



# PhD Scholarship Statistical / Machine Learning

**SCHOOL OF MATHEMATICS AND APPLIED STATISTICS  
(SMAS), UNIVERSITY OF WOLLONGONG, AUSTRALIA**

An exciting PhD scholarship is available in the School of Mathematics and Applied Statistics (SMAS) at the University of Wollongong in the area of spatio-temporal modelling of environmental phenomena using techniques inspired from machine learning. The UOW scholarship is AUD\$26,300 per year for three years full-time. An additional top-up scholarship of AUD\$3,700 per year for three years full-time is also available for outstanding candidates. Tuition fees for international students (for up to 4.5 years) will be waived. The successful applicant will have the opportunity to work with both Australian and international collaborators, and extra funding is available for conference travel.

Applications are invited from domestic and international students who are able to commence their PhD studies at the University of Wollongong in 2018. Applicants should hold, or be close to completing, an Honours 1 undergraduate degree or a Masters degree in Statistics, Machine Learning, or a closely related field. The ideal candidate will have an interest in the development of statistical learning/machine learning methodology and computation, excellent mathematical and programming skills, and an interest in using them to model and predict environmental phenomena. Self-motivation, a strong research potential, and good oral and written communication skills are essential criteria.

The successful applicant will explore the use of statistical deep-learning models for environmental processes. Challenges unique to this application domain motivate the need for new mathematical and computational developments. Specifically, the candidate will mathematically develop deep-learning models that operate under physical constraints, and devise approximate Bayesian inference techniques that can deal with these complex models and large datasets. In particular, inference needs to be made from large datasets originating from satellite remote-sensing instruments, that may have different spatial footprints. Extensive testing and validation of these models against conventional spatial/spatio-temporal models is part of the research project. Analytical and software development, likely using graphical processing units or multi-threading on high-performance computers, will be required, and relevant training will be provided if needed.

## **HOW TO APPLY**

If you are interested in applying for this scholarship, please contact Dr Andrew Zammit Mangion via email: [azm@uow.edu.au](mailto:azm@uow.edu.au). Applications must include a copy of your CV detailing your previous education experience and academic transcripts. It is expected that the successful applicant will be available to commence this scholarship by 31 October 2018.

**Applications close 1 May 2018.**

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