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School of Engineering

**HDR Projects 2020**

Deakin University’s School of Engineering offers fully-funded PhDs over three years that provide rigorous training, valuable industry connections and the opportunity to make a substantial research contribution.

Generous scholarships are available for outstanding candidates.

# Project title: Data-knowledge infrastructure 4.0 for future business

## Supervisor name and email:

Dr Kris Law, [kris.law@deakin.edu.au](mailto:kris.law@deakin.edu.au)

## Project description:

Coronavirus (COVID-19) has seriously impacted global information management. As the pandemic shuts down the physical world, there is a general assumption that the digital world will step in to fill the chasm. The key challenge is how to analyse, assess and tackle global information management issues arising from the pandemic to ensure that future digital business remains competitive.

This project will focus on, but is not limited to, developing data-knowledge infrastructure, possibly through the adoption of emerging concepts and methods such the Internet of Things (IoT), Infrastructure 4.0, data analytics, etc.

## Project aim:

To reshape digital infrastructure from theoretical, empirical and practical perspectives to assess, analyse and control the impact of crises such as the COVID-19 pandemic to safeguard future digital business with knowledge as the core value.

## Scholarship:

A generous scholarship opportunity exists for a suitably qualified candidate covering tuition fees and a stipend of $28,092 annually over three years (tax exempt).

To be eligible you must:

* be a domestic or onshore international candidate (domestic includes candidates with Australian Citizenship, Australian Permanent Residency or New Zealand Citizenship)
* meet Deakin's PhD entry and [English Language requirements](https://www.deakin.edu.au/international-students/getting-into-deakin/entry-requirements/english-language-requirements/postgraduate-requirements)
* be enrolling full time and hold an honours degree (first class) or an equivalent standard master's degree with a substantial research component.

For more information please visit [Deakin Research – Higher Degrees by Research](https://www.deakin.edu.au/study-at-deakin/research-degrees-doctoral-and-masters)

To express your interest in this opportunity, email the supervisor providing the following information:

* your CV including details of two referees
* copy of your academic transcripts
* grading scales
* 1-2 page cover letter which outlines your research skills, experience and why this PhD opportunity interests you.

# Project title: Carbon sequestration by deep geological storage – environmental performance monitoring of groundwater soil and gas

## Industry partner:

CO2CRC (Australia’s leading carbon capture and storage research organisation)

## Supervisor names and emails:

Professor Wendy Timms, [wendy.timms@deakin.edu.au](mailto:wendy.timms@deakin.edu.au)

Dr Svetlana Stevanovic, [svetlana.stevanovic@deakin.edu.au](mailto:svetlana.stevanovic@deakin.edu.au)

Dr Bill Howcroft, [bill.howcroft@deakin.edu.au](mailto:bill.howcroft@deakin.edu.au)

## Project description:

This project provides an opportunity for a PhD candidate to work with leading multidisciplinary researchers across Deakin University’s School of Engineering and our industry partner CO2CRC. It will develop advanced tracer tools for groundwater and soil gas interactions to assure the environmental performance of Australia’s first demonstration site for deep geological carbon dioxide sequestration.

This research will help to improve the cost effectiveness of environmental performance monitoring, and to build on workflows and technologies to evaluate patterns in water and soil gas tracers over time. The project involves field sampling in South West Victoria and laboratory analysis based mainly at Deakin’s Waurn Ponds campus near the Victorian coastline. A background in environmental engineering, chemical sciences, water engineering, chemical engineering, hydrogeology or a related technical discipline is essential.

## Project aims:

* Improve water and soil gas monitoring technologies and workflows, working as part of a team to provide monitoring assurance of carbon sequestration performance.
* Characterise and quantify variability that occurs in soil gas and groundwater quality at farm and sub-catchment scale, and any variations over time.

## Scholarship:

Are you passionate about engineering solutions for carbon sequestration and environmental performance? A generous scholarship opportunity exists for a suitably qualified candidate covering tuition fees and a stipend of $38,092 annually over three years (tax exempt).

To be eligible you must:

* be a domestic or onshore international candidate (domestic includes candidates with Australian Citizenship, Australian Permanent Residency or New Zealand Citizenship)
* be available to start soon
* meet Deakin's PhD entry and [English Language requirements](https://www.deakin.edu.au/international-students/getting-into-deakin/entry-requirements/english-language-requirements/postgraduate-requirements)
* be enrolling full time and hold an honours degree (first class) or an equivalent standard master's degree with a substantial research component.

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