Applications are invited for a PhD scholarship in Applied Mathematics at Macquarie University in Sydney, Australia. The student will be supervised by Dr Christopher Green - holder of a DECRA (Discovery Early Career Researcher Award) Fellowship of the ARC (Australian Research Council) - in the Department of Mathematics.

**Project overview**

The purpose of the PhD project is to explore and develop new methods and theory for ideal fluid motion on surfaces with holes (compact Riemann surfaces of genus greater than zero). There are many possible directions the project could take depending on the particular interests of the student. The project will touch on a mix of mathematical topics, including complex analysis, special function theory, potential flows, and differential geometry. The student will receive research training and mentoring by Dr Green, culminating in the submission of a PhD thesis.

The PhD scholarship is for 3 years and will be funded by the ARC DECRA grant (DE180101098) of Dr Green. The successful candidate will be based in the Department of Mathematics at Macquarie University for the full 3-year duration of the project. There are travel funds available for the student to present their work at conferences. The student base salary can be supplemented by teaching duties such as marking and tutorial delivery.

**Qualifications and desirable qualities**

The successful candidate should have completed a Masters degree (or equivalent) in mathematics or the physical sciences. A basic knowledge of complex analysis, partial differential equations and fluid dynamics is desirable, as would any prior research experience, e.g. participation in a summer vacation research programme.

**Application procedure**

The application procedure consists of 2 steps.

- First, applicants must submit an application containing: a cover letter, a CV, one or two letters of recommendation, copies of degree certificates, and transcripts of examination results, to christopher.c.green@mq.edu.au.

- Second, short-listed candidates will be interviewed via Skype for approximately 20 minutes, after which a decision on the preferred candidate will be made. The preferred candidate will then need to be formally accepted by Macquarie University.

For further information about this opportunity, please contact Dr Green on the above email.

**Applied Mathematics and Macquarie University**

The Department of Mathematics at Macquarie University is internationally recognised for its outstanding research in Mathematics. The growth of Applied Mathematics in the department is one of strategic importance to Macquarie University and has received substantial investment in recent years, with the appointment of two Professors (Denier, the Head of Department, and Gaitsgory, previously an ARC DORA holder), and five outstanding early career academics. This investment builds upon Macquarie’s proud tradition in Mathematics, broadening and strengthening the intellectual environment in the Mathematical Sciences at the university.