

Industrial implementation of Smart Electrode-based heat-treatment plant

Thermodynamic and economic comparison of log-conditioning methods

Diffusion of ions through porous anisotropic/heterogeneous materials

UC Undergraduate & Taught Master's Projects

Maintenance, upgrade and transition to 100% renewable generation - economic feasibility for NZ

Characterisation of energy storage for balancing load in a microgrid whilst maximising renewable generation

Study of the impact of research programme outcomes

Evaluation of pathways to commercialise research in NZ