PhD scholarships – Ahuora: Delivering sustainable industry through smart process heat decarbonisation

Background

We have multiple fully-funded PhD scholarships as part of the MBIE Advanced Energy Technology Platform project “Ahuora: Delivering sustainable industry through smart process heat decarbonisation” (2020 – 2027). The project is a collaboration between the University of Waikato, University of Auckland and Massey University, hosted by the School of Engineering at Waikato.

Our overall project, which you will be part of, aims to develop disruptive decarbonisation technology for New Zealand’s industrial sites and process heat sector to enable the rapid transition to net-zero greenhouse gas emissions by 2050. A central focus of the project is the development of a novel Adaptive Digital Twin platform, underpinned by advanced energy systems engineering methods and tools.

We have multiple projects that broadly fall under three research aims:

(1) minimising specific energy demand of industrial sites;

(2) maximising the energy conversion efficiency and coefficient of performance of electricity-to-heat devices (e.g., integrated multi-staged thermodynamic cycles); and

(3) provisioning local and grid-based renewable energy with smart “factory-edge” (industrial site and community) energy integration.

Depending on the specific project, we will design a programme that may include: industry-based research (away from the university) for 3-6 months, international exchange at a partner university, attendance at national and international conferences, and domestic exchange between the three core universities.

Whether you are enrolled and based at Waikato, Auckland or Massey University will depend on the final topic, supervision team and a successful applicant’s preference.

Eligibility criteria

Level: Doctoral

Start date: Negotiable

Value: up to $50,000 per year, including a stipend (typically $40,000 per year for domestic candidates), domestic tuition fees, and financial support for research materials and travel. In addition, you may earn up to an additional $5,000, employed as a teaching assistant.

Tenure: 3 years

Minimum qualification requirement: Bachelor of Engineering with First-class Honours (completed) in chemical, process, mechanical, electrical, or software engineering, or similar.

Application documents required

- CV including contact details for 2-3 referees (including at least one academic reference)
- Academic transcript from previous study undertaken
- A personal statement (max 1 page) describing your motivation, interests and background related to the research project

Selection Process

All applications will be considered on their merits with particular focus on a candidate's ability to fulfil the Ahuora vision.

Applications are assessed at the end of each month. Candidates who progress to the interview stage of the process will be notified.

We particularly encourage expressions of interest from qualified Māori, Pacific and female researchers and candidates with industry experience for the scholarship.

Contact

Please send all applications to: Dr Martin Atkins (martin.atkins@waikato.ac.nz)

Masters scholarships – Ahuora: Delivering sustainable industry through smart process heat decarbonisation

Background

We have multiple fully-funded Masters scholarships as part of the MBIE Advanced Energy Technology Platform project “Ahuora: Delivering sustainable industry through smart process heat decarbonisation” (2020 – 2027). The project is a collaboration between the University of Waikato, University of Auckland and Massey University, hosted by the School of Engineering at Waikato.

Our overall project, which you will be part of, aims to develop disruptive decarbonisation technology for New Zealand’s industrial sites and process heat sector to enable the rapid transition to net-zero greenhouse gas emissions by 2050. A central focus of the project is the development of a novel Adaptive Digital Twin platform, underpinned by advanced energy systems engineering methods and tools.

We have multiple projects that broadly fall under three research aims:

(1) minimising specific energy demand of industrial sites;

(2) maximising the energy conversion efficiency and coefficient of performance of electricity-to-heat devices (e.g., integrated multi-staged thermodynamic cycles); and

(3) provisioning local and grid-based renewable energy with smart “factory-edge” (industrial site and community) energy integration.

Whether you are enrolled and based at Waikato, Auckland or Massey University will depend on the final topic, supervision team and a successful applicant’s preference.

Eligibility criteria

Level: Masters

Start date: Negotiable

Value: up to $45,000 per year, including a stipend (typically $35,000 per year for domestic candidates), domestic tuition fees, and financial support for research materials and travel.

Tenure: 1 year

Minimum qualification requirement: Bachelor of Engineering with Honours in chemical, process, mechanical, electrical, or software engineering, or similar.

Application documents required

- CV including contact details for 2-3 referees (including at least one academic reference)
- Academic transcript from previous study undertaken
- A personal statement (max 1 page) describing your motivation, interests and background related to the research project

Selection Process

All applications will be considered on their merits with particular focus on a candidate's ability to fulfil the Ahuora vision.

Applications are assessed at the end of each month. Candidates who progress to the interview stage of the process will be notified.

We particularly encourage expressions of interest from qualified Māori, Pacific and female researchers and candidates with industry experience for the scholarship.

Contact

Please send all applications to: Dr Martin Atkins (martin.atkins@waikato.ac.nz)