

PhD Scholarship

Natural convection fluid flow and heat transfer in indoor and geophysical environments

SUSTAINABLE BUILDINGS RESEARCH CENTRE (SBRC)

As the impact of humans on our environment becomes ever more significant our society needs to better understand how to reduce these impacts by solving some of the mysteries of how air and water flow in our natural environment, and also how air flows within the indoor environment of the buildings in which we live and work.

This project aims to understand an important class of fluid flows that are driven by natural convection processes adjacent to heated surfaces, such as when solar radiation heats indoor or outdoor building surfaces, or heats natural larger objects at city or broader landscape scales.

The research will involve theoretical analysis, experimental measurements and numerical modelling. The results will have application to a wide range of situations potentially including: optimising thermal comfort and energy efficiency in buildings; impacts of 'cool roofs' on the 'urban heat island' effect; and other geophysical flows such as the melting of ocean ice-sheets.

The successful candidate will work in the unique Sustainable Buildings Research Centre (SBRC), that includes world-class research facilities housed in the net-zero energy SBRC building, and which is one of the most sustainable buildings in Australia. For further details visit: sbrc.uow.edu.au.

The candidate will also work closely with researchers from the Commonwealth Scientific Industrial Research Organization (CSIRO).

SCHOLARSHIP DETAILS

Applications are invited for a full-time PhD research scholarship, funded by the CSIRO, within the Sustainable Buildings Research Centre (SBRC), supervised by Senior Professor Paul Cooper (SBRC) and Dr Dong Chen (CSIRO). The scholarship is for a period of 3 years, subject to satisfactory progress with an annual stipend of AU\$27,082 (indexed annually). It is anticipated that the successful applicant be available to start no later than March 2019.

ELIGIBILITY REQUIREMENTS

The candidate should possess a First Class Honours degree in an appropriate discipline (e.g. mechanical engineering, physics, applied mathematics, etc.) or equivalent and satisfy the English language requirements found at the following link: <https://www.uow.edu.au/future/international/apply/english/index.html>

DESIRABLE

Appropriate research training such as evidenced by a substantial honours/masters thesis will be viewed favourably.

HOW TO APPLY

Applications must include your curriculum vitae, the names of three referees and a cover letter detailing qualifications, skills and research experience while addressing the eligibility and desirability requirements. Email your application to Professor Paul Cooper, Director, Sustainable Buildings Research Centre (SBRC), University of Wollongong. Email: pcoper@uow.edu.au



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